

BALL PLUNGERS / BALL BUTTONS / BALL PLUNGER WRENCHES

BALL PLUNGERS

— CAP TYPE —

Ⓜ Non JIS material definition is listed on P.1351 - 1352

Ball plungers RoHS

Loosening prevention treatment applied

BPJ BSJ

Loosening prevention treatment not applied

BSZ BSX

Type	Loosening prevention treatment	Main body			Ball		Spring	Spacers	Possible temperature of use	
		M	H	S	M	H				
For light load	BPJ	Yes	S45C	29~35HRC	Black Oxide	SUJ2	—	SWP—B	SUS304	-30°C~80°C
For heavy load	BSJ	Yes	SUS304	—	—	55HRC~	—	—	—	—
Stainless steel for heavy load	BSZ	No	(equivalent)	—	—	SUS440C	—	SUS631J1	SUS304	-30°C~260°C
Stainless steel for extra heavy load	BSX	No	—	—	—	—	—	—	—	—

Spacer
Loosening prevention treatment (M5~M16) Ⓜ except for BSZ · BSX

d	S	L	ℓ	B	For light load BPJ				For heavy load BSJ				For heavy load BSZ				For extra heavy load BSX				Part Number	
					Load (N)		Load (N)		Load (N)		Load (N)		Load (N)		Load (N)		Load (N)		Type	M (Coarse thread)		
					min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.				
1.0	0.2	5	1.0	0.9	0.7	1.4	—	—	1.2	2.0	—	—	—	—	BPJ BSJ BSZ BSX	*2						
1.5	0.5	7	1.0	1.5	1.0	2.0	1.5	2.9	1.5	2.9	2.2	5.0	—	—		3						
2.5	0.8	9	1.5	2	2.0	4.9	3.9	9.8	3.9	9.8	2.5	12.5	—	—		4						
3.0	0.8	12	2.0	2.5	2.9	9.8	4.9	19.6	4.9	19.6	11.2	24.1	—	—		5						
3.0	0.8	13	2.5	3	4.9	14.7	9.8	29.4	9.8	29.4	17.7	33.4	—	—		6						
4.0	1.0	15	2.5	4	6.9	19.6	12.7	39.2	12.7	39.2	21.4	45.3	—	—		8						
5.0	1.2	16	3.0	5	8.8	24.5	18.6	49.0	18.6	49.0	23.5	60.0	—	—	10							
7.0	1.8	20	3.0	6	9.8	29.4	19.6	58.8	19.6	58.8	24.1	63.7	—	—	12							
9.5	2.5	25	3.0	8	15.7	49.0	29.4	98.0	29.4	98.0	43.6	116.3	—	—	16							

Ⓜ M2 · M3 · M4 have no groove for the specific wrench (BPJG), so that they can only be installed in hexagonal holes. Moreover they are not applied with loosening prevention treatment. For M5 or higher, use the specific wrench. Ⓜ M2 is only available for BPJ · BSZ. Ⓜ Load values "min." indicate an initial load, and "max." a load when the ball is fully sunk.
Load (kgf)=Load N×0.101972

Order Part Number
BPJ12

Days to Ship Quotation

Price Quotation

Load min. max.

Ball Buttons

BBT RoHS

SK4
53~58HRC

Part Number	Type	Dk5	L	d	W (g)
8	10	3	4		
10	12	4	8		
12	14	5	13		
16	18	8	28		

Ⓜ To combine with Ball Plunger, make sure to match their catalog numbers (M=D). (BBT6 is also available for M5)

Order Part Number
BBT6

Days to Ship Quotation

To be quoted on price & lead time above Max. Q'ty.

Ball Plunger Wrenches

BPJG RoHS

M S45C
34~43HRC
S Black Oxide

Applicable M	Part Number
5 · 6	BPJG 1
8	BPJG 2
10	BPJG 3
12	BPJG 4
16	BPJG 5

Ⓜ Available for M5~M16 of ball plungers (BPJ · BSJ · BSZ · BSX)

Order Part Number
BPJG2

Days to Ship Quotation

To be quoted on price & lead time above Max. Q'ty.

RoHS **BPCT**

Main body
SCM435
Ball
SUJ2
55HRC~
Spring
SWP—B
Possible temperature of use—30°C~80°C

H	T	B	d	S	L	e	Load (N)		Part Number	
							min.	max.	Type	M
6	2.5	2	2.5	0.8	7	*—	5.8	11.7	BPCT	4
8	3	2.5	3	0.8	8	*—	5.9	13.8		5
9	3.5	3	3	0.8	9	1.5	7.5	17.6		6
11.5	4	4	4	1	11	2.0	11.6	26.2		8

*There is no relief machining on M4 and M5. Also, there is an incomplete threaded part, so chamfer the tap hole on the mounting side.
Ⓜ Load values "min." indicate an initial load, and "max." a load when the ball is fully sunk.
Load (kgf)=Load N×0.101972

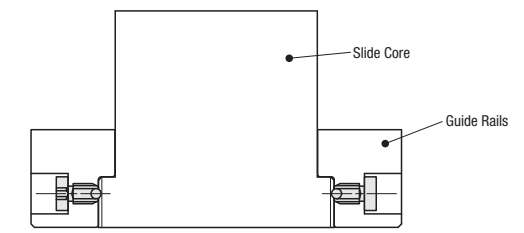
Order Part Number
BPCT5

Days to Ship Quotation

Price Quotation

Example

- Feature**
- It is possible to determine the position from the counterbore depth, so there is no need to adjust the plunger when installing it.
 - It is possible to install the plunger using a hex-wrench.
 - It is recommended that you use the plunger mounted on a guide rail.



Slide Cores
Loose Cores