

Ball Plungers

Plastic Body / Fine Thread / Short

Plastic Body

Type	Light Load	Heavy Load	Body		Ball		Spring	Operating Temperature
			Material	Hardness	Material	Hardness	Material	
Metal Ball	BSMN	BSZN	Polyacetal (Black)	SUS440C	55HRC~	SUS304	-30~80°C	
	BNMN	BNZN	Nylon 66 (White)	Polyacetal (White)	-	SUS631J1		
Plastic Ball	BPMN	BPZN	Polyacetal (Black)	Polyacetal (White)	-	SUS304	-30~80°C	
	BSMN	BSZN	Nylon 66 (White)	Polyacetal (White)	-	SUS631J1		

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Part Number	Type	M (Coarse)	d	S	L	a	Load (N)				Unit Price			
							Light Load		Heavy Load		BSMN	BSZN	BNMN	BNZN
							min.	max.	min.	max.				
Metal Ball	Plastic Ball	6	3.2	0.8	13	1	0.2	5	8	16				
		8	4	1	15	1.2	2	12	15	30				
		10	4.8	1.2	16	1.5	2.5	16	20	39				

Has no slit for a wrench on the tip. kgf=Nx0.101972

Ordering Example: Part Number BSNZ6

Fine Thread

Type	Light Load	Heavy Load	Body		Ball		Spring	Spacer	Operating Temperature	
			Material	Hardness	Material	Hardness	Material	Material		
BMPJ	BMSJ		S45C	29~35HRC	Black Oxide	SUJ2	55HRC~	SWP-B	SUS304	-30~80°C

RoHS10

Part Number	Type	M (Fine)	Pitch (Fine)	Metal Ball		L	ℓ	B	Light Load (N)		Heavy Load (N)		Unit Price
				d	S				min.	max.	min.	max.	
				BMPJ	BMSJ				3	0.35	1.5	0.5	
		4	0.5	2.5	0.8	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	
		6	0.75	3	0.8	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

Type	Body	Ball	Spring	Spacer	Operating Temperature	
Material	Material	Hardness	Material	Material		
BPK	SUSXM7	SUS440C	59~66HRC	SUS304-WPB	SUS304	-30~240°C

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Part Number	Type	M (Coarse)	d	S	L	ℓ	B	Load (N)		Unit Price
								min.	max.	
								BPK		
		4	2.5	0.8	6	1.2	2	(1.1)	(3.7)	
		5	3	1	8	1.9	2.5	(2.2)	(5.9)	
		6	4	1	9	1.8	3	(4.6)	(6.7)	
		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

Type	Light Load	Heavy Load	Body		Ball		Spring	Spacer	Operating Temperature
			Material	Hardness	Material	Hardness	Material	Material	
Metal Ball	BPSL	BPJL	S45C	29~35HRC	Black Oxide	SUJ2	55HRC~	SUS304	-30~80°C
	BPWL	BPJL	SUS304 Equivalent	-	-	SUJ2	55HRC~	SUS304	
Plastic Ball	NPJL	NSJL	S45C	29~35HRC	Black Oxide	Polyacetal	-	Brass	-30~80°C
	NSWL	NSJL	S45C	29~35HRC	Electroless Nickel Plating	Polyacetal	-	Brass	

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Combination of these app. examples can be selected on our website. Selection Detail P87 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	Type	M	Metal Ball		L	ℓ	B	Ultra Light Load (BPSL, NPJL)		Light Load (BPJL, NPJR)		Heavy Load (BSJL, NSJL)		Extra Heavy Load (BPWL, NSWL)		Unit Price			
			d	S				Load (N)		Load (N)		Load (N)		Load (N)		Metal Ball	Plastic Ball		
			d	S				min.	max.	min.	max.	min.	max.	min.	max.				
Metal Ball	Plastic Ball	3	1.5	0.5	-	-	13	1	1.5	0.3	0.64	1	2	1.5	2.9	2.2	5		
		4	2.5	0.8	0.8	15	1.5	2	0.6	1.6	2	4.9	3.9	9.8	2.5	12.6			
		5	3	0.8	0.8	18	2	2.5	1	3.12	2.9	9.8	4.9	19.6	11.7	25.1			
		6	3	0.8	0.8	20	2.5	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		
		10	5	1.2	5	1.2	27	3	5	3	8.1	8.8	24.5	18.6	49	26.7	58.7		
		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		
		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		

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 BPSL6

Stainless Steel Long

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

RoHS10

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

Part Number	Type	M	Metal 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				Load (N)		Load (N)		Load (N)		Load (N)		Metal Ball	Plastic Ball		
			d	S				min.	max.	min.	max.	min.	max.	min.	max.				
Metal Ball	Plastic Ball	3	1.5	0.5	-	-	13	1	1.5	0.3	0.65	1	2	1.5	2.9	2.2	5		
		4	2.5	0.8	0.8	15	1.5	2	0.6	1.62	1.9	4.9	3.9	9.8	2.5	12.5			
		5	3	0.8	0.8	18	2	2.5	1.1	3.21	3.3	9.8	4.9	19.6	11.2	24.1			
		6	3	0.8	0.8	20	2.5	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		
		10	5	1.2	5	1.2	27	3	5	3.2	8	8.9	24.1	18.6	49	23.5	60		
		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		
		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		

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