

Ball Plungers

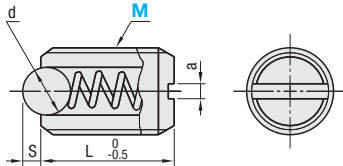
Plastic Body / Fine Thread / Short

Plastic Body



RoHS10

Type	Body		Ball		Spring	Operating Temperature
	M	H	M	H	M	
Metal Ball	Light Load	BSMN	Polyacetal (Black)	EN 1.4125 Equiv.	55HRC~	-30~80°C
	Heavy Load	BSZN	Nylon 66 (White)	EN 1.4568 Equiv.	EN 1.4301 Equiv.	
Plastic Ball	Light Load	BNMN	Polyacetal (Black)	Polyacetal (White)	EN 1.4301 Equiv.	-30~80°C
	Heavy Load	BNZN	Nylon 66 (White)	Nylon 66 (White)	EN 1.4568 Equiv.	



Part Number		M (Coarse)	d	S	L	a	Load (N)			Unit Price			
Type							Light Load min.	Light Load max.	Heavy Load max.	BSMN	BSZN	BNMN	BNZN
Metal Ball	Plastic Ball	6	3.2	0.8	13	1	0.2	5	8				
		8	4	1	15	1.2	2	12	15				
		10	4.8	1.2	16	1.5	2.5	16	20				

Has no slit for a wrench on the tip.

kgf=Nx0.101972

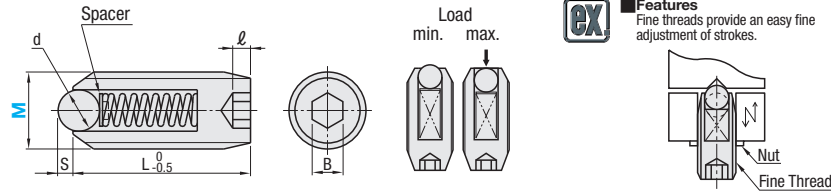
Ordering Example
Part Number
BSZN6

Fine Thread



RoHS10

Type	Body			Ball		Spring	Spacer	Operating Temperature	
	M Material	H Hardness	S Surface Treatment	M Material	H Hardness	M Material	M Material		
Light Load	BMPJ	EN 1.1191 Equiv.	29~35HRC	Black Oxide	EN 1.3505 Equiv.	55HRC~	JIS-SWP-B	EN 1.4301 Equiv.	-30~80°C
Heavy Load	BMSJ								



Features
Fine threads provide an easy fine adjustment of strokes.

Part Number		Pitch (Fine)	Metal Ball		L	ℓ	B	Light Load (N)		Heavy Load (N)		Unit Price
Type	M (Fine)		d	S				min.	max.	min.	max.	
Light Load	3	0.35	1.5	0.5	7	1	1.5	1	2	1.5	2.9	
	4	0.5	2.5		9	1.5	2	2	4.9	3.9	9.8	
	5	0.5	3	0.8	12	2	2.5	2.9	9.8	4.9	19.6	
Heavy Load	6	0.75	3		13	2.5	3	4.9	14.7	9.8	29.4	
	8	0.75	4	1	15	2.5	4	6.9	19.6	12.7	39.2	

Thread locking treatment not applied.

kgf=Nx0.101972

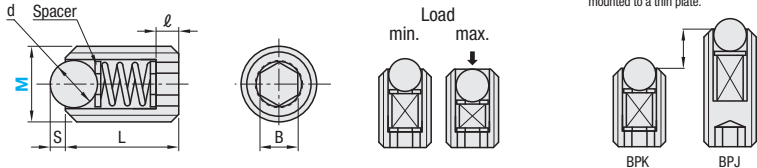
Ordering Example
Part Number
BMPJ5

Short



RoHS10

Type	Body	Ball		Spring	Spacer	Operating Temperature
	MMaterial	MMaterial	HHardness	MMaterial	MMaterial	
BPK	EN 1.4567 Equiv.	EN 1.4125 Equiv.	59~66HRC	EN 1.4301 (WPB) Equiv.	EN 1.4301 Equiv.	-30~80°C



Features: As the overall length is shorter than conventional ball plungers by about 30%, it does not stick out even if mounted to a thin plate.

Part Number		M (Coarse)	d	S	L	ℓ	B	Load (N)		Unit Price
Type								min.	max.	
BPK		3	2	0.5	5	1	1.5	(1.0)	(2.0)	
		4	2.5		6	1.2	2	(1.1)	(3.7)	
		5	3		8	1.9	2.5	(2.2)	(5.9)	
		6	4	1	9	1.8	3	(4.6)	(8.7)	
		8	5	1.2	10	1.8	4	(7.5)	(11.9)	

Has no slit for a wrench on the tip. It can be installed only by using a hex socket.

