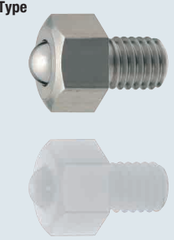
Ball Rollers

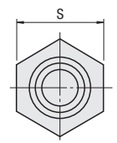
Hex Head Stud / Press-Fit / Insertion / Adhesive / Plunger Press-Fit / Threaded Type

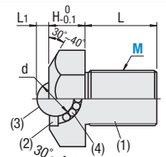
Ball Rollers – Hex Head Stud Type



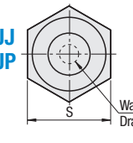
RoHS 10

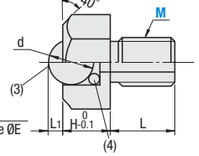
BCHL
BCHLJ



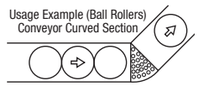


BCHLJJ
BCHLJP





Application Example



Part Number Example

Part Number: **BCHP18**

Type	Material			
	(1) Main Body	(2) Spacer	(3) Main Ball	(4) Sub Ball
BCHL	304 Stainless Steel	304 Stainless Steel	440C Stainless Steel 55 HRC min.	440C Stainless Steel 55 HRC min.
BCHLJ			Polyacetal Balls	
BCHLJJ	Polyacetal	—		
BCHLJP	PEEK	—	PEEK	

Part Number Type	M	L	L_1	H	d	S	Allowable Load N (kgf) BCHL	BCHLJ
BCHL Stainless Steel Balls	5	6	1.1	5	4	8	12 (1.2)	6 (0.6)
	6	8	1.2	6	4.76	10	14 (1.4)	7 (0.7)
	8	10	1.5	7	5.56	13	41 (4.2)	27 (2.8)
	10	12	2.5	10	8.73	17	55 (5.6)	34 (3.5)
BCHLJ Polyacetal Balls	12	15	3.5	11	10.32	19	62 (6.3)	55 (5.6)
	16	20	5.3	15	15.87	24	343 (35)	69 (7)
	20	25	6.3	18	19.05	30	412 (42)	82 (8.4)

Part Number Type	M	L	L_1 BCHLLJJ	L_1 BCHLLJP	H	d BCHLLJJ	d BCHLLJP	S	E	Allowable Load N (kgf) BCHLLJJ	BCHLLJP
BCHLJJ Polyacetal	5	6	1.5	—	5	4.76	—	8	1.5	2 (0.2)	—
	6	8	1.7	2	6	5.56	6.35	10	2.5	4 (0.4)	5 (0.5)
BCHLJP PEEK	8	10	2.8	2.5	8	8.73	7.94	13	3	7 (0.7)	6 (0.6)
	10	12	3.5	3	10	10.32	9.53	17	3.5	11 (1.1)	8 (0.8)

! BCHLJJ is not suitable for high-speed transfer.

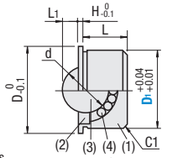
Ball Rollers – Press-Fit Type

Ball Rollers – Insertion / Adhesive Type

RoHS 10

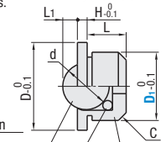
BCHA
BCHAJ

! H7 is recommended for mounting holes.

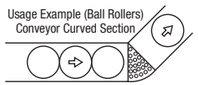


BCHJJ
BCHJP

! Adhesive attaching recommended for mounting. (Do not press-fit. It may cause ball malfunction.)



Application Example



Part Number Example

Part Number: **BCHP18**

Type	Material				
	(1) Main Body	(2) Spacer	(3) Main Ball	(4) Sub Ball	
BCHA	304 Stainless Steel	304 Stainless Steel	440C Stainless Steel 55 HRC min.	440C Stainless Steel 55 HRC min.	
BCHAJ			Polyacetal Balls		
BCHJJ	Polyacetal	—			
BCHJP	PEEK	—	PEEK		

Part Number Type	D_1	D	L	H	L_1	d	Allowable Load N (kgf) BCHA	BCHAJ
BCHA Stainless Steel Balls	7.5	9	4	1	1.1	4	12 (1.2)	6 (6.06)
	9	11	5		1.2	4.76	14 (1.4)	7 (0.7)
BCHAJ Polyacetal Balls	11	13	6		1.5	5.56	41 (4.2)	27 (2.8)
	15	17	9		2.5	8.73	55 (5.6)	34 (3.5)
	18	20	10		3.5	10.32	62 (6.3)	55 (5.6)
	24	26	14	1.5	5.3	15.87	343 (35)	69 (7)
	30	32	17	2	6.3	19.05	412 (42)	82 (8.4)

