

BALL PLUNGERS / WRENCHES



Printed in Red

The quantity discount rate is also applicable to alteration cost.
All price & lead time are to be quoted.

Ball plungers

— Normal type —

RoHS
Not compatible with catalog Nos. indicated by .

Type	Main body			Ball		Spring	Spacer	Allowable temperature
	M	H	S	M	H	M	M	
Metal ball	For light load	BPJ	SCM435	29~35HRC	Black oxide	SUJ2	55HRC~	SUS304
	For heavy load	BSJ	SUS304	—	—			
Resin ball	For extremely heavy load	BPW	S45C	29~35HRC	Nickel-Plating	Polyacetal	—	Brass
	For light load	NBPJ			Black oxide			
	For heavy load	NBSJ			—			
	For extremely heavy load	NBPW						—30~80°C

Spacer
Loosening prevention treatment (M5~M16)

Load min. max.

⚠ On Standard Type, thread-locking adhesive is not applied on M2, M3 and M4.
 ⚠ 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 adhesive when reassembling.
 ⚠ The adhesive is most effective if left on the part for 72 hours or more in 25°C.
 Note if the parts are left for short period of time and in low temp the thread-lock will be less-effective.

Metal ball	Resin ball	d	S	L	ℓ	B	For light load (BPJ - NBPJ)		For heavy load (BSJ - NBSJ)		For extremely heavy load (BPW)		For extremely heavy load (BPW - NBPW)		Catalog No.	U/Price Q'ty:1~19
							min.	max.	min.	max.	min.	max.	min.	max.		
1	0.2	—	—	5	1	0.9	0.7	1.4	1.2	2	—	—	—	—	Quotation	
1.5	0.5	—	—	7	1	1.5	1	2	1.5	2.9	2.2	5	—	—		
2.5	—	2.4	—	9	1.5	2	2	4.9	3.9	9.8	2.5	12.6	2.5	12.5		
3	0.8	3.2	0.8	12	2	2.5	2.9	9.8	4.9	19.6	11.7	25.1	11.2	24.1		
3	—	3.2	—	13	2.5	3	4.9	14.7	9.8	29.4	18.7	35.3	17.7	33.4		
4	1	4	1.0	15	2.5	4	6.9	19.6	12.7	39.2	24.5	46.8	21.4	45.3		
5	1.2	4.8	1.2	16	3	5	8.8	24.5	18.6	49	26.7	58.7	23.5	60		
7	1.8	7.1	1.8	20	3	6	9.8	29.4	19.6	58.8	26.1	62.3	24.1	63.7		
9.5	2.5	9.5	2.5	25	3	8	15.7	49	29.4	98	55.4	116	43.6	116.3		

⚠ M2, M3, M4 do not include a crimping groove on the tip. They can be installed in hexagon holes only.
 ⚠ Load min. is the initial load and max. is the load at the time when the ball is sunk furthest.

(kgf) = N × 0.101972

Ball plungers

— Stainless steel normal type —

RoHS

Type	Main body			Ball		Spring	Spacer	Allowable temperature
	M	M	M	M	M	M		
Metal ball	For light load	BSM	SUS304	SUS440C	55HRC~	SUS631J1	SUS304	—30~260°C
	For heavy load	BSZ						
Resin ball	For extremely heavy load	BSX	Polyacetal	—	—	—	—	—30~80°C
	For light load	NBSM						
	For heavy load	NBSZ						
	For extremely heavy load	NBSX						

Spacer

Load min. max.

⚠ M2, M3, M4 do not include a crimping groove on the tip. They can be installed in hexagon holes only.

⚠ Load min. is the initial load and max. is the load at the time when the ball is sunk furthest.

Metal ball	Resin ball	d	S	L	ℓ	B	For light load (BSM)		For heavy load (NBSM)		For extremely heavy load (BSZ - NBSZ)		For extremely heavy load (BSX - NBSX)		Catalog No.	U/Price Q'ty:1~19
							min.	max.	min.	max.	min.	max.	min.	max.		
1	0.2	—	—	5	1	0.9	0.7	1.4	—	—	1.2	2	—	—	Quotation	
1.5	0.5	—	—	7	1	1.5	1	2	—	—	1.5	2.9	2.2	5		
2.5	—	2.4	—	9	1.5	2	1.9	4.9	2	4.9	3.9	9.8	2.5	12.5		
3	0.8	3.2	0.8	12	2	2.5	3.3	9.8	2.9	9.8	4.9	19.6	11.2	24.1		
3	—	3.2	—	13	2.5	3	5.1	15.3	4.9	14.7	9.8	29.4	17.7	33.4		
4	1	4	1.0	15	2.5	4	5.5	19.1	6.9	19.6	12.7	39.2	21.4	45.3		
5	1.2	4.8	1.2	16	3	5	8.9	24.1	8.8	24.5	18.6	49	23.5	60		
7	1.8	7.1	1.8	20	3	6	10.5	29.3	9.8	29.4	19.6	58.8	24.1	63.7		
9.5	2.5	9.5	2.5	25	3	8	14.9	48.9	15.7	49	29.4	98	43.6	116.3		

⚠ M2, M3, M4 do not include a crimping groove on the tip. They can be installed in hexagon holes only.
 ⚠ Loosening prevention treatment is not applied.

(kgf) = N × 0.101972

Order

Catalog No.

BPJ16
BSZ10

Delivery

3 Days

Printed in Red

SGP Stock

Printed in Blue

3 Days

Quantity discount rate

Quantity	1~19	20~49	50~99	100~200
Rate	—	5%	10%	15%

⚠ For area out of Singapore please refer to P.1.

Wrenches for ball plunger

BPJG

RoHS

M S45C
 H 34~43HRC
 S Black oxide

M	Catalog No.	U/Price Q'ty:1~9
5 · 6	BPJG 1	Quotation
8	BPJG 2	
10	BPJG 3	
12	BPJG 4	
16	BPJG 5	

⚠ Used with M5 to M16 of ball plungers BPJ, BSJ, BSZ and BSX. Cannot be used with ball plungers BSJL and BSXL, short plungers, or ball plunger resin types.
 ⚠ Loosening prevention treatment is not applied.

Order

Catalog No.

BPJG2

Delivery

3 Days

⚠ For area out of Singapore please refer to P.1.

Quantity discount rate

Quantity	1~9	10~19	20~29	30~50
Rate	—	5%	10%	15%

Stocks Availability Subjected to Prior Sales.