

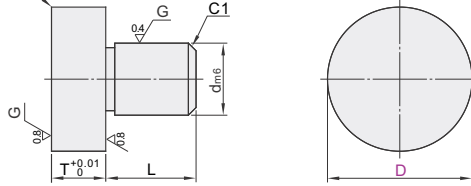
# Stop Pins

- Press-Fit Type
- Screw Type

## Press-Fit Type

Code	Type	Material		Hardness	Surface Treatment
		GB	Equiv.		
PAC01	Press-Fit Type	45	S45C	40~45HRC	Electroless Nickel Plating
PAC06		9Cr18Mo	SUS440C		

Slight Chamfering



6.3



Inventory self made



The first perspective

Stainless Steel Type may be discolored by hardening.

Part Number		D	d <sub>m6</sub>	L	T
PAC01 PAC06	5	5		5	5
	5A	3	+0.008 +0.002	7	
	5B			5	3
	6			6	
	6A	4		9	5
	6B			6	3
	8			8	
	8A	5	+0.012 +0.004	12	5
	8B			8	3
	10			8	
	10A	6		12	5
	10B			8	3
	12			10	
	12A			15	
	16	8		10	
	16A		+0.015 +0.006	15	
	18			12	5
	18A	10		18	
	20			16	
	20A	12	+0.018 +0.007	24	



Part Number		d <sub>m6</sub>
Code	D	
PAC01	5	
	5A	
	5B	

PAC01—D5B



Discount price

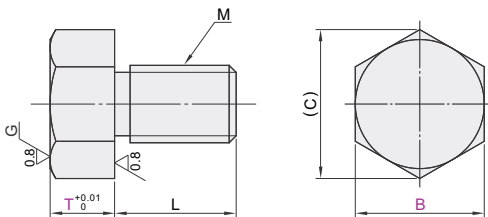
Per	1~20	21~
Price	100%	Additional quotation



Delivery  
12

## Screw Type

Code	Type	Material		Hardness	Surface Treatment
		GB	Equiv.		
PAC51	Screw	T Fixed	35CrMo	SCM435	Electroless Nickel Plating
PAC56		T Configurable	9Cr18Mo	SUS440C	
PAC71	Type	T Fixed	35CrMo	SCM435	Electroless Nickel Plating
PAC76		T Configurable	9Cr18Mo	SUS440C	



6.3



Inventory self made



The first perspective

Stainless Steel Type may be discolored by hardening.

### T Fixed

Part Number		T	M	L	(C)
PAC51 PAC56	B				
	5.5	3	3	5	6.4
	5.5B				
	7		4		8.1
	8	5	5		9.2
	10			6	
	10A	8	6	9	11.5
	13	5		10	
	13A	8			15
	13B	8		12	
	14	5	8		
	14A			10	16.2
	14B	8			
	17	5		12	
	17A		10		19.6
	17B	8			
	19	5		15	
	19A	8	12		21.9
	19B			18	

### T Configurable

Part Number		T	M	L	(C)
PAC71 PAC76	B	0.5 mm Inc.			
	5.5		3	5	6.4
	7	2.0~10.0	4		8.1
	8		5		9.2
	10		6	6	11.5
	13	5.0~30.0	8	10	15
	14				16.2
	17	10.0~50.0	10	12	19.6
	19		12	15	21.9



T Fixed

Part Number		T
Code	B	
PAC51	5.5	
PAC56	5.5B	
	7	

PAC51—B5.5



Discount price

Per	1~20	21~
Price	100%	Additional quotation



Delivery  
10

# Guide Pins

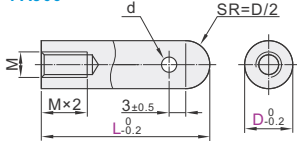
- ▶ Tapped Mounting
- ▶ Threaded Mounting

## Tapped Mounting

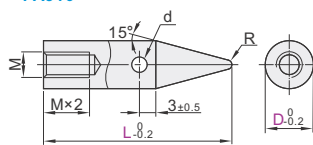
Code			Material		Surface Treatment
Spherical	Taper R	Tapered	GB	Equiv.	
PAJ01	PAJ11	PAJ21	45	S45C	Electroless Nickel Plating
PAJ06	PAJ16	PAJ26	0Cr18Ni9	SUS304	—



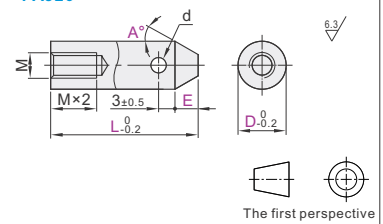
Spherical  
PAJ01  
PAJ06



Taper R  
PAJ11  
PAJ16



Tapered  
PAJ21  
PAJ26



Part Number	D	L	M	R	d
	6	19-120	3	1	2
Spherical	8	19(24)~120	4	1.5	
PAJ01	10	19(26)~120			
PAJ06	12	21(32)~120	5	2	2.5
Taper R	15	25(40)~120			
PAJ11	20	28(47)~120	6		
PAJ16	25	31(57)~120	3	5	

Part Number	D	L	E	A	M	d
	6	19-120			3	2
	8	19-120			4	2
Tapered	10		5.0±E		5	2.5
PAJ21	12		E≤L-M×3	1~45		
PAJ26	15				6	5
	20	25-120				
	25					

① The L of the taper R is the dimension of ( ).



### Spherical

Part Number	D	L
PAJ01	6	19-120
PAJ06	8	19-120

PAJ01—D6—L20

### Tapered

Part Number	D	L	E	A
PAJ21	8	19-120	5.0±E	1-45
PAJ26	10		E≤L-M×3	

PAJ21—D10—L50—E8—A35



Discount price	Per	1~20	21~
	Price	100%	Additional quotation



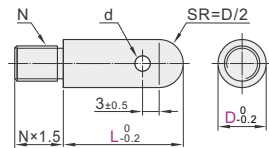
Delivery
10

## Threaded Mounting

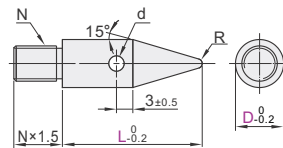
Code			Material		Surface Treatment
Spherical	Taper R	Tapered	GB	Equiv.	
PAJ51	PAJ61	PAJ71	45	S45C	Electroless Nickel Plating
PAJ56	PAJ66	PAJ76	0Cr18Ni9	SUS304	—



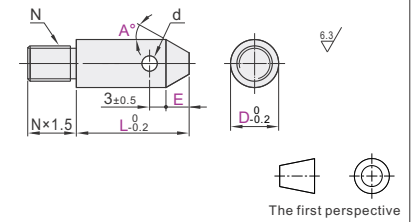
Spherical  
PAJ51  
PAJ56



Taper R  
PAJ61  
PAJ66



Tapered  
PAJ71  
PAJ76



Part Number	D	L	N	R	d
	10	19(26)~120	5		
Spherical	12	20(32)~120	6	2	3.5
PAJ51	15	25(40)~120	8		
PAJ56	20	27(47)~120	10	3	5
	25	30(57)~120			

Part Number	D	L	E	A	N	d
	10	19-120			5	
Tapered	12		5.0±E		6	3.5
PAJ71	15		E≤L-7	1~45	8	
PAJ76	20				10	5
	25					

① The L of the taper R is the dimension of ( ).



### Spherical

Part Number	D	L
PAJ51	10	19-120
PAJ56	12	20-120

PAJ51—D10—L20

### Tapered

Part Number	D	L	E	A
PAJ71	10	19-120	5.0±E	1-45
PAJ76	12		E≤L-M×3	

PAJ71—D12—L50—E8—A35



Discount price	Per	1~20	21~
	Price	100%	Additional quotation



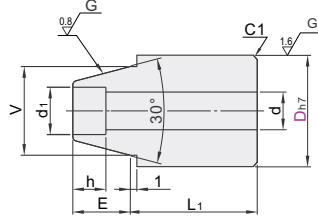
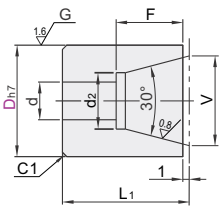
Delivery
10

Code	Type	Material		Hardness
		GB	Equiv.	
PAP01	Counterbored	Cr12MoV	SKD11	56~60HRC
PAP11	Short Type			
PAP21	Standard			

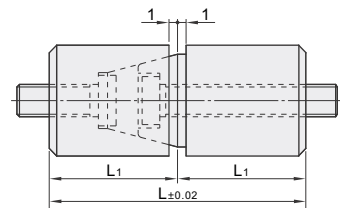


Inventory self made

Counterbored  
PAP01

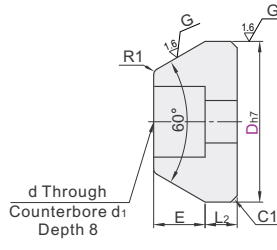
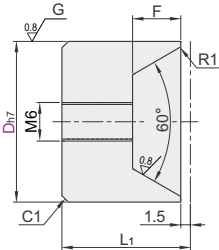


Mounting Dimensions

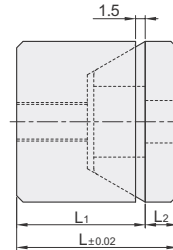


63/

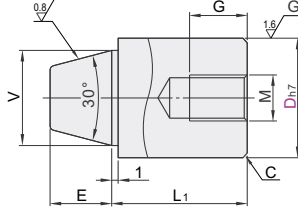
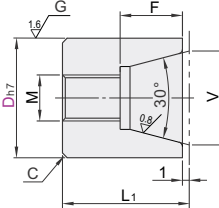
Short  
PAP11



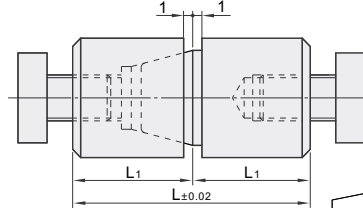
Mounting Dimensions



Standard  
PAP21



Mounting Dimensions



The first perspective

Counterbored

Code	Part Number		L	L <sub>1</sub>	F	V	E	d <sub>1</sub>	d	d <sub>2</sub>	h	Applicable Screw
	D <sub>h7</sub>											
PAP01	20		44	22	16	16	7.5	8	4.5	10	5	M4
	25	<sup>0</sup> / <sub>-0.021</sub>	50	25	19	20	8.5	11	6.6	13.5	7	M6
	30		60	30	23	25	11.5	14	9	17	9	M8

Short Type

Code	Part Number		L	L <sub>1</sub>	L <sub>2</sub>	E	F	d	d <sub>1</sub>	Applicable Screw
	D <sub>h7</sub>									
PAP11	25	<sup>0</sup> / <sub>-0.021</sub>	25	20	5	8	7.5	6.6	11	M6

Standard

Code	Part Number		L	L <sub>1</sub>	G	F	V	E	M	C
	D <sub>h7</sub>									
PAP21	12		32	16	8					
	12C	<sup>0</sup> / <sub>-0.018</sub>	24	12	5					
	16		32	16	10					
	16C		26	13	7	7	10	5.5	M5	0.5
	20		44	22	12					
	20C		36	18	8	11	12	7.5	M6	
	25		50	25	16					
	25C	<sup>0</sup> / <sub>-0.021</sub>	42	21	12	12	16	9.5	M8	1
	30		60	30	20					
	30C		50	25	15	14	20	11.5	M10	

Counterbored

Part Number		L	L <sub>1</sub>
Code	D		
PAP01	20	44	22
25	50	50	25

PAP01—D25



Discount price	
Per	1~4 5~
Price	100% Additional quotation



Delivery  
10



# Adjusting Stopper Screws

- ▶ With Wrench Flats /Hex Socket
- ▶ Wrench Flats with Hex Socket

Code	Type	Thread	Material		Hardness	Surface Treatment	Accessories (Nut 1 pc.) Material	
			GB	Equiv.				
PAS01	With Wrench Flats	Fine Thread	45	S45C	43~48HRC	Zinc-plated	SS400	
PAS06		Coarse Thread						
PAS11	L	Fine Thread	45	S45C	43~48HRC	Electroless Nickel Plating		
PAS12						Zinc-plated		
PAS15	Selectable	Coarse Thread	0Cr18Ni9	SUS304	—	—		SUS304 Equiv.
PAS16			Hex Socket	Coarse Thread	45	S45C		43~48HRC
PAS17	L	Fine Thread			0Cr18Ni9	SUS304	—	—
PAS20			Configurable	Fine Thread	45	S45C	43~48HRC	Zinc-plated
PAS21	Coarse Thread	Coarse Thread			0Cr18Ni9	SUS304	—	—
PAS25			Hex Socket	Coarse Thread	45	S45C	43~48HRC	Zinc-plated
PAS26	Wrench Flats with Hex Socket	Fine Thread			0Cr18Ni9	SUS304	—	—
PAS30			Coarse Thread	Coarse Thread	45	S45C	43~48HRC	Zinc-plated
PAS31	Wrench Flats with Hex Socket	Fine Thread			45	S45C	43~48HRC	Zinc-plated
PAS36			Coarse Thread	Coarse Thread	45	S45C	43~48HRC	Zinc-plated



① The hardness in the table refers to the tip Hardened.