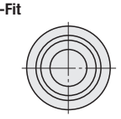
Part Number Type	D_1	D	L	H	L_1 BCHJJ	L_1 BCHJP	d BCHJJ	d BCHJP	E	C	Allowable Load N (kgf) BCHJJ	BCHJP
BCHJJ Plastic Body	5	7	3	0.8	1	—	3.18	—	0.8	0.5	1(0.1)	—
	7	9	4	1	1.5	1.5	4.76	4.76	1.5	0.8	2 (0.2)	2 (0.2)
BCHJP PEEK	9	11	5		1.7	2	5.56	6.35	2.5	1	4 (0.4)	5 (0.5)
	11	13	7		—	2.5	—	7.94	3		—	6 (0.6)
	13	15	7		2.8	3	8.73	9.53	3.0		7 (0.7)	8 (0.8)
	15	17	8	1.5	3.5	—	10.32	—	3.5		11 (1.1)	—
	20	22	11.5		5.2	—	15.87	—	5.3		14 (1.4)	—
	24	26	15		6.6	—	19.05	—	6.4		21 (2.1)	—

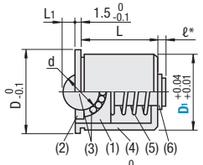
! BCHLJJ is not suitable for high-speed transfer.

Ball Rollers – Plunger Type Press-Fit

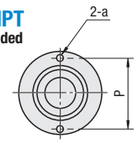
Ball Rollers – Threaded

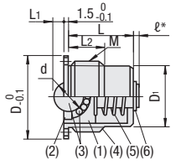
BCHP
Press-Fit



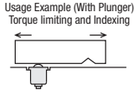


BCHPT
Threaded





Application Example



! Slides in the amount of the ball stroke.

! For tightening, wrenches for ball rollers are required. Refer to Alteration BR on the next page.

! The ball lowers by L1.

! H7 is recommended for mounting holes.

Part Number Example

Part Number: **BCHP18**

Type	Material					
	(1) Main Body	(2) Spacer	(3) Ball	(4) Casing	(5) Spring	(6) Retaining Ring
BCHP BCHPT	304 Stainless Steel	304 Stainless Steel	440C Stainless Steel 55 HRC min.	304 Stainless Steel	631 Stainless Steel	304 Stainless Steel

Part Number Type	D_1	D	L	L_1	d	ℓ	Load (N) min.	max.
BCHP	14	16	14	1.5	5.56	1.5	23	30
	18	20	17	2.5	8.73	2	24	38
	22	24	21.5	3.5	10.32		24	55

Part Number Type	Nominal	M (Fine)	D	D_1	L	L_1	L_2	a	d	P	ℓ	Load (N) min.	max.
BCHPT	16	16 x 1.5	19	13.5	14	1.5	9	2	5.56	15.4	1.5	23	30
	20	20 x 1.5	24	16.5	17	2.5	10	2	8.73	18.5	2	24	38
	24	24 x 1.5	28	20.5	21.5	3.5	12	2.5	10.32	24		24	55

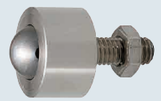
kgf=Nx0.101972

MiSUMi

Ball Rollers

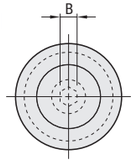
Lock Nut / Flange Mounting / Set Screw / Round Head Stud Type

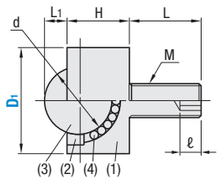
Ball Rollers – Lock Nut Type / Flange Mounting Type

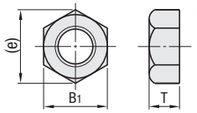


RoHS 10

BCHN



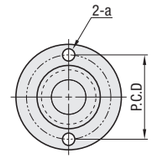


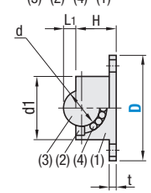


Nut Dimensions

M	B_1	(e)	T
M6	10	11.5	5
M8	13	15	6.5
M10	17	19.6	8

BCHF





Type	Material			
	(1) Main Body	(2) Spacer	(3) Main Ball	(4) Sub Balls
BCHN BCHF	304 Stainless Steel		440C Stainless Steel 55 HRC min.	

