

# Ball Rollers (For upward facing)

Milled Stainless Steel

**Hex Head Stud**

**BCHL**  
**BCHLJ**

**BCHLJJ**  
**BCHLJP**

Water Drain Hole  $\phi E$

**EX** Example  
App. Example (Ball Rollers) Conveyor curved section

Type	Material			
Type	① Main Body	② Spacer	③ Main Ball	④ Sub Ball
BCHL	SUS304	SUS304	SUS440C (HRC55-)	-
BCHLJ	SUS304	SUS304	Polyacetal Ball	SUS440C (HRC55-)
BCHLJJ	Polyacetal	-	Polyacetal Ball	SUS440C (HRC55-)
BCHLJP	PEEK	-	PEEK	-

Part Number	Type	M	L	L <sub>1</sub>	H	d	S	Allowable Load N (kgf)		Unit Price
								BCHL	BCHLJ	
BCHL (Stainless Steel Ball)	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)	-	-
	12	15	3.5	11	10.32	19	62(6.3)	55(5.6)	-	-
BCHLJ (Polyacetal Ball)	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 <sub>1</sub>	H	d	S	E	Allowable Load N (kgf)		Unit Price
									BCHLJJ	BCHLJP	
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)
	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.

**Press Fit**

**BCHA**  
**BCHAJ**

**BCHJJ**  
**BCHJP**

Water Drain Hole  $\phi E$

**EX** Example  
App. Example (Ball Rollers) Conveyor curved section

⚠️ H<sub>7</sub> is recommended for mounting holes.

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

Type	Material			
Type	① Main Body	② Spacer	③ Main Ball	④ Sub Ball
BCHA	SUS304	SUS304	SUS440C (HRC55-)	-
BCHAJ	SUS304	SUS304	Polyacetal Ball	SUS440C (HRC55-)
BCHJJ	Polyacetal	-	Polyacetal Ball	SUS440C (HRC55-)
BCHJP	PEEK	-	PEEK	-

Part Number	Type	D <sub>1</sub>	D	L	H	L <sub>1</sub>	d	Allowable Load N (kgf)		Unit Price
								BCHA	BCHAJ	
BCHA (Stainless Steel Ball)	7.5	9	4	1.1	4	12(1.2)	6(0.6)	-	-	-
	9	11	5	1.2	4.76	14(1.4)	7(0.7)	-	-	-
	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)	-	-
BCHAJ (Polyacetal Ball)	30	32	17	2	6.3	19.05	412(42)	82(8.4)	-	-

  

Part Number	Type	D <sub>1</sub>	D	L	H	L <sub>1</sub>	d	E	Allowable Load N (kgf)		Unit Price
									BCHJJ	BCHJP	
BCHJJ (Polyacetal)	7	9	4	1.5	-	4.76	-	1.5	0.8	2(0.2)	-
	9	11	5	1.7	2	5.56	6.35	2.5	4(0.4)	5(0.5)	-
	11	13	7	-	2.5	-	7.94	3	-	6(0.6)	-
	13	15	8	2.8	3	8.73	9.53	3.5	7(0.7)	8(0.8)	-
	15	17	8	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)	-	-

⚠️ BCHJJ is not suitable for high-speed transfer.

**Plunger Type (Press Fit)**

**BCHP**  
(Press Fit)

**BCHPT**  
(Threaded)

Water Drain Hole  $\phi E$

**EX** Example  
Torque limiting and Indexing

⚠️ The ball lowers by L<sub>1</sub>.

⚠️ H<sub>7</sub> is recommended for mounting holes.

⚠️ Slides in the amount of the ball stroke.