② SUS304 material tip without hardening.

## ③ Thread Dimension

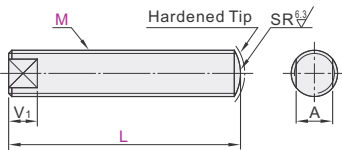
M×Pitch	
Fine Thread	Coarse Thread
3×0.35	3×0.5
4×0.5	4×0.7
5×0.5	5×0.8
6×0.75	6×1.0
8×0.75	8×1.25

M×Pitch	
Fine Thread	Coarse Thread
10×1.0	10×1.5
12×1.0	12×1.75
16×1.5	16×2.0
20×1.5	20×2.5

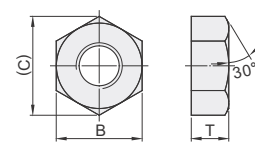
M	A	B	B <sub>1</sub>	C	D	E	V	V <sub>1</sub>	T	t	SR
3	2.5	5.5	1.5	6.4	—	—	1.5	4.5	2.4	—	3
4	3	7	2	8.1	3	4	2.2	4.5	3.2	2.5	4
5	4	8	2.5	9.2	4	4	2.8	4.5	4	3	5
6	5	10	3	11.5	4.5	5	3	5.5	5	3	6
8	6	13	4	15	6	6	4	6.5	6.5	4	8
10	8	17	5	19.6	8	8	5	8.5	8	6	10
12	10	19	6	21.9	9	10	6	10.5	10	7	12
16	14	24	8	27.7	—	—	7	14.5	13	—	16
20	17	30	10	34.6	—	—	8	17.5	16	—	20

### With Wrench Flats

PAS01/06

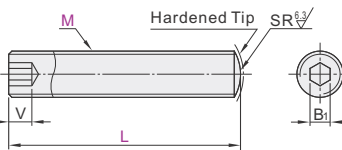


### Included Nut



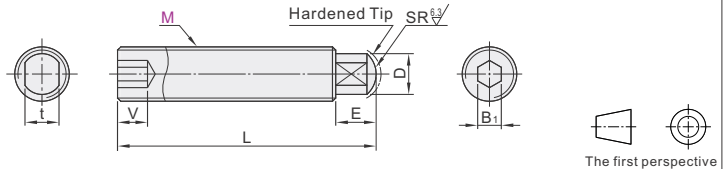
### Hex Socket

PAS11/12/15/16/17/20/21/25/26/30



### Wrench Flats with Hex Socket

PAS31/36



## ④ With Wrench Flats /Hex Socket

Part Number	Code	M	L																		
			With Wrench Flats					Hex Socket													
			Selection					Selection					Configurable(1mm Inc.)								
With Wrench Flats PAS01 PAS06	3	15	20	25	30	35	40	10	15	20	25	30	35	40	10~45						
	4	15	20	25	30	35	40	45	50	60	10	15	20	25	30	35	40	45	50	60	10~65
	5	15	20	25	30	35	40	45	50	60	10	15	20	25	30	35	40	45	50	60	10~65
Hex Socket L Selectable L Configurable PAS11 PAS21 PAS12 PAS25 PAS15 PAS26 PAS16 PAS30 PAS17 PAS20	6	20	25	30	35	40	45	50	60	15	20	25	30	35	40	45	50	60	15~65		
	8	25	30	35	40	45	50	60	20	25	30	35	40	45	50	60	15~65				
	10	30	35	40	45	50	60	70	25	30	35	40	45	50	60	70	80	90	100	20~110	
	12	35	40	45	50	60	70	80	30	35	40	45	50	60	70	80	90	100	30~110		
	16	40	45	50	60	70	80	90	100	40	45	50	60	70	80	90	100	120	40~130		
	20	45	50	60	70	80	90	100	120	45	50	60	70	80	90	100	120	40~130			

## ④ Wrench Flats with Hex Socket

Part Number	Code	M	L					
			Selection					
PAS31 PAS36	4	15	20	25	30			
	5	15	20	25	30	40		
	6		20	25	30	40	50	
	8			25	30	40	50	
	10				30	40	50	60
	12					40	50	60

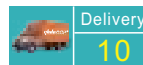
## ④ Wrench Flats with Hex Socket

Part Number	Code	M	L					
PAS31	5	15	20	25	30			
PAS36	6		20	25	30			
	④			25	30			

PAS36—M8—L25



Discount price
Per 1~20 21~
Price 100% Additional quotation





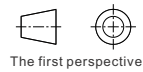
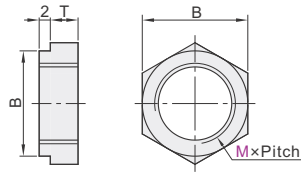
# Lock Nuts/Leveling Bolts

## Lock Nuts

Code	Type	Material		Surface Treatment
		GB	Equiv.	
PAW51	Lock Nuts	45	S45C	Black Oxide
PAW52		0Cr18Ni9	SUS304	Electroless Nickel Plating
PAW61		—	—	—



self made



Part Number		T	B
Code	MxPitch (Fine Thread)		
PAW51 PAW52 PAW61	8×0.75	13	13
	10×1.0	4	17
	12×1.0	—	19
	16×1.5	5	22
	20×1.5	—	27
	24×1.5	8	32
	30×1.5	—	36



Part Number		T
Code	M	
PAW51	8	4
PAW52	10	—
PAW51 — M8		—



Discount price	
Per	Price
1~10	100%
11~	Additional quotation

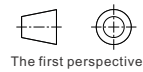
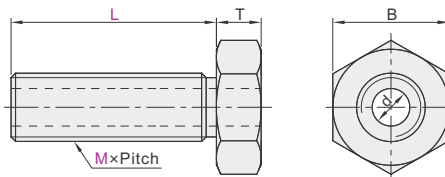
Delivery **10**

## Leveling Bolts

Code	Type	Material		Surface Treatment
		GB	Equiv.	
PAX01	L Selectable	45	S45C	Black Oxide
PAX02		0Cr18Ni9	SUS304	Electroless Nickel Plating
PAX11		—	—	—
PAX31	L Configurable	45	S45C	Black Oxide
PAX32		0Cr18Ni9	SUS304	Electroless Nickel Plating
PAX41		—	—	—



inventory self made



Part Number		L		d	T	B	Applicable Bolts
Code	MxPitch (Fine Thread)	Selectable	Configurable 1 mm Inc.				
L Selectable PAX01 PAX02 PAX11	8×0.75	5 10 15 20 25 30	5~55	3.5	4	13	M3
	10×1.0	10 15 20 25 30 40 50	10~65	5.5		17	M4-M5
	12×1.0	10 15 20 25 30 40 50	10~65	7	19	M6	
	16×1.5	15 20 25 30 40 50 60 80	15~85	9	22	M8	
L Configurable PAX31 PAX32 PAX41	20×1.5	20 25 30 40 50 60 80	15~110	13	8	27	M10-M12
	24×1.5	25 30 40 50 60 80	20~110	17		32	M16
	30×1.5	30 40 50 60 80 100	25~130	23	36	M20	



Part Number		L	
Code	M	Selectable	Configurable 1 mm Inc.
PAX01	8×0.75	5 10 15 20 25 30	5~55
PAX02	10×1.0	10 15 20 25 30 40 50	10~65
PAX01 — M8 — L5		—	—



Discount price	
Per	Price
1~10	100%
11~	Additional quotation

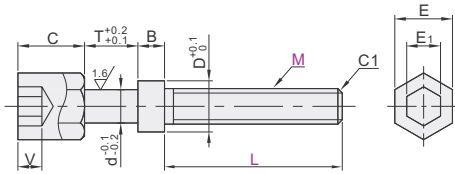
Delivery **10**

Hex Socket Head Type

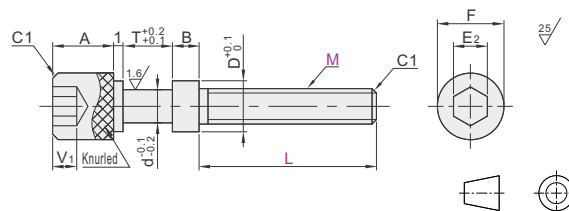
Code			Material		Surface Treatment
Standard	Knurled	Knobs Type	GB	Equiv.	
Coarse Thread	Coarse Thread	Fine Thread			
PAZ01	PAZ31	PAZ41	45	S45C	Black Oxide
PAZ02	PAZ32	PAZ46			Electroless Nickel Plating
PAZ06	PAZ36	—	0Cr18Ni9	SUS304	—



Standard  
PAZ01/02/06



Knurled Knobs Type  
PAZ31/32/36/41/46



ⓘ The outer hex head E and the hex socket E1 are not the same.

The first perspective

Part Number Code	M	L (5mm Increment)		d	T	M×Pitch		B	D	C	A	E	E <sub>1</sub>	E <sub>2</sub>	V	V <sub>1</sub>	F
		Standard	Knurled			Coarse Thread	Fine Thread										
Standard	3	—	10~45	2.5	7	3×0.5	—	—	4.5	5	7	6	—	—	—	—	10
Knurled	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ01	3	—	10~45	2.5	7	3×0.5	—	—	4.5	5	7	6	—	—	—	—	10
PAZ02	3	—	10~45	2.5	7	3×0.5	—	—	4.5	5	7	6	—	—	—	—	10
PAZ06	3	—	10~45	2.5	7	3×0.5	—	—	4.5	5	7	6	—	—	—	—	10
PAZ31	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ32	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ41	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ46	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ01	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ02	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ06	4	—	10~60	3.5	7	4×0.7	4×0.5	—	5.5	—	—	7	2.5	5	2.5	4	—
PAZ31	5	—	10~70	4.5	9	5×0.8	5×0.5	—	7.5	—	—	8	3	3	3	—	—
PAZ32	5	—	10~70	4.5	9	5×0.8	5×0.5	—	7.5	—	—	8	3	3	3	—	—
PAZ41	5	—	10~70	4.5	9	5×0.8	5×0.5	—	7.5	—	—	8	3	3	3	—	—
PAZ46	5	—	10~70	4.5	9	5×0.8	5×0.5	—	7.5	—	—	8	3	3	3	—	—
PAZ01	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ02	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ06	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ31	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ32	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ41	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ46	6	—	15~50	5.5	9	6×1.0	6×0.75	—	8.5	—	—	10	4	4	4	7	15
PAZ01	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ02	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ06	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ31	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ32	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ41	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ46	8	—	20~55	7.5	12	8×1.25	8×0.75	—	11.5	—	—	13	5	5	5	—	—
PAZ01	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ02	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ06	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ31	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ32	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ41	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ46	10	—	25~110	9.5	16	10×1.5	10×1.0	—	15.5	—	—	17	—	—	—	—	20
PAZ01	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ02	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ06	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ31	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ32	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ41	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ46	12	—	25~160	11.5	19	12×1.75	12×1.0	—	17.5	—	—	19	—	—	—	9	20
PAZ01	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24
PAZ02	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24
PAZ06	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24
PAZ31	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24
PAZ32	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24
PAZ41	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24
PAZ46	16	—	25~160	15.5	19	16×2.0	—	—	21.5	—	—	24	—	—	—	—	24



Part Number	M	L 5mm Increment
Code	Standard	Knurled
PAZ01	3	10~45
PAZ02	4	10~60
PAZ01 — M4 — L15	4	10~60



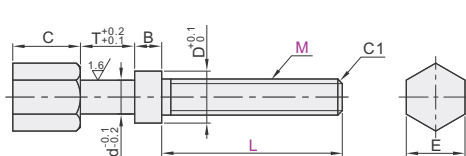
Discount price
Per 1~10 11~
Price 100% Additional quotation



