

Spring Plungers

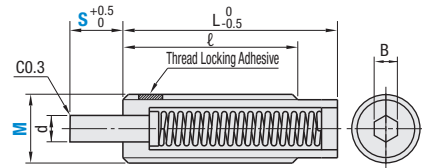
Flat Nose / For Sloped Surfaces / Flanged Plunger

Spring Plunger with Flat Nose



RoHS10

Type	Body	Pin	Spring Material	Operating Temperature
PJLF Light Load	1045 Carbon Steel or Equivalent 29-35 HRC min. Black Oxide	1045 Carbon Steel or Equivalent 57-63 HRC min. (Carburized) Trivalent Chromate	JIS SWP-B Spring Steel	-30-80°C



kgf=Nx0.101972

Part Number	Type	M (Coarse)	S	d	ℓ	L	B	Load N	
								min.	max.
PJLF	5	3	3	2.0	20	20	1.5	1.5	9.8
								1.6	10.4
	6	3	5	2.5	25	25	2	3.4	10.4
								1.9	9.7
	8	3	5	3.1	25	25	2.5	3.5	9.4
								2.9	9.6
	10	5	3	3.8	30	30	3	2.8	14.1
								2.9	14.6
12	10	3	5.5	35	43	4	2.5	21.1	

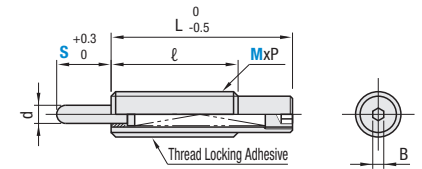
- To fix the position of the ball plunger, microencapsulated anaerobic adhesive is applied. Once the parts have been loosened, adhesion is lost. Use an anaerobic thread locking compound when reassembling.
- The adhesive is most effective if left on the part for 72 hours or more in 25°C. It should be noted if the parts are left for a short period of time and in low temperature, the thread locking adhesive will be less-effective.

Spring Plunger for Sloped Surface



RoHS10

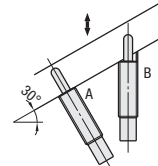
Type	Body	Pin	Spring Material	Operating Temperature
PJHZ	1045 Carbon Steel or Equivalent 29-35 HRC min. Black Oxide	1045 Carbon Steel or Equivalent 50 HRC min. (Carburized) Electroless Nickel Plating	JIS SWP-B Spring Steel	-30-80°C



kgf=Nx0.101972

Part Number	Type	M (Coarse)	S	d	S	ℓ	L	B	Load N		
									min.	max.	
PJHZ	10	10	4	10	30	43	3	3	9.5	60.8	
									5.2	55.9	
	12	15	5	15	35	51	4	4	5.1	53.6	
									26.5	78.0	
	16	15	8	15	35	60	5	5	14.2	79.4	
									16.8	80.4	
		30			30	35	125			19.8	81.2

Test Conditions
Press Machine: 20 TON Crank Press
Cyclic Speed: 130 SPM
Inclination Angle: 30°
Lubrication: Oil-Free



Type	Operating Life	
	A	B
PJHZ16-30	Over 300,000 Cycles or More	Over 300,000 Cycles or More
PJH16-30	Gouging at 17,000 Cycles	Gouging at 50,000 Cycles

(Note) This test result was obtained in conditions specified above. The service life changes according to the usage condition.