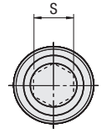
Part Number Type	D_1	L_1	H	M	L	d	B	ℓ	Allowable Load N (kgf)
BCHN	12	1.5	6.5	6	15	5.56	3	3.5	41 (4.2)
	16	2.5	9.5			8.73			55 (5.6)
	19	3.5	11.5	8	20	10.32	4	5	62 (6.3)
	25	5.3	14.7			15.87			343 (35)
	31	6.3	18.7	10	25	19.05	5	6	412 (42)

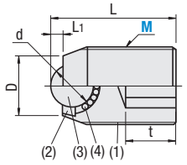
Part Number Type	D	D_1	L_1	H	t	P.C.D	a	d	Allowable Load N (kgf)
BCHF	27	15	2.5	9.5	2	21	3.5	8.73	55 (5.6)
	30	18	3.5	11.5	2	24	3.5	10.32	62 (6.3)
	39	24	5.3	14.7	3	31.5	4.5	15.87	343 (35)
	48	30	6.3	18.7	4	39	5.5	19.05	412 (42)

Ball Rollers – Set Screw Type

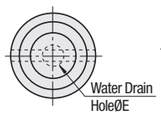
RoHS 10

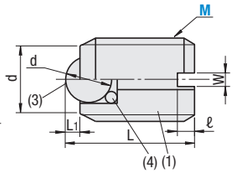
BCSB
BCSBJ





BCSBJJ





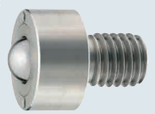
Part Number Type	M	L	L_1	D	d	S	t	Allowable Load N (kgf) BCSB	BCSBJ
BCSB Stainless Steel Balls	6	12	0.9	3.5	3.18	3	3.5	2(0.2)	0.5(0.05)
	8	14	1.3	5	4.76	4	5	5 (0.5)	1 (0.1)
BCSBJ Polyacetal Balls	10	16	1.2	7	4.76	5	6	14 (1.4)	7 (0.7)
	12	20	1.5	8	5.56	6	8	41 (4.2)	27 (2.8)
	16	25	2.5	12	8.73	8	10	55 (5.6)	34 (3.5)
	20	30	3.5	15	10.32	10	12	62 (6.3)	55 (5.6)

Part Number Type	M	L	L_1	D	d	E	W	ℓ	Allowable Load N (kgf)
BCSBJJ Polyacetal	8	14	1.5	6	4.76	1.5	1.2	1.5	2 (0.2)
	10	16	1.7	8	5.56	2.5	1.5	2	4 (0.4)
	16	25	2.8	12	8.73	3	2	3	7 (0.7)
	20	30	3.5	15	10.32	3.5	3	4	11 (1.1)

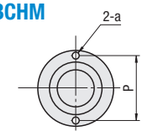
! Size M8 main balls are swaged in place without a spacer (2).

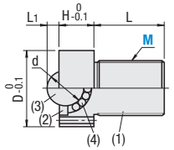
Type	Material			
	(1) Main Body	(2) Spacer	(3) Main Ball	(4) Sub Balls
BCSB	Stainless Steel (JIS SUSXM-7)	304 Stainless Steel	440C Stainless Steel 55 HRC min.	440C Stainless Steel 55 HRC min.
BCSBJ			Polyacetal Balls	
BCSBJJ	Polyacetal	—		

Ball Rollers – Round Head Stud Type



BCHM





! For tightening, wrenches for ball rollers are required. (Refer to Alteration BR)

Type	Material			
	(1) Main Body	(2) Spacer	(3) Main Ball	(4) Sub Balls
BCHM	304 Stainless Steel	304 Stainless Steel	440C Stainless Steel 55 HRC min.	440C Stainless Steel 55 HRC min.

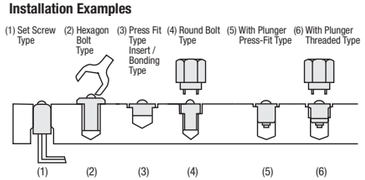
Part Number Type	M	L	L_1	H	D	d	a	P	Allowable Load N (kgf)
BCHM Stainless Steel Balls	10	12	2.5	10	18.5	8.73	2	15.4	55 (5.6)
	12	15	3.5	11	22	10.32		18.5	62 (6.3)
	16	20	5.3	15	27	15.87	2.5	24	343 (35)
	20	25	6.3	18	33	19.05		29.6	412 (42)

Part Number Example

Part Number: **BCHP18**

Application Example

Installation Examples

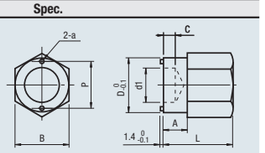


Part Number Alterations

Part Number - (BR)

BCHPT20 - BR

Alteration	Code	Spec.
Special Wrench Included	BR	Includes a special wrench. ! For BCHPT and BCHM only.



Nominal	BCHPT Applicable (Nominal)	BCHM Applicable (M)	L	A	B	C	D	D_1	P	a
10	16	For M10	25	8	19	3	18.5	10	15.4	2
12	20	For M12	30	10	24	4	22	12	18.5	
16	24	For M16	35	12	27	6	27	17	24	2.5
20	—	For M20	40	14	30	7	33	20	29.6	