Delivery
10

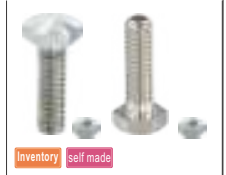
Hex Type

Code				Material		Surface Treatment
Standard	T Dimension	Compact		GB	Equiv.	
Coarse Thread	Fine Thread	Coarse Thread	Fine Thread			
PAY01	PAY11	PAY21	PAY31	45	S45C	Black Oxide
PAY02	PAY12	PAY22	PAY32			Electroless Nickel Plating
PAY06	PAY16	PAY26	PAY36	0Cr18Ni9	SUS304	—



The first perspective

Part Number Code	M	L 5mm Inc.	d	T		M×Pitch		B	D	C	E
				Standard	T Dimension Compact	Coarse Thread	Fine Thread				
Standard	3	10~45	2.5	7	—	3×0.5	—	3	4.5	5	6
T Dimension	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
Compact	5	10~70	4.5	—	3	5×0.8	5×0.5	—	7.5	—	8
PAY01	3	10~45	2.5	7	—	3×0.5	—	—	4.5	5	6
PAY11	3	10~45	2.5	7	—	3×0.5	—	—	4.5	5	6
PAY21	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY22	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY02	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY12	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY22	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY06	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY26	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY26	4	10~60	3.5	7	—	4×0.7	4×0.5	—	5.5	—	7
PAY01	5	10~70	4.5	9	—	5×0.8	5×0.5	—	7.5	—	8
PAY11	5	10~70	4.5	9	—	5×0.8	5×0.5	—	7.5	—	8
PAY21	5	10~70	4.5	9	—	5×0.8	5×0.5	—	7.5	—	8
PAY22	5	10~70	4.5	9	—	5×0.8	5×0.5	—	7.5</		

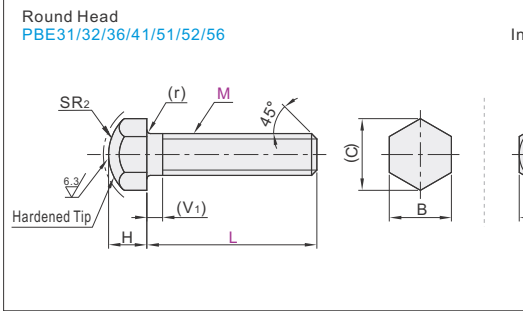
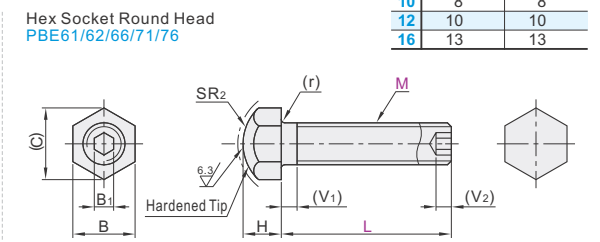
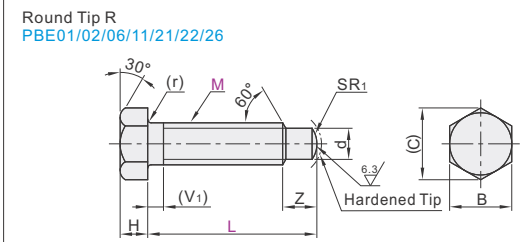


Code	Type	Thread	Material		Hardness	Surface Treatment	Accessories (Nut 1 pc.)	
			GB	Equiv.			Material	Surface Treatment
PBE01	Round Tip R	Coarse Thread	45	S45C	43HRC~	Black Oxide	SS400	Bright Chromate Plating
PBE02			0Cr18Ni9	SUS304	—	Electroless Nickel Plating		
PBE06		9Cr18Mo	SUS440C	—	—	SUS304 Equiv.	—	
PBE21	Round Tip R	Fine Thread	45	S45C	43HRC~	Black Oxide	SS400	Bright Chromate Plating
PBE22			0Cr18Ni9	SUS304	—	Electroless Nickel Plating		
PBE26		9Cr18Mo	SUS440C	—	—	SUS440C Equiv.	—	
PBE31	Round Head	Coarse Thread	45	S45C	43HRC~	Black Oxide	SS400	Bright Chromate Plating
PBE32			0Cr18Ni9	SUS304	—	Electroless Nickel Plating		
PBE41		9Cr18Mo	SUS440C	—	—	SUS304 Equiv.	—	
PBE51	Round Head	Fine Thread	45	S45C	43HRC~	Black Oxide	SS400	Bright Chromate Plating
PBE52			0Cr18Ni9	SUS304	—	Electroless Nickel Plating		
PBE56		9Cr18Mo	SUS440C	—	—	SUS440C Equiv.	—	
PBE61	Hex Socket Round Head	Coarse Thread	45	S45C	43HRC~	Black Oxide	SS400	Bright Chromate Plating
PBE62			0Cr18Ni9	SUS304	—	Electroless Nickel Plating		
PBE71		9Cr18Mo	SUS440C	—	—	SUS304 Equiv.	—	
PBE76	Hex Socket Round Head	Fine Thread	45	S45C	43HRC~	Black Oxide	SS400	Bright Chromate Plating
PBE76			9Cr18Mo	SUS440C	—	Electroless Nickel Plating		

☑ Nut T/T<sub>1</sub> Dimension

M	T (Coarse Thread)	T <sub>1</sub> (Fine Thread)
4	3.2	3.2
5	4	4
6	5	5
8	6.5	6.5
10	8	8
12	10	10
16	13	13

☑ SUS440C material may be discolored by hardening.      ☑ The hardness in the table refers to the tip Hardened.  
 ☑ SUS304 material without hardening.



Included Nuts

☑ Locating Bolt Dimension

M	M×Pitch		H	B	(C)	SR <sub>1</sub>	d	Z	SR <sub>2</sub>	V <sub>1</sub>	(r)	B <sub>1</sub>	V <sub>2</sub>
	Coarse Thread	Fine Thread											
4	4x0.7	4x0.5	2.8	7	8.1	3	2	3	8	2.1	0.2	2	2.2
5	5x0.8	5x0.5	3.5	8	9.2	4	3	4	4.5	3.5	10	3	2.5
6	6x1.0	6x0.75	4	10	11.5	5	4	5	6	5	12	3.7	0.4
8	8x1.25	8x0.75	5.5	13	15.0	6	5	6	7	5.5	16	4.5	5
10	10x1.5	10x1.0	7	17	19.6	8	9	7	20	5.2	0.5	6	6
12	12x1.75	12x1.0	8	19	21.9	10	12	9	25	6	0.6	—	—
16	16x2.0	16x1.5	10	24	27.7	10	12	9	25	6	0.6	—	—

The first perspective

☑ Round Tip R

Part Number	L Selection																		
Code	M	PBE01/PBE21								PBE02/PBE06/PBE11/PBE22/PBE26									
PBE01	4	15	20	25	30	35	40	20											
PBE02	5	15	20	25	30	35	40	50	20										
PBE06	6	15	20	25	30	35	40	50	20	25	30	35	40	50					
PBE11	8	15	20	25	30	35	40	50	60	70	80	25	30	35	40	50	60		
PBE21	10	30						35	40	50	60	70	80	30	35	40	50	60	70
PBE22	12	30						35	40	50	60	70	80	40	50	60	70	80	
PBE26	16	50						60	70	80	—								

☑ Round Head

Part Number	L Selection																		
Code	M	PBE31/PBE51								PBE32/PBE36/PBE41/PBE52/PBE56									
PBE31	4	15	20	25	30	35	40	20											
PBE32	5	15	20	25	30	35	40	50	20										
PBE36	6	15	20	25	30	35	40	50	20	25	30	35	40	50					
PBE41	8	15	20	25	30	35	40	50	60	70	80	25	30	35	40	50	60		
PBE51	10	30						35	40	50	60	70	80	30	35	40	50	60	70
PBE52	12	30						35	40	50	60	70	80	40	50	60	70	80	
PBE56	16	50						60	70	80	—								

☑ Hex Socket Round Head

Part Number	L Selection								
Code	M	Selection							
PBE61	4	20							
PBE62	5	20							
PBE66	6	20	25	30	35	40	50		
PBE71	8	25	30	35	40	50	60		
PBE76	10	30	35	40	50	60	70		
PBE76	12	40	50	60	70	80			

☑ Hex Socket Round Head

Part Number	M	L
PBE61	4	20
PBE62	5	20
PBE62	6	20 25 30

PBE61 — M6 — L25

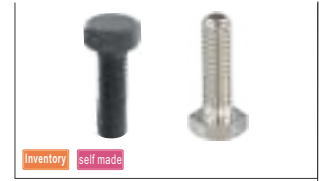
Please order as shown

Discount price  
 Per 1~10 11~  
 Price 100% Additional quotation

Delivery 10

# Stopper Bolts

Code	Type	Thread	Material		Hardness	Surface Treatment
			GB	Equiv.		
PBH01	Standard	Coarse Thread	35CrMo	SCM435	38~43HRC	Black Oxide
PBH02			1Cr13	SUS410		Electroless Nickel Plating
PBH11		Fine Thread	35CrMo	SCM435		Black Oxide
PBH21			1Cr13	SUS410		Electroless Nickel Plating
PBH22	Hex Socket	Coarse Thread	35CrMo	SCM435	38~43HRC	Black Oxide
PBH31			1Cr13	SUS410		Electroless Nickel Plating
PBH51		Fine Thread	35CrMo	SCM435		Black Oxide
PBH52			1Cr13	SUS410		Electroless Nickel Plating
PBH61	Hex Socket	Coarse Thread	35CrMo	SCM435	38~43HRC	Black Oxide
PBH71			1Cr13	SUS410		Electroless Nickel Plating
PBH72		Fine Thread	35CrMo	SCM435		Black Oxide
PBH81			1Cr13	SUS410		Electroless Nickel Plating

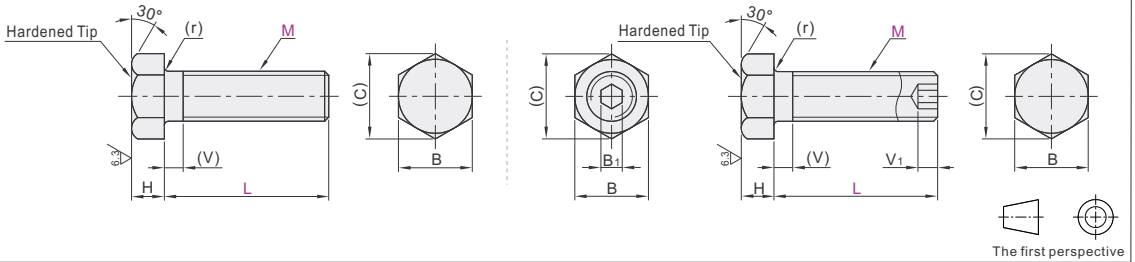


inventory self made

☐ SUS410 material may be discolored by hardening.

