

Ball Plungers

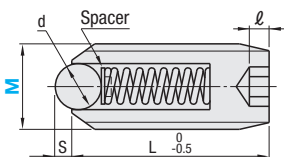
Long / Stainless Steel Long

Long



RoHS10

Type	Body			Ball		Spring	Spacer	Operating	
	M Material	H Hardness	S Surface Treatment	M Material	H Hardness	M Material	M Material	Temperature	
Metal Ball	Ultra Light Load	BPSL	S45C	29-35HRC	Black Oxide	SWP-B	SUS304	-30~80°C	
	Light Load	BPJL			SUJ2				55HRC~
	Heavy Load	BSJL	SUS304 Equivalent	-	-				
	Extra Heavy Load	BPWL			Electroless Nickel Plating				
Plastic Ball	Ultra Light Load	NPSL	S45C	29-35HRC	Black Oxide	Polyacetal	Brass	-30~80°C	
	Light Load	NPJL							
	Heavy Load	NSJL			Electroless Nickel Plating				
	Extra Heavy Load	NSWL							



Load min. max.



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

Selection Detail **P87**

e-Catalog Search Keyword

#MA371 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, NPSSL)		Light Load (BPJL, NPJL)		Heavy Load (BSJL, NSJL)		Extra Heavy Load (BPWL, NSWL)		Unit Price	
		d	S	d	S				Load (N)		Load (N)		Load (N)		Load (N)		Metal Ball	Plastic Ball
		min.	max.	min.	max.				min.	max.	min.	max.	min.	max.	min.	max.		
Metal Ball	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	1.5	1.5	2	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		
Plastic Ball	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		
NPSL (* only)	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 (* only)	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 (* only)	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 (* only)																		

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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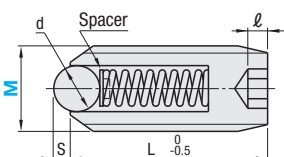
Ordering Example **Part Number**
BPSL6

Stainless Steel Long



RoHS10

Type	Body			Ball		Spring	Spacer	Operating
	M Material	M Material	H Hardness	M Material	H Hardness	M Material	M Material	Temperature
Metal Ball	Ultra Light Load	BMSL	SUS440C	55HRC~			SUS304	-30~260°C
	Light Load	BSML						
	Heavy Load	BSZL						
	Extra Heavy Load	BSXL						
Plastic Ball	Ultra Light Load	NMSL	SUS304 Equivalent			SUS631J1	SUS304	-30~80°C
	Light Load	NSML						
	Heavy Load	NSZL	Polyacetal					
	Extra Heavy Load	NSXL						



Load min. max.



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Selection Detail **P87**

e-Catalog Search Keyword

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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	
		d	S	d	S				Load (N)		Load (N)		Load (N)		Load (N)		Metal Ball	Plastic Ball
		min.	max.	min.	max.				min.	max.	min.	max.	min.	max.	min.	max.		
Metal Ball	3	1.5	0.5	-	-	13	1	1.5	0.3	0.65	1	2	1.5	2.9	2.2	5		-
BMSL	4	2.5	2.4	0.7	1.5	1.5	2	2	0.6	1.62	1.9	4.9	3.9	9.8	2.5	12.5		
BSML	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		
BSZL	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		
BSXL	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	10	5	1.2	5	1.2	27	3	5	3.2	8	8.9	24.1	18.6	49	23.5	60		
NMSL (* only)	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		
NSML (* only)	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		
NSZL (* only)																		
NSXL (* only)																		

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**
NSML8