Features of PJHZ

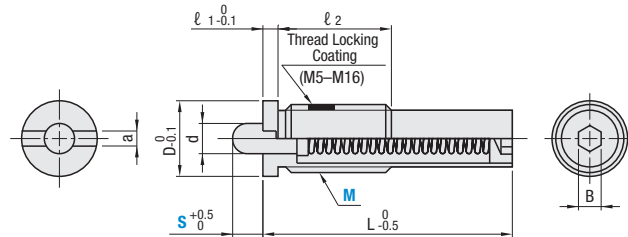
- (1) Special structure with high abrasion resistance and seizing resistance enables the use on slope (For conventional spring plungers, use 0°, under oil free condition; 5° or less with oil lubrication.)
- (2) Oil free use is possible.
- (3) Angle: 0-30°

Flanged Spring Plunger



RoHS10

Type	Body			Pin			Spring Material	Operating Temperature
	Material	Hardness	Surface Treatment	Material	Hardness	Surface Treatment		
Light Load FPJL	1045 Carbon Steel or Equivalent	29-35 HRC min.	Black Oxide	1045 Carbon Steel or Equivalent	57-63 HRC min. (Carburized)	Trivalent Chromate	JIS SWP-B Spring Steel	-30-80°C
Heavy Load FPJH								



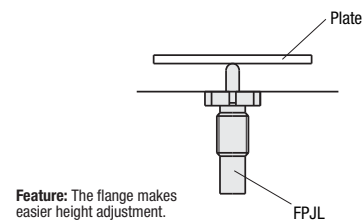
- To fix the position of the ball plunger, microencapsulated anaerobic adhesive is applied. Once the parts have been loosened, adhesion is lost. Use an anaerobic thread locking compound when reassembling.
- The adhesive is most effective if left on the part for 72 hours or more in 25°C. It should be noted if the parts are left for a short period of time and in low temperature, the thread locking adhesive will be less-effective.

kgf=Nx0.101972

Part Number	Type	M (Coarse)	S	d	L	B	D	ℓ1	ℓ2	a	FPJL Load (N)		FPJH Load (N)		Applicable Wrench	
											min.	max.	min.	max.		
FPJL FPJH	3	1.5	1.1	10	0.9	5	1.5	5	0.5		0.44	1.6	0.9	4.2	-	
											0.29	1.0	1.1	4.9		
	4	2	1.6	15	1.3	6	1.8	6	0.7			0.9	4.1	1.9		8.7
												0.7	2.2	0.29		8.3
	5	3	2	20	1.5	7	2	8	1.2			1.5	9.8	2.0		22.5
												1.6	10.4	2.5		23.4
	6	3	2.5	25	2	8		9				3.4	10.4	12.5		33.8
												1.9	9.7	6.2		32.6
	8	3	3.1	25	2.5	10	2.5	12	1.5			3.5	9.4	11.7		31.2
												2.9	9.6	8.3		31.9
10	5	3.8	30	3	12		15				2.8	14.1	11.4	51.0		
											2.9	14.6	9.5	60.8		
12	10	5.5	30	4	14		20				3.5	17.1	5.6	41.0		
											2.5	21.1	5.2	55.9		
16	15	8	60	5	18		25				2.3	19.4	5.1	53.6		
											12.1	38.0	26.5	78.0		
40	125		125								9.7	39.7	14.2	79.4		
											8.6	40.1	16.8	80.4		
											17.0	38.0	19.8	81.2		
											5.5	41.2	7.6	84.3		

M3 and M4 can be installed using a screwdriver.

Part Number Example
PJLF6-3
PJHZ16-20
FPJL3-1.5



Feature: The flange makes easier height adjustment.

Indexing Plungers

Standard

Indexing Plungers - Standard



RoHS10

Screw	Return Type			Rest Position			Knob	Main Body			Pin			Spring			(Lock Nut)														
	Sphere	Tapered	Flat	Sphere	Tapered	Flat		Material	Material	Surface Treatment	Material	Hardness	Surface Treatment	Material	Material	Surface Treatment	Material	Material	Surface Treatment												
Fine Thread	PXAN	PXAT	PXAF	PXYAN	PXYAT	PXYAF	2017 Aluminum Alloy (Black Anodize)	1213 Carbon Steel	Black Oxide	1045 Carbon Steel or Equivalent	50-60 HRC min.	Black Oxide	631 Stainless Steel	1018 Carbon Steel or Equivalent	Black Oxide																
	PXKN	PXKT	PXKF	PXYKN	PXYKT	PXYKF																									
	SXPAN	SXPAT	SXPAF	SXYAN	SXYAT	SXYAF																									
	SXPKN	SXPKT	SXPKF	SXYKN	SXYKT	SXYKF																									
																				303 Stainless Steel	—	440C Stainless Steel	45 HRC min.	—		303 Stainless Steel					

For M=5, 6 and 8L, the pin hardness is 40-45 HRC.