Standard  
PBH01/02/11/21/22/31

Hex Socket  
PBH51/52/61/71/72/81



Part Number		M	L 5mm Increment	M		B	(C)	H	(V)	(r)	B <sub>1</sub>	V <sub>1</sub>
Code				Coarse Thread	Fine Thread							
		3	10~35	3×0.5	—	5.5	6.4	2	1	0.1	—	—
		4	15~65	4×0.7	4×0.5	7	8.1	2.8	2.1	0.2	2	2.2
Standard	Hex Socket											
Coarse Thread	Fine Thread	Coarse Thread	Fine Thread									
PBH01	PBH21	PBH51	PBH71									
PBH02	PBH22	PBH52	PBH72									
PBH11	PBH31	PBH61	PBH81									
		6	20~65	6×1.0	6×0.75	10	11.5	4	3	0.3	3	3
		8	25~65	8×1.25	8×0.75	13	15.0	5.5	3.7	0.4	4	4
		10	30~75	10×1.5	10×1.0	17	19.6	7	4.5	0.5	5	5
		12	35~55	12×1.75	12×1.0	19	21.9	8	5.2		6	6



Part Number	M	L
Code		
PBH01	3	10~35
PBH02	4	15~65
PBH01—M5—L25		



Discount price
Per 1~10 11~
Price 100% Additional quotation



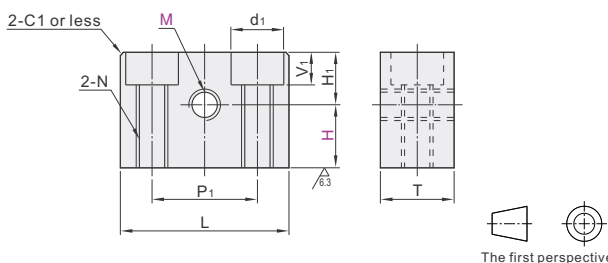
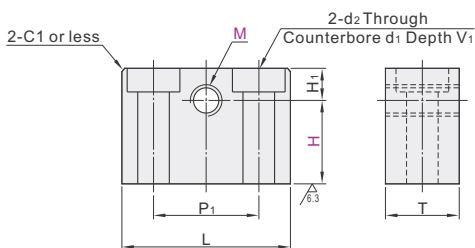
Delivery
10

Code	Type	Thread	Material		Surface Treatment	
			GB	Equiv.		
PBP01	Counterbore Type	Coarse Thread	45	S45C	Black Oxide	
PBP02					Electroless Nickel Plating	
PBP05		H Configurable	Fine Thread	45	S45C	—
PBP06						Black Oxide
PBP07						Electroless Nickel Plating
PBP10	H Selectable	Coarse Thread	45	S45C	—	
PBP21					Black Oxide	
PBP22	With Counterbores & Tapped Holes	Coarse Thread	45	S45C	Electroless Nickel Plating	
PBP11					Black Oxide	
PBP12		H Configurable	Fine Thread	45	S45C	—
PBP15						Black Oxide
PBP16						Electroless Nickel Plating
PBP17						Electroless Nickel Plating



Counterbore Type  
PBP01/02/05  
PBP06/07/10  
PBP21/22

With Counterbores & Tapped Holes  
PBP11/12/15  
PBP16/17



**Counterbore Type, H Configurable**

Part Number Code	M	H 1 mm Increment	H <sub>1</sub>	T	M×Pitch		L	P <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	V <sub>1</sub>		
					Coarse Thread	Fine Thread							
Coarse Thread PBP01 PBP02 PBP05	Fine Thread PBP06 PBP07 PBP10	3	3~22	3	7	3×0.5	3×0.35	21	13	6	3.5	4	
		4	4~22	4	9	4×0.7	4×0.5	30	19	8	4.5	5	
		5	5~22	5	12	5×0.8	5×0.5	40	25	9.5	5.5	6	
		6	6~22	6	12	6×1.0	6×0.75						
		8	7~22	7	12	8×1.25	8×0.75						
		10	8~22	8	12	10×1.5	10×1.0						

**Counterbore Type, H Selectable**

Part Number Code	M	H	H <sub>1</sub>	T	M×Pitch		L	P <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	V <sub>1</sub>
					Coarse Thread	Fine Thread					
Coarse Thread PBP21 PBP22	Fine Thread	4	5 6 7	4	7	4×0.7	21	13	6	3.5	3.5
		5	5 6 7 8 10 12	5	9	5×0.8	30	19	8	4.5	4.5
		6	5 6 7 8 10 12	6	12	6×1.0	40	25.2	9.5	5.5	5.5
		8	6 7 8 10 12	7	12	8×1.25					

**With Counterbores & Tapped Holes**

Part Number Code	M	H 1 mm Increment	H <sub>1</sub>	T	M×Pitch		L	P <sub>1</sub>	d <sub>1</sub>	V <sub>1</sub>	N		
					Coarse Thread	Fine Thread							
Coarse Thread PBP11 PBP12 PBP15	Fine Thread PBP16 PBP17	3	3~22	3	10	3×0.5	3×0.35	20	13	6	4	M4	
		4	4~22	4	12	4×0.7	4×0.5	30	19	8	5	M5	
		5	5~22	5	12	5×0.8	5×0.5	40	25	9	5.5	M6	
		6	6~22	6	12	6×1.0	6×0.75						
		8	7~22	7	12	8×1.25	8×0.75						
		10	8~22	8	12	10×1.5	10×1.0						

**Counterbore Type, H Configurable**

Part Number	M	H
PBP01	3	3~22
PBP02	4	4~22
PBP05	5	5~22

PBP02—M5—H7

**Counterbore Type, H Selectable**

Part Number	M	H
PBP21	4	5 6 7
PBP22	5	5 6 7 8 10
PBP12	6	5 6 7 8 10

PBP22—M6—H7



Discount price	Per	1~10	11~
Price	100%	Additional quotation	



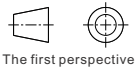
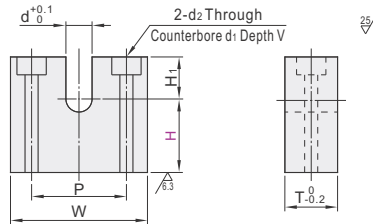
Delivery
10

# Blocks for Adjusting Bolts ◀ Standard

Code		Material		Surface Treatment
H Selectable	H Configurable	GB	Equiv.	
PCB01	PCB06	45	S45C	Black Oxide
PCB02	PCB07			Electroless Nickel Plating
PCB05	—	0Cr18Ni9	SUS304	—



Inventory self made



## ☑ H Selectable

Part Number	H				d	T	H <sub>1</sub>	P	W	d <sub>1</sub>	d <sub>2</sub>	V
	Code	No.	Selectable									
PCB01 PCB02 PCB05	3	5	10	15	2.5	7	5	16	26	6	3.5	4
	4	5	10	15 20	3.5							
	5	6	10	15 20 25	4.5							
	6	8	10	15 20 25 30	5.5	9	6	20	32	8	4.5	5
	8		10	15 20 25 30	7.5	12	8	26	38	9.5	5.5	6
	10			12 15 20 25 30	9.5	16	10	32	50			
	12			12 15 20 25 30	11.5					14	9	9.5
	16			15 20 25 30	15.5	19	11	40	65			

## ☑ H Configurable

Part Number	H				d	T	H <sub>1</sub>	P	W	d <sub>1</sub>	d <sub>2</sub>	V
	Code	No.	Configurable(1 mm Inc.)									
PCB06 PCB07	3				2.5	7	5	16	26	6	3.5	4
	4				3.5							
	5		10~45		4.5							
	6				5.5	9	6	20	32	8	4.5	5
	8				7.5	12	8	26	38	9.5	5.5	6
	10				9.5	16	10	32	50			
	12		15~85		11.5					14	9	9.5
	16				15.5	19	11	40	65			

### ☑ H Selectable

Part Number	H	
Code	No.	
PCB01	3	5 10 15
PCB02	4	

PCB01—3—H10

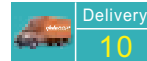
### ☑ H Configurable

Part Number	H	
Code	No.	
PCB06	3	10~45
PCB07	4	15~85

PCB06—3—H17



Discount price		
Per	1~10	11~
Price	100%	Additional quotation

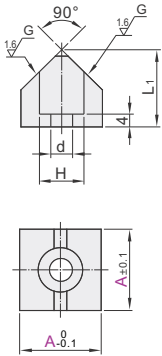


Code	Type			Material		Hardness
				GB	Equiv.	
PDE01	V-Groove	Flat Bottom Type	Standard	45	S45C	40~43HRC
PDE02			Tapped Hole			
PDE03			Long Type			
PDE06			V Groove 70°			
PDE08			Upper Plate Holding			

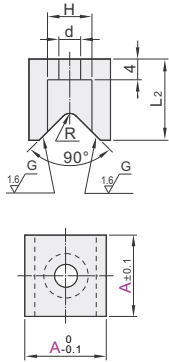


self made

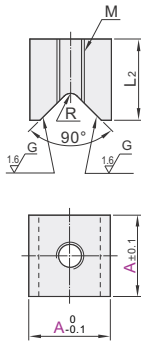
Standard PDE01  
Tapped Hole PDE02  
Lower Part



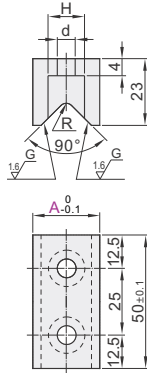
Standard Upper Part



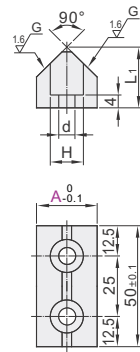
Tapped Hole Upper Part



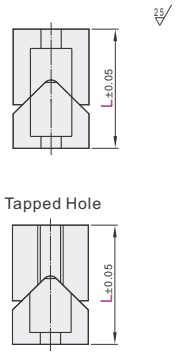
Long Type PDE03  
Upper Part



Long Type Lower Part

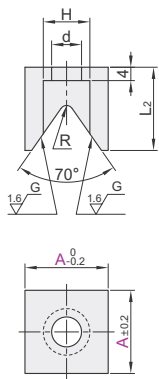


Mounting Dimensions  
Standard/Long Type

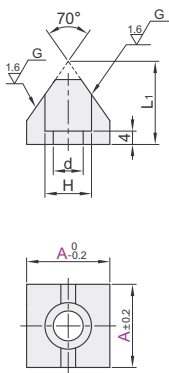


V Groove 70° PDE06

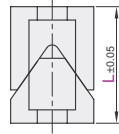
Upper Part



Lower Part

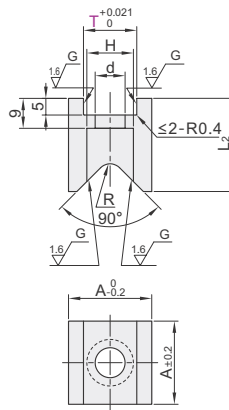


Mounting Dimensions

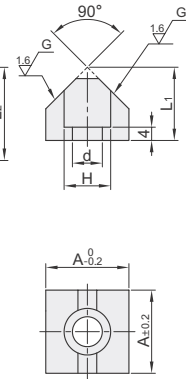


Upper Plate Holding PDE08

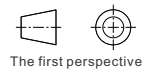
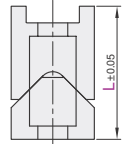
Upper Part



Lower Part



Mounting Dimensions



The first perspective

Part Number		L	L <sub>1</sub>	L <sub>2</sub>	H	d	R	M
Code	A							
	12	20	12	13	8	4.5		
	16			16			2	
	20	25	16	17	11	7		—
PDE01	25			19				
		35	22	23	14	9	4	M8
PDE02	25	25	16	19	11	7		M6
PDE03			22	23				
PDE06		35	25	25	14	9	2	—

Part Number		L	L <sub>1</sub>	L <sub>2</sub>	A	H	d	R
Code	T							
	12		14	22	20	9.5	5.5	2
	16	25						
	19		16	24	25	11	7	4
	12		20	26	20	9.5	5.5	2
PDE08	16	35						
	19		22	28	25	14	9	4

Standard

Part Number		L	L <sub>1</sub>
Code	A		
12	20	12	
16	25	16	

PDE01—A20—L25

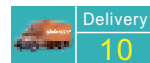
Upper Plate Holding

Part Number		L	L <sub>1</sub>
Code	T		
12	16	14	
16	25	16	

PDE08—T19—L25



Discount price  
Per 1~5 6~  
Price 100% Additional quotation



# Locating Block Sets

## Plate Holding Type V-Groove

Code	Type		Material		Hardness	
			GB	Equiv.		
PDE21	V-Groove	Plate Holding Type	Standard	45	S45C	40-43HRC
PDE22		Tapped Hole				
PDE23		Long Type				



Inventory self made

Standard PDE21  
Tapped Hole PDE22  
Lower Part

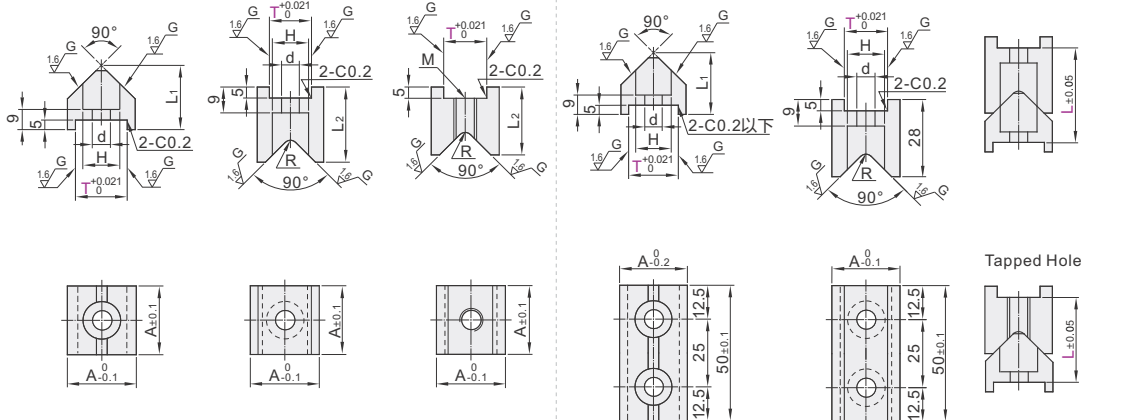
Standard  
Upper Part

Tapped Hole  
Upper Part

Long Type PDE23  
Lower Part

Upper Part

Mounting Dimensions  
Standard/Long Type



The first perspective

Part Number		L	L <sub>1</sub>	L <sub>2</sub>	A	H	d	R	M
Code	T								
PDE21	12	35	25	26	20	9.5	5.5	2	—
	16								
	19								
	12	25	21	24	25	11	7	4	—
	16								
PDE22	16	35	27	28	25	14	9	4	M8
	16	25	21	24	25	11	7	4	M6
	19	—	25	26	20	9.5	5.5	2	—
PDE23	16	35	27	28	25	14	9	4	—
	16								
	19								