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

Type	Material					
Type	① Main Body	② Spacer	③ Ball	④ Casing	⑤ Spring	⑥ Retaining Ring
BCHP	SUS304	SUS304	SUS440C (HRC55-)	SUS304	SUS631J1	SUS304
BCHPT	SUS304	SUS304	SUS440C (HRC55-)	SUS304	SUS631J1	SUS304

Part Number	Type	D <sub>1</sub>	D	L	L <sub>1</sub>	d	ℓ	Load (N)		Unit Price
								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	2	24	55	-	-

  

Part Number	Type	Nominal	M (Fine)	D	D <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	a	d	P	ℓ	Load (N)		Unit Price
													min.	max.	
BCHPT	16	16x1.5	19	13.5	14	1.5	9	2	5.56	15.4	1.5	23	30	-	-
	20	20x1.5	24	16.5	17	2.5	10	2	8.73	18.5	2	24	38	-	-
	24	24x1.5	28	20.5	21.5	3.5	12	2.5	10.32	24	2.5	24	55	-	-

kgf=Nx0.101972

**Lock Nut**

**BCHN**

**BCHF**

Water Drain Hole  $\phi E$

**EX** Example  
App. Example (Ball Rollers) Conveyor curved section

Type	Material			
Type	① Main Body	② Spacer	③ Main Ball	④ Sub Ball
BCHN	SUS304	SUS304	SUS440C (HRC55-)	-
BCHF	SUS304	SUS304	Polyacetal Ball	SUS440C (HRC55-)

Part Number	Type	D <sub>1</sub>	L <sub>1</sub>	H	M	L	d	B	ℓ	Allowable Load N (kgf)		Unit Price
										BCHN	BCHF	
BCHN	12	1.5	6.5	6	15	5.56	3	3.5	-	41(4.2)	-	-
	16	2.5	9.5	8	20	8.73	4	5	-	55(5.6)	-	-
	19	3.5	11.5	10	25	10.32	4	5	-	62(6.3)	-	-
	25	5.3	14.7	13	30	15.87	5	6	-	343(35)	-	-
	31	6.3	18.7	16	35	19.05	5	6	-	412(42)	-	-

  

Part Number	Type	D	D <sub>1</sub>	L <sub>1</sub>	H	t	P.C.D	a	d	Allowable Load N (kgf)		Unit Price
										BCHF	BCHF	
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)	-	-	-

**Set Screw**

**BCSB**  
**BCSBJ**

**BCSBJJ**

Water Drain Hole  $\phi E$

**EX** Example  
App. Example (Ball Rollers) Conveyor curved section

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

Type	Material			
Type	① Main Body	② Spacer	③ Main Ball	④ Sub Ball
BCSB	SUSXM-7	SUS304	SUS440C (HRC55-)	-
BCSBJ	SUSXM-7	SUS304	Polyacetal Ball	SUS440C (HRC55-)
BCSBJJ	Polyacetal	-	Polyacetal Ball	SUS440C (HRC55-)

Part Number	Type	M	L	L <sub>1</sub>	D	d	S	t	Allowable Load N (kgf)		Unit Price
									BCSB	BCSBJ	
BCSB (Stainless Steel Ball)	8	14	1.3	5	4.76	4	5	5(0.5)	1(0.1)	-	-
	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 <sub>1</sub>	D	d	E	W	ℓ	Allowable Load N (kgf)		Unit Price
										BCSBJJ	BCSBJJ	
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	14	10.32	3.5	3	4	11(1.1)	-	-	-

**Round Head Stud**

**BCHM**

Water Drain Hole  $\phi E$

**EX** Example  
App. Example (Ball Rollers) Conveyor curved section

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

Type	Material			
Type	① Main Body	② Spacer	③ Main Ball	④ Sub Ball
BCHM	SUS304	SUS304	SUS440C (HRC55-)	SUS440C (HRC55-)

Part Number	Type	M	L	L <sub>1</sub>	H	D	d	a	P	Allowable Load N (kgf)		Unit Price
										BCHM	BCHM	
BCHM (Stainless Steel Ball)	10	12	2.5	10	18.5	8.73	2	15.4	55(5.6)	-	-	-
	12	15	3.5	11	22	10.32	2	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	2.5	29.6	412(42)	-	-	-

**Ordering Example** Part Number **BCHP18**

**Alterations** Part Number - (BR) **BCHPT20** - BR

**Installation Examples**  
① Set Screw ② Hex Head ③ Press Fit ④ Round Head ⑤ With Plunger ⑥ With Plunger Threaded

**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 <sub>1</sub>	P	a
10	16	For M10	25	8	19	3	18.5	10	15.4	-
12	20	For M12	30	10	24	4	22	12	18.5	2
16	24	For M16	35	12	27	6	27	17	24	-
20	-	For M20	40	14	30	7	33	20	29.6	2.5