Return Type

PXA_
SXPA_

With Lock Nut

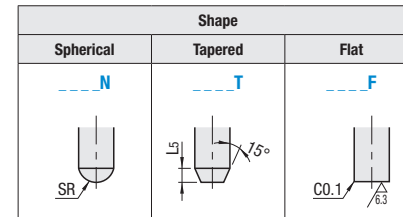
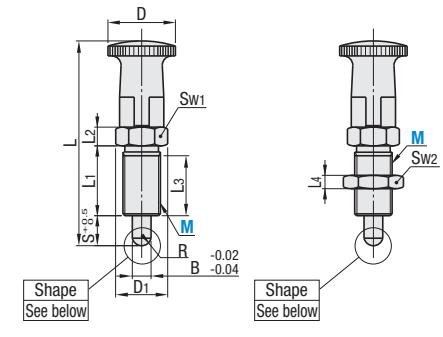
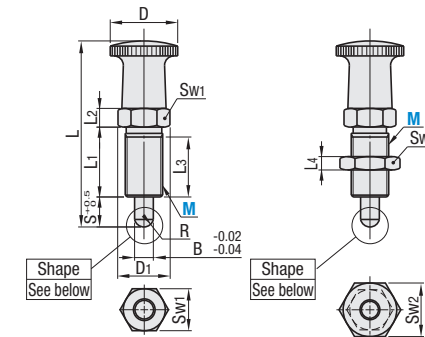
PXK_
SXPK_

Rest Position Type

PXYA_
SXYA_

With Lock Nut

PXYK_
SXYK_



Mass (g)

M	PXA_ SXPA_	PXK_ SXPK_	PXYA_ SXYA_	PXYK_ SXYK_
5	4.5	5.5	5	6
6	6.7	8.7	8	10
8	12	17	13	18
10	20	27	23	30
12	32	42	38	48
16	70	90	79	99

Part Number	Type	M	Pitch (Fine Thread)	D	D1	S	B	L											Load (N)	
								Return Type	Rest Position	L1	L2	L3	L4	L5	Sw1	Sw2	SR	min.	max.	
Return Type (Spherical) (Tapped) (Flat) PXAN PXAT PXAF PXKN PXKT PXKF SXPAN SXPAT SXPAF SXPKN SXPKT SXPKF	Rest Position Type (Spherical) (Tapped) (Flat) PXYAN PXYAT PXYAF PXYKN PXYKT PXYKF SXYAN SXYAT SXYAF SXYKN SXYKT SXYKF	5	0.5	10	8.1	5	2	35	41	15	3	14	2.7	1.5	7	8	1	6		
		6	0.75	12	9.2	5	2.5	36	42		4	13.5	3.2	1.5	8	10	1.3	6		
		8	1.0	15	11.5	4	4	40	46	16	5	14	4	1.5	10	13	2	3	9	
																			12	
		10	1.0	18	13.8	5	5	45	50	17	5	15	5	2.0	12	17	2.5	5	11.5	
																			16	
		12	1.5	21	16.2	6	6	54.5	60.5	20	6	17	6	2.5	14	19	3	6.5	14.5	
																			20	
		16	1.5	26	21.9	7	8	68	75.5	26	8	23	8	3.0	19	24	4	7.15	18	
																			25	
		16L				12		73	80.5											

- M dimensions with "L" have longer strokes comparing to conventional products.
- Relief at Thread Base: None for M=5 and 6; provided for M=8-16.

Part Number Example

SXPAN12L
PXKF10

kgf=Nx0.101972