Part Number		L	L <sub>1</sub>	L <sub>2</sub>
Code	T			
12	25	26	—	—
16	35	27	28	—
19	—	—	—	—

PDE21—T19—L35



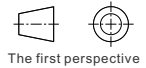
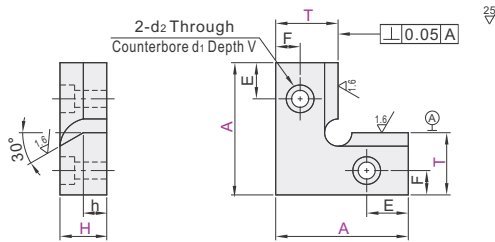
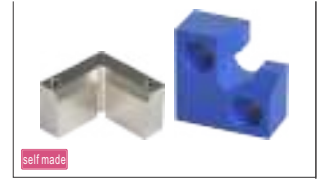
Discount price	
Per	1~10 11~
Price	100% Additional quotation



Delivery  
**10**



Code	Type	Material		Hardness	Surface Treatment
		GB	Equiv.		
PES01	Compact	45	S45C	—	Black Oxide
PES02					Electroless Nickel Plating
PES11		0Cr18Ni9	SUS304		
PES21		Polyacetal(White)			
PES31		MC Nylon(Blue)			
PES41	L-Shaped Type	45	S45C	38HRC~	Black Oxide
PES42					Electroless Nickel Plating
PES43					Black Oxide
PES44					Electroless Nickel Plating
PES51		Standard	LY11		A2017
PES61	0Cr18Ni9		SUS304		
PES71	Polyacetal(White)				
PES81	MC Nylon(Blue)				



Code		Part Number				H	T	h	E	F	d <sub>1</sub>	d <sub>2</sub>	V
		A Selection				1 mm Increment							
Compact	PES01 PES02	17	20			6~15	10	H-3	4.5	4.5	6.5	3.5	3.5
	PES11 PES21 PES31	20	30	40	50	12	12						
		20	30	40	50	12	15						
Standard	PES41 PES42	20	30	40	50	10~35	15	H-5	7	9	9.5	5.5	5.5
	PES43 PES44 PES51	30	40	50	60	20	20						
	PES61 PES71 PES81	30	40	50	60	25	25						
		40	50	60	15~35	30	30						
									11	14	14	9	9



Part Number		H	T	h
Code	A			
PES01	17 20	6~15	10	H-3
PES02	20 30	12	12	
PES01—A20—H10—T10				



Discount price	
Per	1~10 11~
Price	100% Additional quotation



Delivery
10

# Feed Fingers

## ① Claw

Code	Material		Surface Treatment	Hardness
	GB	Equiv.		
<b>PFC01</b>	Q235	SS400	Electroless Nickel Plating	Carburization 40 - 45HRC
<b>PFC11</b>	0Cr18Ni9	SUS304	—	—
<b>PFC21</b>	MC Nylon	MC Nylon	—	—

## ② Spring

Code	Material		Surface Treatment
	GB	Equiv.	
<b>R(Soft)</b>	0Cr18Ni9	SUS304-WPB	—
<b>Y(Hard)</b>	—	—	—

## ③ Base

Code	Main Body			Accessories (Pins)	
	Material	Surface Treatment	Material	Surface Treatment	
<b>LK TK MK BK PK</b>	Q235	SS400	S45C	Electroless Nickel Plating	
<b>LU TU BU MU</b>	0Cr18Ni9	SUS304	SUS304	—	

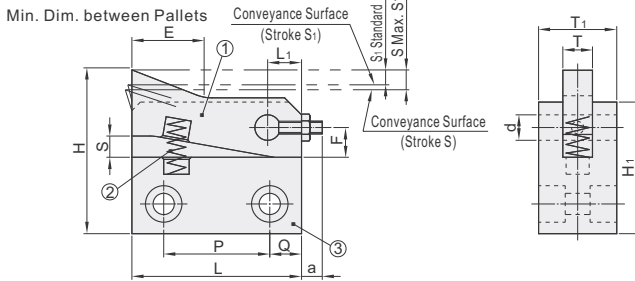
## ④ Accessories (For TK and TU only)

Claw	TK	TU
10S/10C	UAC04-D20-V6-T3 2 pcs	UAC61-D20-V6-T3
14S/14C	UAC04-D25-V8-T3 2 pcs	—

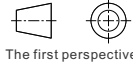


Inventory self made

① This product is composed of ①Claw + ②Spring + ③Base. By selecting each type of components, the unit will be assembled before shipping.



	①Claw	②Spring	③Base
<b>PFC01</b>	28S 28C 20S 20C		BK PK
<b>PFC01</b>	14S 14C	R	LK TK BK MK
<b>PFC21</b>	7S 7C	Y	PK
<b>PFC11</b>	7SA 7CA		
<b>PFC21</b>	10S 10C		LU TU BU MU



Part Number	①Claw	②Spring	③Base	T	T <sub>1</sub>	d	H	H <sub>1</sub>	L	P	Q	a	S	S <sub>1</sub>	
<b>PFC01</b> (SS400)	7S 7C	Soft	LK	Side Mounting Type (Screw Hole)	7	12	29	22.5	30	20	5	2.5			
			MK	Side Mounting Type (Tapped Hole)											
	BK		Bottom Mount Type												
	PK		π Shaped Type												
<b>PFC21</b> (MC Nylon)	7SA 7CA	LK	Side Mounting Type (Screw Hole)												
		MK	Side Mounting Type (Tapped Hole)												
	BK	Bottom Mount Type													
	PK	π Shaped Type													
<b>PFC01</b> (SS400)	10S 10C	Hard	LK*	Side Mounting Type (Screw Hole)	10	19	38	31	40	25	7.5			5	3
			TK*	Side Mounting Type (Through Hole)											
	MK*		Side Mounting Type (Tapped Hole)												
	BK*		Bottom Mount Type												
	PK*		π Shaped Type												
	(LU)		Side Mounting Type (Screw Hole)												
	(TU)		Side Mounting Type (Through Hole)												
	(MU)		Side Mounting Type (Tapped Hole)												
	(BU)		Bottom Mount Type												
	<b>PFC11</b> (SUS304)		14S 14C	LK*											
TK*		Side Mounting Type (Through Hole)													
MK*		Side Mounting Type (Tapped Hole)													
BK*		Bottom Mount Type													
<b>PFC21</b> (MC Nylon)	20S 20C	PK*	π Shaped Type												
		BK	Bottom Mount Type												
	PK	π Shaped Type													
	BK	Bottom Mount Type													
<b>PFC01</b> (SS400)	28S 28C	PK	π Shaped Type	20	38	10	63	49	65	40	12.5	4.5			
		BK	Bottom Mount Type												
	PK	π Shaped Type													
	BK	Bottom Mount Type													
<b>PFC01</b> (SS400)	28S 28C	PK	π Shaped Type	28	50	12	83	64	80	50	15	7	12	7	
		BK	Bottom Mount Type												
	PK	π Shaped Type													
	BK	Bottom Mount Type													

① Specifications with \* do not apply to **PFC11**.

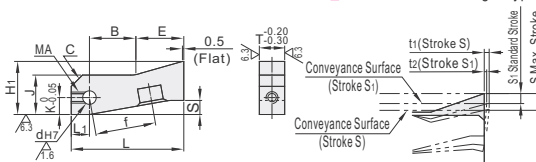
① Specifications with ( ) do not apply to **PFC01**.

## ① Claw (Dimension Details)

### ① Straight

7S/7SA/10S  
14S/20S/28S

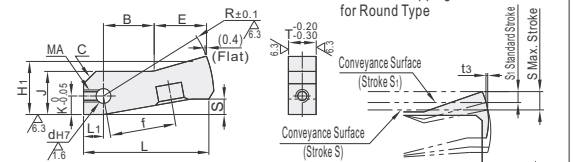
### ① Claw Position of Straight Type



### ① Crowned Type

7C/7CA/10C  
14C/20C/28C

### ① Standard Stopping Position for Round Type



The first perspective

Part Number	Code	Claw	T	L		L <sub>1</sub>	B	S	E		R	H <sub>1</sub>	J	K	MA	d	f	C	t <sub>1</sub>	t <sub>2</sub>	t <sub>3</sub>	
				Straight	Crowned Type				Straight	Crowned Type												
<b>PFC01</b>	7S 7C	7S 7C	7	30	31.5	7.5	7.5	5	15	13.9	24	16	10	5	M3*	6	15.7	3	1.8	1.2	0.7	
				40	41.5	8	15		17	15.9	33.5	20	14	7								
	<b>PFC11</b>	10S 10C	10S 10C	10	40	41.5	8	15	5	17	15.9	33.5	20	14	7	M4*	8	35.8	5	3.3	2	0.8
					55	57	10	12.4		10	32.6	30	47	30.5	19							
	<b>PFC21</b>	14S 14C	14S 14C	14	65	66.5	12.5	18.5	11	34	30.4	54	33	21	10	M5	10	40	7	3.4	2	1.5
20					20	65	66.5	12.5		18.5	11	34	30.4	54	33							
<b>PFC01</b>	28S 28C	28S 28C	28	80	82.5	15	30	13	35	30.5	67.5	45	30	15	M6	12	50	9	4.5	2.8	1.8	
				80	82.5	15	30		13	35	30.5	67.5	45	30								15

① \*PFC21 is for threaded insert.



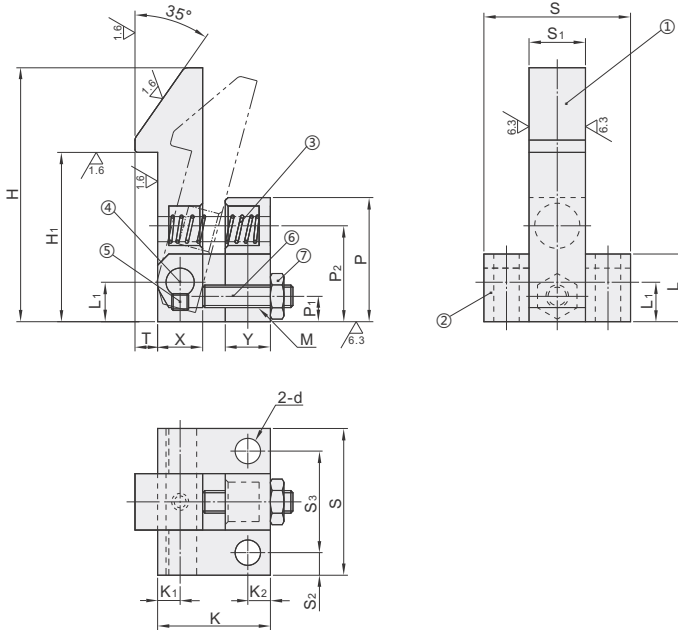
# Automatic Latches

Code	Type	①Claw			②Base		③Spring	④Shafts	⑤Set Screws	⑦Nuts	
		Material	Hardness	Surface Treatment	Material	Surface Treatment	Material	Material	Material	Material	Surface Treatment
PFE01	Automatic Latches	S45C	18~33HRC	Electroless Nickel Plating	S45C	Electroless Nickel Plating			SCM435	SWCH	Trivalent Chromate
PFE11		SUS304	—	—	SUS304	—	SUS304-WPB	SUS304	SUS304	SUS304	—
PFE21		MCNylon	—	—	—	—	—	—	—	—	—



Inventory self made

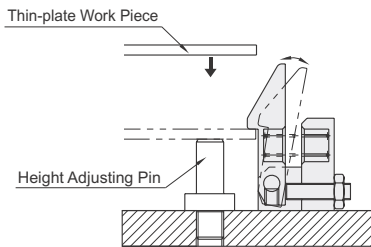
25/



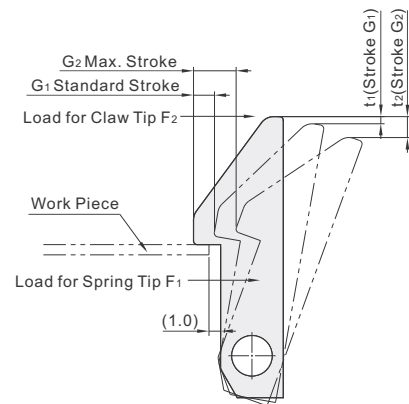
The first perspective

Part Number		H	H1	T	S	S1	S2	S3	d	L	L1	K	K1	K2	X	Y	P	P1	P2	M	
Code	No.																				
	PFE01	25	25	15	2	20	7	3	14	3.5	8	5	14	2.5	3	5	6	15	3.5	11	M3
	PFE11	35	35	22	3	24	8	4	16	4.5	10	6	16	3	3.5	6	7	18	13.5		
PFE21	45	45	30	4	26	10	4	18	4.5	12	7	20	4	4	8	8	22	4.5	17		

EX Example



Clicks and latches the workpiece easily at the required position just by lowering the workpiece from above.