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

kgf=Nx0.101972

Ordering Example
Part Number
BPK4

Ball Plungers

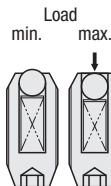
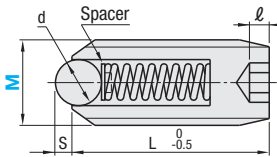
Long / Stainless Steel Long

Long



RoHS10

Type	Body			Ball		Spring	Spacer	Operating Temperature
	M	H	S	M	H	M		
Metal Ball	Ultra Light Load	BPSL	EN 1.1191 Equiv.	29~35HRC	Black Oxide		EN 1.3505 Equiv.	-30~80°C
	Light Load	BPJL						
	Heavy Load	BSJL	EN 1.4301 Equiv.	-	-		JIS-SWP-B	-30~80°C
	Extra Heavy Load	BPWL			Electroless Nickel Plating			
Plastic Ball	Ultra Light Load	NPSL	EN 1.1191 Equiv.	29~35HRC	Black Oxide		Polyacetal	-30~80°C
	Light Load	NPJL						
	Heavy Load	NSJL					Brass	-30~80°C
	Extra Heavy Load	NSWL			Electroless Nickel Plating			



Combination of these app. examples can be selected on our website.

Selection Detail

e-Catalog Search Keyword

#MA371

Search

*Enter the search keyword in the search box on e-Catalog. The search result will be shown in "Modular Assembler" area.

Part Number		M (Coarse)	Metal Ball		Plastic Ball		L	ℓ	B	Ultra Light Load (BPSL, NPSL)		Light Load (BPJL, NPJL)		Heavy Load (BSJL, NSJL)		Extra Heavy Load (BPWL, NSWL)		Unit Price	
Type			d	S	d	S				min.	max.	min.	max.	min.	max.	min.	max.	Metal Ball	Plastic Ball
Metal Ball	BPSL	3	1.5	0.5	-	-	13	1	1.5	0.3	0.64	1	2	1.5	2.9	2.2	5		-
	BPJL	4	2.5		2.4	0.7	15	1.5	2	0.6	1.6	2	4.9	3.9	9.8	2.5	12.6		
	BSJL	5	3	0.8	3	0.8	18	2	2.5	1	3.12	2.9	9.8	4.9	19.6	11.7	25.1		
	BPWL	6	3	3	0.8	20	2.5	3	3	1.6	4.85	4.9	14.7	9.8	29.4	18.7	35.3		
		8	4	1	4	1	23	2.5	4	2.4	6.36	6.9	19.6	12.7	39.2	24.5	46.8		
Plastic Ball	NPSL	10	5	1.2	5	1.2	27	3	5	3	8.1	8.8	24.5	18.6	49	26.7	58.7		
	NPJL	12	7.1	1.8	7	1.8	32	3	6	3.5	9.68	9.8	29.4	19.6	58.8	26.1	62.3		
	NSJL	16	9.5	2.5	9.5	2.5	40	3	8	5.7	15.8	15.7	49	29.4	98	55.4	116		
	NSWL																		

M3 and M4 have no slits for a wrench on the tip. It can be installed only by using a hex socket.

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

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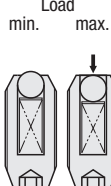
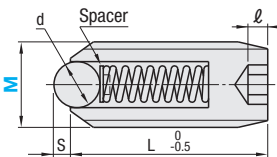
Ordering Example
Part Number
BPSL6

Stainless Steel Long



RoHS10

Type	Body		Ball		Spring	Spacer	Operating Temperature
	M	H	M	H	M		
Metal Ball	Ultra Light Load	BMSL	EN 1.4125 Equiv.	55HRC~		EN 1.4301 Equiv.	-30~260°C
	Light Load	BSML					
	Heavy Load	BSZL	EN 1.4568 Equiv.			EN 1.4301 Equiv.	-30~80°C
	Extra Heavy Load	BSXL					
Plastic Ball	Ultra Light Load	NMSL	Polyacetal	-		Polyacetal	-30~80°C
	Light Load	NSML					
	Heavy Load	NSZL				Brass	-30~80°C
	Extra Heavy Load	NSXL					



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Selection Detail

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Part Number		M (Coarse)	Metal Ball		Plastic Ball		L	ℓ	B	Ultra Light Load (BMSL, NMSL)		Light Load (BSML, NSML)		Heavy Load (BSZL, NSZL)		Extra Heavy Load (BSXL, NSXL)		Unit Price	
Type			d	S	d	S				min.	max.	min.	max.	min.	max.	min.	max.	Metal Ball	Plastic Ball
Metal Ball	BMSL	3	1.5	0.5	-	-	13	1	1.5	0.3	0.65	1	2	1.5	2.9	2.2	5		-
	BSML	4	2.5		2.4	0.7	15	1.5	2	0.6	1.62	1.9	4.9	3.9	9.8	2.5	12.5		
	BSZL	5	3	0.8	3	0.8	18	2	2.5	1.1	3.21	3.3	9.8	4.9	19.6	11.2	24.1		
	BSXL	6	3	3	0.8	20	2.5	3	3	1.7	4.96	5.1	15.3	9.8	29.4	17.7	33.4		
		8	4	1	4	1	23	2.5	4	2.5	6.56	5.5	19.1	12.7	39.2	21.4	45.3		
Plastic Ball	NMSL	10	5	1.2	5	1.2	27	3	5	3.2	8	8.9	24.1	18.6	49	23.5	60		
	NSML	12	7.1	1.8	7	1.8	32	3	6	3.5	9.8	10.5	29.3	19.6	58.8	24.1	63.7		
	NSZL	16	9.5	2.5	9.5	2.5	40	3	8	6.1	15.6	14.9	48.9	29.4	98	43.6	116.3		
	NSXL																		

M3 and M4 have no slits for a wrench on the tip. It can be installed only by using a hex socket.

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

kgf=Nx0.101972

Ordering Example
Part Number
NSML8