No.	G1	G2	t1	t2
25	1	3.2	0.3	1.4
35	2	4.2	0.5	1.4
45	3	6.3	0.5	1.6

1.0mm clearance is assumed.

Part Number		H	H1
Code	No.		
PFE01	25	25	15
PFE11	35	35	22
PFE21	45	45	30

PFE01—45

Please order as shown

Discount price  
Per 1~20 21~  
Price 100% Additional quotation

Delivery 10

Spring Load Table(Calculated Value)

No.	Spring Tip F1 (N)			Claw Tip F2 (N)		
	Initial Load	Stroke G1	Stroke G2	Initial Load	Stroke G1	Stroke G2
25	1.2	1.3	1.7	0.4	0.4	0.5
35	2.0	2.4	2.9	0.5	0.6	0.8
45	3.9	5.1	6.5	1.0	1.3	1.7

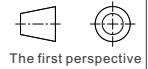
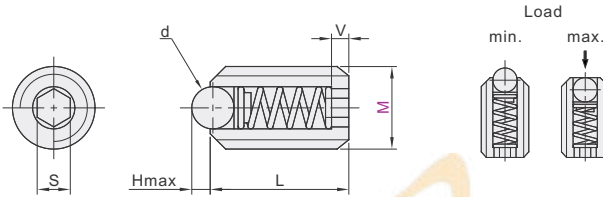
# Ball Plungers

- Compact
- w/o Thread-Locking Adhesive

## Compact

Code	Type	Body Material	Ball		Spring Material	
			Material	Hardness		
ZAF51	Compact	Metal Ball	SUSXM7	SUS440C	60~66HRC	SUS304-WPB

Features: length is shorter than conventional ball plunger by 30%.



Part Number		d	H	L	V	S	Load (N)	
Code	M						min.	max.
ZAF51	4	2	0.8	6	1.2	2	1.0	3.8
	5	2.5		8	1.7	2.5	2.1	6
	6	4	1.2	9	1.8	3	4.5	8.8
	8	5	2	10	1.8	4	7.4	12



Part Number	M	d
ZAF51	5	2
ZAF51	5	2.5

ZAF51 - M4



Discount price	
Per	1~29 30~
Price	100% Additional quotation

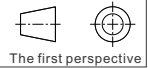
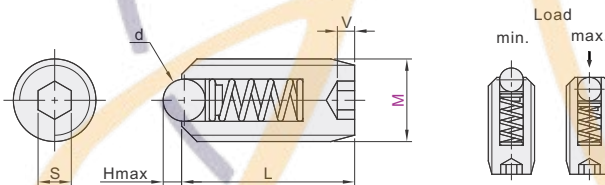


Delivery  
6

kgf=N×0.101972

## w/o Thread-Locking Adhesive

Code	Type	Load	Body			Ball		Spring Material	Operating Temperature
			Material	Hardness	Surface Treatment	Material	Hardness		
ZAC31	w/o Thread-Locking Adhesive	Ultra Light Load	SCM435	29-35HRC	Black Oxide	SUJ2	56HRC~	SWP-B	-30~80°C
ZAC32		Light Load							
ZAC33		Heavy Load							
ZAC34		Extra Heavy Load							



Part Number		d	H	L	V	S	Load(N)							
Code	M						Ultra Light Load		Light Load		Heavy Load		Extra Heavy Load	
		min.		max.		min.		max.		min.		max.		
ZAC31	5	3	0.8	12	2	2.5	0.9	3.22	2.8	9.9	4.8	19.7	11.1	24.2
	6	3.5	1.2	13	2.5	3	1.5	4.95	4.8	14.8	9.7	29.5	17.6	33.5
ZAC32	8	5	2	15		4	2.3	6.46	6.8	19.7	12.6	39.3	21.3	45.4
ZAC33	10	6	2.5	16		5	2.9	8.2	8.7	24.6	18.5	49.1	23.4	58.8
ZAC34	12	8	3	20		6	3.4	9.78	9.7	29.5	19.5	58.9	24	62.4
	16	10	4	25		8	5.6	15.9	15.6	49.1	29.3	98.1	43.5	116



Part Number	M	d
ZAC31	5	3
ZAC32	6	3.5

ZAC31 - M5



Discount price	
Per	1~29 30~
Price	100% Additional quotation



Delivery  
12

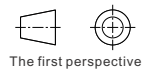
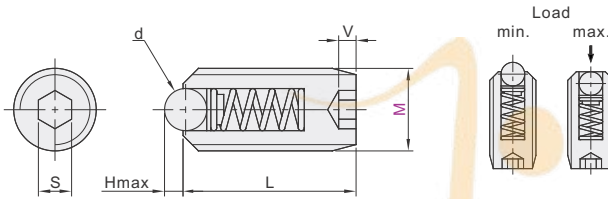
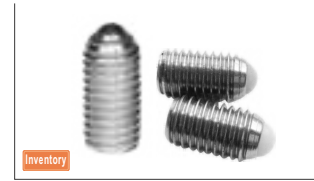
kgf=N×0.101972

# Ball Plungers

- ◀ Stainless Steel Type, Metal Ball&Plastic Ball
- ◀ Stainless Steel Long Type, Metal Ball

## Stainless Steel Type

Code	Type	Load	Body		Ball		Spring	Operating Temperature
			Material	Material	Hardness	Material		
ZAF01	Metal Ball	Ultra Light Load	SUS304	SUS440C	56HRC~	SUS631J1	-30~260°C	
ZAF02		Light Load						
ZAF03		Heavy Load						
ZAF04		Extra Heavy Load						
ZAF21	Plastic Ball	Ultra Light Load	Polyacetal	—	—	—	-30~80°C	
ZAF22		Light Load						
ZAF23		Heavy Load						
ZAF24	Extra Heavy Load							



Part Number	Code	M	Metal Ball		Plastic Ball		L	V	S	Load(N)									
			d	H	d	H				Ultra Light Load		Light Load(ZAF02)		Light Load(ZAF22)		Heavy Load		Extra Heavy Load	
			min.	max.	min.	max.				min.	max.	min.	max.	min.	max.	min.	max.		
Metal Ball ZAF01 ZAF02 ZAF03 ZAF04	Plastic Ball ZAF21 ZAF22 ZAF23 ZAF24	3	1.5	0.5	—	—	7	1	1.5	0.3	0.64	1	2	—	—	1.5	2.9	2.2	5
		4	2	—	2.4	—	9	1.5	2	0.5	1.7	1.8	5	1.9	5	3.8	9.9	2.5	12.5
		5	2.5	0.8	3.2	0.8	12	2	2.5	0.9	3.22	3.2	9.9	2.8	9.9	4.8	19.7	11.2	24.1
		6	3	—	—	—	13	2.5	3	1.5	4.95	5	15.4	4.8	14.8	9.7	29.5	17.7	33.4
		8	5	1	4	1	15	4	4	2.3	6.46	5.4	19.2	6.8	19.7	12.6	39.3	21.4	45.3
		10	6	1.2	4.8	1.2	16	5	5	2.9	8.2	8.8	24.2	8.7	24.6	18.5	49.1	23.5	60.7
		12	8	1.8	7.1	1.8	20	3	6	3.4	9.78	10.4	29.4	9.7	29.5	19.5	58.9	24.1	63.7
		16	10	2.5	9.5	2.5	25	8	8	5.6	15.9	14.8	49	15.6	49.1	29.3	98.1	43.6	116.3

⚠ Plastic ball are not for M3.

⚠ Thread-locking adhesive not applied.

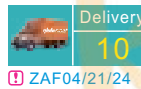
kgf=N×0.101972



Part Number	Code	M	d
ZAF01	M4	4	2
ZAF02	M5	5	2.5

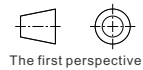
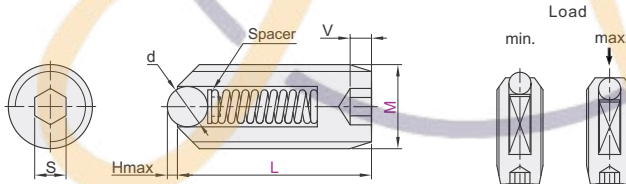


Discount price
Per 1~29 30~
Price 100% Additional quotation



## Stainless Steel Long Type

Code	Type	Load	Body		Ball		Spring	Spacer	Operating Temperature
			Material	Material	Hardness	Material			
ZAD31	Stainless Steel Long Type	Ultra Light Load	SUS304	SUS440C	55HRC~	SUS631J1	SUS304	-30~140°C	
ZAD32		Light Load							
ZAD33		Heavy Load							
ZAD34		Extra Heavy Load							



Part Number	Code	M	L	d	H	V	S	Load(N)							
								Ultra Light Load ZAD31		Light Load ZAD32		Heavy Load ZAD33		Extra Heavy Load ZAD34	
								min.	max.	min.	max.	min.	max.	min.	max.
Metal Ball ZAD31 ZAD32 ZAD33 ZAD34	Metal Ball	3	20 30	1.5	0.5	1	1.5	0.4	0.75	1.1	2.1	1.6	3	2.3	5.1
		4	20 30	2.4	0.7	1.5	2	0.7	1.72	2	5	4	9.9	2.6	12.6
		5	30 40	3	0.8	2	2.5	1.2	3.31	3.4	9.9	5	19.7	11.3	24.2
		6	30 40	3.5	1.2	2.5	3	1.8	5.06	5.2	15.4	9.9	29.5	17.8	33.5
		8	40 50	5	2	—	4	2.6	6.66	5.6	19.2	12.8	39.3	21.5	45.4
		10	40 50	6	2.5	—	5	3.3	8.1	9	24.2	18.7	49.1	23.6	60.1
		12	50 60	8	3	3	6	3.6	9.9	10.6	29.4	19.7	58.9	24.2	63.8
		16	50 60	10	4	—	8	6.2	15.7	15	49	29.5	98.1	43.7	116.4

⚠ M3 and M4 have no slits for a screwdriver on the tip. It can be installed only by using an allen wrench.

kgf=N×0.101972

⚠ Min. load is the initial load, and max. load is the one when the tip is fully compressed.



Part Number	Code	M	L
ZAD31	M4	3	20 30
ZAD32	M4	4	20 30

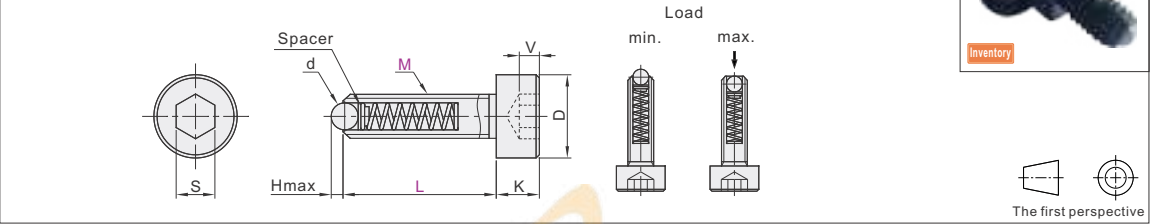


Discount price
Per 1~29 30~
Price 100% Additional quotation



Hex Socket Head Cap Screw Type

Code	Type	Load	Body			Ball		Spring	Spacer	Operating Temperature
			Material	Hardness	Surface Treatment	Material	Hardness	Material	Material	
ZAK01	Hex Socket Head Cap Screw Type	Light Load	SCM435	30~35HRC	Black Oxide Electroless Nickel Plating	SUJ2	56HRC~	SWP-B	SUS304	30~80°C
ZAK02	Metal Ball	Heavy Load								

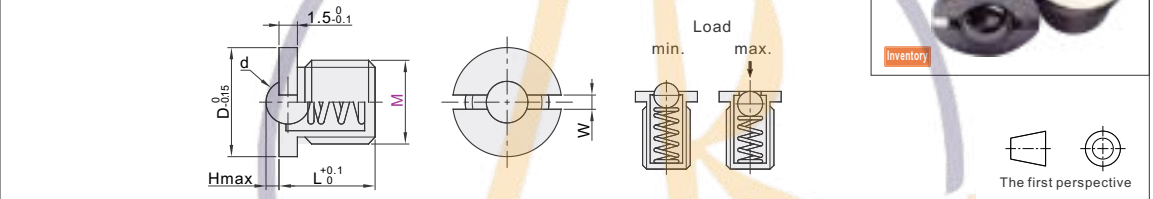


The first perspective

Part Number		L	d	H	D	S	K	V	Load(N)			
Code	M								ZAK01		ZAK02	
									min.	max.	min.	max.
ZAK01 ZAK02	4	10 15 20 30	2.5	0.8	7	3	4	2	1.8	5	3.8	9.9
	5	15 20 30 40	3		8.5	4	5	2.5	3.2	9.9	4.8	19.7
	6	15 20 30 40	4	1	10	5	6	3	5	15.4	9.7	29.5
	8	15 20 30 40	5	1.2	13	6	8	4	5.4	19.2	12.6	39.3
	10	15 20 30 40 50	7.1	1.8	16	8	10	5	8.8	24.2	18.5	49.1
	12	25 30 40	9.5	2.5	18	10	12	6	10.8	29.4	19.5	58.9
16	40	7.1	2.5	24	14	16	8	14.8	49	29.3	98.1	

Flange-Type

Code	Type	Load	Body			Ball		Spring
			Material	Hardness	Surface Treatment	Material	Hardness	Material
ZAK52	Flange-Type	Metal Ball	SUS303	—	—	SUS440C	56HRC~	SUS631J1



The first perspective

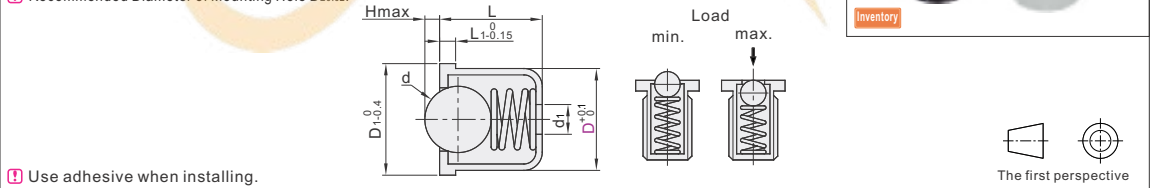
Part Number		H	d	L	D	W	Load(N)	
Code	M						min.	max.
ZAK52	5	0.8	3	5	7	0.8	1.2	6.5
	6	1	4	6	8	1	2.6	8.1
	8	1.6	5	7	10	1.5	1.2	10.3
	10	1.9	6.35	9	12	2	6	17.3
	12	2.4	7.94	11.5	14	2	2	18.9
	16	3.2	9.53	16	18	2	12.9	25.6

kgf=N×0.101922

Press-Fit Type

Code	Type	Load	Body		Ball		Spring
			Material	Material	Hardness	Material	
ZAL01	Press-Fit Type	Light Load	SUS303	SUS440C	56HRC~	SUS631J1	
ZAL02		Heavy Load					
ZAL21		Light Load					
ZAL22		Light Load	Polyacetal	Polyacetal	—		

Recommended Diameter of Mounting Hole  $D_{\pm 0.02}$ .



The first perspective

Use adhesive when installing.

Part Number		D <sub>1</sub>	L		L <sub>1</sub>	H	d	d <sub>1</sub>	Load(N)					
Code	D		Light Load	Heavy Load					Light Load		Heavy Load			
			ZAL01	ZAL21/ZAL22					ZAL01	ZAL21/ZAL22	ZAL02	ZAL02		
ZAL01 ZAL02 ZAL21 ZAL22	3	3.6	4	1	0.6	2	1	1.5	0.73	0.99	0.64	1.05	—	—
	4	4.6	5	6.5					0.8	3	2	0.55	5.7	1.2
	5	5.6	6	8	1	1.6	5	2.5	2.7	6.4	2.6	8.1	5	13.8
	6	6.6	7	9					2.85	9.7	1.05	10.3	5.2	16.8
	8	8.6	9	12	1.9	6.35	3	8.9	6.4	11.8	6.05	17.3	7.9	28.1
	10	10.6	11.5	14.5					2.4	8	2	18.9	13.4	30.6

Hex Socket Head Cap Screw Type

Part Number	L	
Code	M	L
ZAK01	6	15 20 30 40
ZAK02	8	15 20 30 40

ZAK01—M6—L30

Discount price  
 Per 1~29 30~  
 Price 100% Additional quotation

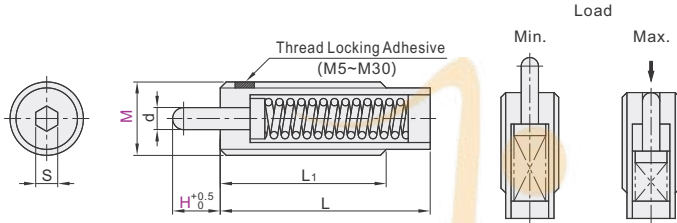
Delivery  
 12



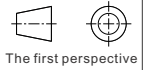
# Long Stroke Carbon Steel Type ▶ Thread Locking Adhesive

# Spring Plungers

Code	Type	Load	Body			Pin			Spring Material	Operating Temperature
			Material	Hardness	Surface Treatment	Material	Hardness	Surface Treatment		
ZAP10	Steel Nose Long Stroke Carbon Steel Type	Ultra Light Load	S45C	29~35 HRC	Black Oxide	S45C	57~63 HRC	Zinc-plated	SWP-B	-30~80°C
ZAP11		Light Load								
ZAP12		Heavy Load								
ZAP13		Extra Heavy Load								
ZAP15		Ultra Light Load								
ZAP16	Plastic Nose	Light Load	—	—	Polycetal	—	—	—	—	—
ZAP17		Heavy Load								
ZAP18		Extra Heavy Load								



- ① Thread Locking Treatment is not provided on M3 and M4.
- ② The adhesive is most effective if left on the part for 72 hours or more in 25°C. It should be noted if the parts are left for short period of time and in low temperature, the thread-lock will be less-effective.



Part Number Code	M	H	d	L		S	Load(N)																
				Ultra Light Load Light Load Heavy Load	Extra Heavy Load		L1	Ultra Light Load				Light Load				Heavy Load				Extra Heavy Load			
								min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.				
Steel Nose ZAP10 ZAP11 ZAP12 ZAP13	3	(1.5)*	1.1	10	15	10(15)	0.9	0.04	0.33	0.49	1	0.78	2.9	2.2	4.5								
		(3)*		15	20	15(20)		0.08	0.29	1		2	2.9	8.8		5.2	13						
	4	(2)*	1.6	15	24	15(24)	1.3	0.22	0.66	1	2	2.9	8.8	5.2	13								
		(4)*		24	24	24		0.23	0.59	2		2	2.9	19.6		8.8	24.8						
	5	(3)*	2	20	27	20(27)	1.5	0.73	2.96	2	9.8	4.9	19.6	9.1	24.5								
		(5)*		27	39	27(39)		0.71	2	2.9		7.8	14.2	39.5									
	6	(5)*	2.5	30	36	30(36)	2	0.84	3.21	5.9	9.8	4.9	29.4	14.1	39.4								
		10		39	—	30		—	—	1.4		5	28	—		—							
	8	(3)*	3.1	25	27	25(27)	2.5	0.89	3.31	5.9	9.8	14.7	35.3	41.2									
		(5)*		27	35	27(30)		2.9	9.8	7.8		29.4	14.7	41.2									
10	(10)*	3.8	43	53	30	3	1.69	—	2.9	14.7	7.8	49	15.7	62.8									
	15		58	—	30		—	—	2.9		6.2	48.7	—		—								
12	(5)*	5.5	30	43	30(35)	4	1.49	4.71	5.9	14.7	18.6	37.2	—	98.1									
	(10)*		43	58	35		1.29	5.91	2.9		7.8	49	14.7		98.1								
16	(15)*	8	51	78	35	5	1.59	—	3.5	19.6	4.9	49	14.9	—									
	20		78	—	35		—	—	3.5		6.9	—	—										
20	(10)*	10	60	60	—	6	1.69	12.81	3.9	39.2	12.7	23.5	21.6	147.2									
	(15)*		70	—	—		3.9	12.7	21.6		147.2												
24	(20)*	10	85	90	—	10	4.9	—	4.9	49	9.8	12.7	12.7	—									
	(30)		125	125	—		2.9	6.9	78.5		19.6	—	—										
30	40	14	125	—	35	14	4.9	—	4.9	—	6.9	78.5	19.6	—									
	50		155	—	—		19.6	29.4	—		—	—											
40	60	14	159	—	—	14	2.9	—	3.4	—	3.9	—	—	—									
	70		185	—	—		3.4	5.5	—		—	—											
40	80	14	185	—	—	14	19.6	—	12.7	—	29.4	93.2	24.5	245.3									
	(15)		60	80	—		12.7	24.5	12.7		245.3												
20	20	10	72	—	45	6	—	—	11.7	—	78.5	147.1	—	—									
	30		96	—	45		11.7	22.6	—		—												
24	40	10	120	—	45	10	—	—	19.6	—	98.1	215.7	24.5	314									
	7		60	—	45		19.6	44.1	196.1		—	—											
30	(15)	14	84	—	45	14	—	—	17.7	—	98.1	215.7	24.5	314									
	20		75	—	45		17.7	44.1	215.7		—	—											
40	30	14	100	—	45	14	—	—	—	—	—	—	—	—									
	40		124	—	45		—	—	—		—	—											
40	15	14	66	—	45	14	—	—	—	—	44.1	—	—	—									
	20		78	—	45		—	—	—		—	—											
40	30	14	100	—	45	14	—	—	27.5	—	117.1	274.6	—	—									
	40		123	—	45		27.5	45.1	274.6		47.1	—	—										

① H value with ( ) only for ZAP13/16/17.      ② H value with \* only for ZAP10/15/18.      kgf=N×0.101922  
 ③ L1 dimensions with ( ) are applicable to the Extra Heavy Load Type.



Part Number	M	H
ZAP12	3	1.5
ZAP11	M3	H1.5



Discount price
Per 1~29 30~
Price 100% Additional quotation.



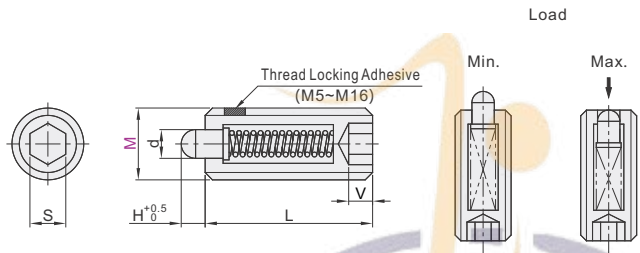
Delivery
12



# Short Stroke Carbon Steel Type ▶ Thread Locking Adhesive

# Spring Plungers

Code	Type	Load	Body			Pin			Spring	Operating Temperature	
			Material	Hardness	Surface Treatment	Material	Hardness	Surface Treatment			
ZAP61	Short Stroke Carbon Steel Type	Ultra Light Load	SCM435	29~35 HRC	Black Oxide	S45C	57~63 HRC	Zinc-plated	SWP-B	-30~150°C	
ZAP62		Light Load						Black Oxide			
ZAP63		Heavy Load						Black Oxide			
ZAP64		Extra Heavy Load						Nickel Plating			
ZAP66	Plastic Nose	Ultra Light Load	SCM435	29~35 HRC	Black Oxide	S45C	57~63 HRC	Polyacetal	SWP-B	-30~80°C	
ZAP67		Light Load									Black Oxide
ZAP68		Heavy Load									Black Oxide
ZAP69		Extra Heavy Load									Nickel Plating



- ⓘ Thread Locking Treatment is not provided on M3 and M4.
- ⓘ The adhesive is most effective if left on the part for 72 hours or more in 25°C. It should be noted if the parts are left for short period of time and in low temperature, the thread-lock will be less-effective.



Part Number		d	H	L	V	S	Load(N)								
Code	M						Ultra Light Load		Light Load		Heavy Load		Extra Heavy Load		
							min.	max.	min.	max.	min.	max.	min.	max.	
Steel Nose ZAP61 ZAP62 ZAP63 ZAP64	Plastic Nose ZAP66 ZAP67 ZAP68 ZAP69	3	1.2	1	7	1	1.5	0.11	0.48	0.4	1.5	0.8	2	—	—
		4	2.1	1.2	9	1.5	2	0.49	1.55	1.6	5	2	9	4.4	11.9
		5	2.7	1.5	12	2	2.5	0.53	2.53	2	7.8	4.9	14.7	4.1	24.9
		6	3.2	1.5	13	2.5	3	0.89	3.11	2.9	9.8	5.9	19.6	7.7	30.6
	8	4	2	15	2.5	4	0.9	3.14	2.9	9.8	5.9	19.6	8.6	43	
	10	5	2.5	16	3	5	1.76	4.71	4.9	14.7	9.8	29.4	14.1	53.1	
	12	6	3.5	20	3	6	1.96	4.82	4.9	14.7	9.8	29.4	23.1	58.1	
	16	8	4.5	22	3	8	3.29	9	9.8	29.4	19.6	58.8	26.6	78.8	

ⓘ The Extra Heavy Load Type is only applicable to specifications above M4. kgf=N×0.101972



Part Number	M	d
ZAP61	3	2.7
ZAP62	4	3.2

ZAP61—M5



Discount price	
Per	1~29 30~
Price	100% Additional quotation



Delivery  
**12**

# Indexing Plungers

- ◀ Economical, Return Type & Rest Position Type
- ◀ Standard, Return Type
- Coarse Thread/Fine Thread

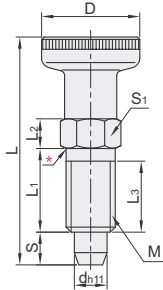
## □ Economical Type

Code	Type		Shape of Pin	Thread	Knob		Body			Pin			Lock Nut		Spring Material
	Return Type	Without Lock Nut / With Lock Nut			Material	Surface Treatment	Material	Surface Treatment	Material	Hardness	Surface Treatment	Material	Surface Treatment		
ZAM41	Return Type	Without Lock Nut	Tapered	Coarse Thread	Nylon-6 (Mat Black)	SUM22L	Trivalent Chromate	SUS303	—	—	—	S45C	Trivalent Chromate	SUS301	
ZAM42	With Lock Nut	With Lock Nut													
ZAM51	Rest Position Type	Without Lock Nut													
ZAM52	Type	With Lock Nut													

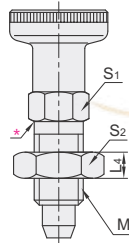


Inventory

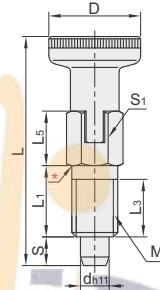
Return Type  
Without Lock Nut  
ZAM41



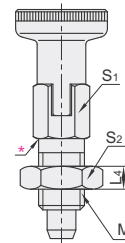
With Lock Nut  
ZAM42



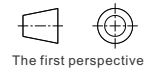
Rest Position Type  
Without Lock Nut  
ZAM51



With Lock Nut  
ZAM52



\* The nut does not touch the neck because of the Chamfer.



Part Number Code	Pitch (Coarse Thread) M	D	d	S min.	L		L1	L2	L3	L4	L5	S1	S2	Load(N)		Allowable Tightening Torque (N·m)	
					Return Type	Rest Position Type								min.	max.		
Return Type ZAM41	6	1	12	4	4	30.5	33	12	4.5	10	3.2	7	6	10	3	12	1.5
Rest Position Type ZAM51	8	1.25	16	5	5	40	43.5	16	6	14	4	9.5	8	13	5	24	9
Return Type ZAM42	10	1.5	18	6	6	49	52	20	7.5	18	5	10.5	10	16	5	21	20
Rest Position Type ZAM52	12	1.75	21	8	8	59	63.5	24	9	22	6	13.5	12	18	6	22	25

⚠ Since the Coarse Thread Type, do not exceed the tightening torques shown in the table above.



Part Number Code	M
ZAM41	6
ZAM42	8

ZAM41—M6



Discount price  
Per 1~29 30~ Additional quotation  
Price 100%



Delivery  
12

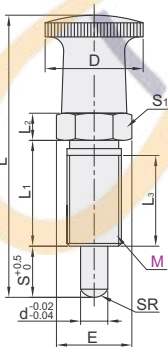
## □ Standard Type, Return Type

Code	Shape of Pin		Thread	Knob		Body		Pin			Lock Nut		Spring Material
	Without Lock Nut	With Lock Nut		Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment	Hardness	Material	Surface Treatment	
ZAG01	Without Lock Nut	With Lock Nut	Spherical	A2017	Black Anodize	SUM22	Black Oxide	S45C	Black Oxide	50-60HRC	SS400	Black Oxide	SUS631J1
ZAG11	With Lock Nut												
ZAG02	Without Lock Nut												

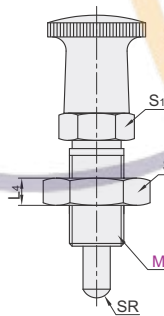


Inventory

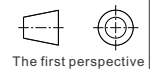
Without Lock Nut  
ZAG01  
ZAG02



With Lock Nut  
ZAG11  
ZAG12



⚠ M dimensions with "A" have longer strokes comparing to conventional products.



Part Number Code	Pitch (Fine Thread) M	D	E	S	d	L	L1	L2	L3	L4	S1	S2	SR	Load(N)		
														min.	max.	
ZAG01	8	1	15	11.5	4	4	40	16	5	14	4	10	13	2	3	9
	8A														6	12
ZAG02	10	1	18	13.8	5	5	45	17	5	15	5	12	17	2.5	5	11.5
	10A														8	16
ZAG11	12	1.5	21	16.2	6	6	54.5	20	6	17	6	14	19	3	6.5	14.5
	12A														10	18
ZAG12	16	1.5	26	21.9	7	8	68	26	8	23	8	19	24	4	7.15	20
	16A														12	25

kgf=N×0.101922



Part Number Code	M	Pitch
ZAG01	8	1
ZAG02	8A	1

ZAG01—M8



Discount price  
Per 1~29 30~ Additional quotation  
Price 100%



Delivery  
12

# Return & Rest Position Type ▶

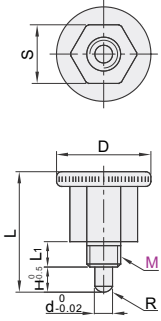
Short Type

# Indexing Plungers

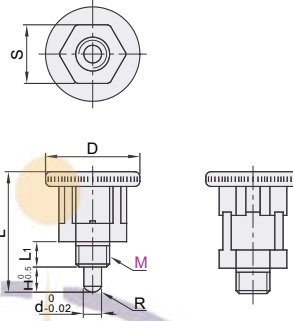
Code		Type	Knob	Body		Pin	Spring
Return Type	Rest Position Type		Material	Material	Surface Treatment	Material	Material
ZAU01	ZAU11	Short	Nylon-6	S45C	Black Oxide	SUS303	SUS304-WPB
ZAU02	ZAU12				Electroless Nickel Plating		



Return Type  
ZAU01  
ZAU02



Rest Position Type  
ZAU11  
ZAU12



Part Number		M	Pitch	H	L	L <sub>1</sub>	d	S	D	R	Load (N)	
Code											min.	max.
Return Type ZAU01 ZAU02	Rest Position Type ZAU11 ZAU12	8	1.25	5.5	25	5	5	13	20	3	2.4	6.2
		10	1.5	6.5	31	7	6	17	24	3.5	4.4	9.7



Part Number	Pitch
Code M	
ZAU01 8	1.25
ZAU02 10	1.5

ZAU01 — M8



● Discount price

Per	1~29	30~
Price	100%	Additional quotation



Delivery

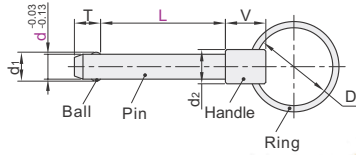
12
----

# Ball Lock Pins

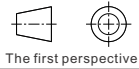
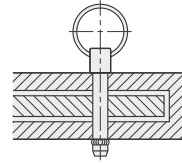
- Spring Pin
- Push Pin

## Spring Pin

Code	Type	Ball		Pin		Handle		Ring	
		Material	Hardness	Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment
ZAA01	Spring Pin	SUS440C	55HRC~	S45C	Electroless Nickel Plating	SUM22	Electroless Nickel Plating	SWRH	Nickel Plating



Example



The first perspective

Part Number	Code	d	L	d1	d2	D	T	V	Mating Hole Recommended Dim. (Tolerance Grade H11)	Resistance when Removed (N)	Pin Fracture Load (kN)	Weight (g)
ZAA01	5	10 15 20 25 30		5.5			6		5 <sup>+0.07</sup> <sub>0</sub>		5	18~25
	6	15 20 25 30 35 40 45 50		7	11		7 22		6 <sup>+0.07</sup> <sub>0</sub>	9	7	20~30
	8	20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100		9.5		25	8		8 <sup>+0.09</sup> <sub>0</sub>		13	25~58
	10	25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100		12			9		10 <sup>+0.09</sup> <sub>0</sub>	20	20	60~105
	12	30 35 40 45 50 55 60 65 70 75 80 85 90 95 100		14.5			10	27	12 <sup>+0.11</sup> <sub>0</sub>	30	29	70~135
	16	50 55 60 65 70 75 80 85 90 95 100		19	19		14	32	16 <sup>+0.11</sup> <sub>0</sub>	50	51	155~240



Please order as shown

Part Number	Code	d	L
ZAA01	5	10 15 20 25 30	
ZAA01	6	15 20 25 30	

ZAA01 — d5 — L20



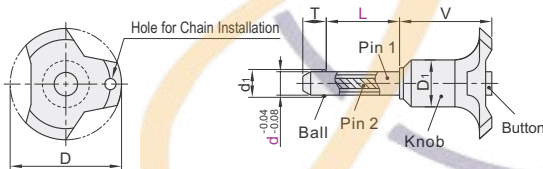
Discount price
Per 1~29 30~
Price 100% Additional quotation



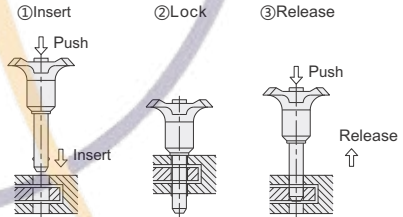
Delivery
17

## Push Pin

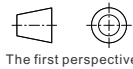
Code	Type	Ball		Pin 1	Pin 2	Spring	Knob	
		Material	Hardness	Material	Material	Material	Material	Color
ZAA05	Push Pin	SUS440C	55HRC~	SUS440C	SUS303	SUS631J1	Nylon	Gray/Orange



Example



- When the button is pushed, the ball lock is released. The pin can be inserted into a hole as the balls draw in the pin.
- When the button is released, the pin is locked as the balls extend outward from the pin.
- When the button is pushed again, the ball lock is released and the pin is pulled out.



The first perspective

Part Number	Code	d	L	D	D1	d1	T	V	Mating Hole Recommended Dim. (Tolerance Grade H11)	Fracture Load (kN)	Weight (g)
ZAA05	5	10 15 20 25 30				5.5	6		5 <sup>+0.07</sup> <sub>0</sub>	24	30~32
	6	10 15 20 25 30 35 40 50		38	16	7	7 31.5		6 <sup>+0.07</sup> <sub>0</sub>	35	30~40
	8	20 25 30 35 40 50				9.5	8		8 <sup>+0.09</sup> <sub>0</sub>	63	35~50
	10	20 25 30 35 40 50 60				12	9		10 <sup>+0.09</sup> <sub>0</sub>	100	75~100
	12	40 50 60 70 80			43	23	14.5	10 36	12 <sup>+0.11</sup> <sub>0</sub>	144	100~135
	16	60 80 100				19	14		16 <sup>+0.11</sup> <sub>0</sub>	255	170~233



Please order as shown

Part Number	Code	d	L
ZAA05	5	10 15 20	
ZAA05	6	10 15 20	

ZAA05 — d5 — L15



Discount price
Per 1~29 30~
Price 100% Additional quotation



Delivery
17