

# Coupling Rods for Air Cylinders / Thread Conversion Adapters

L Dimension Selectable & Configurable / L & F Dimension Configurable Type

**Coupling Rod for Air Cylinders**

RoHS 10

Type			Material	Surface Treatment	Accessories	
L Selectable	L Dimension Configurable	L, F Dimension Configurable			Material	Surface Treatment
FJEB	FJEB	FJEBF	1045 Carbon Steel or Equivalent	Black Oxide	1018 Carbon Steel or Equivalent	Trivalent Chromate
FJERC	FJER	FJERF	304 Stainless Steel	Electroless Nickel Plating	304 Stainless Steel	—
FJESC	FJES	—	—	—	—	—

Part Number	Type	M-Pitch	L		Standard	F	A	B	(C)	Included Nut		
			Selectable	Configurable (1 mm Increment)						Qty.	B'	(C')
L Selectable Type	FJEB FJERC FJESC	3-0.5	20 25 30 35 40 50 75 100	20-100	17.5	10-15	2.5	6	6.9	5.5	6.4	2.4
		12-20				8		9.2	7	8.1	3.2	
		14-20				8		9.2	8	9.2	4	
		14-30				10		11.5	10	11.5	5	
		14-40				14 (13)		16.2 (15)	13	15	5	
L Configurable	FJEB FJER FJES	8-1.25	30* 35 40 50 75 100 150 200	40-200	22	14-40	3	17	19.6	17	19.6	6
		10-1.25*				17		19.6	17	19.6	6	
		10-1.5*				17		19.6	17	19.6	6	
		12-1.25				17		19.6	17	19.6	6	
L & F Configurable	FJEBF FJERF	12-1.5	40* 50 75 100 150 200	56-200	30	17-70	5	21 (19)	24.2 (21.9)	19	21.9	7
		14-1.5*				23 (22)		26.6 (25.4)	22	25.4	8	
		18-1.5*				26 (27)		30 (31.2)	27	31.2	15	
		20-1.5				30		34.6	30	34.6	16	
		22-1.5				30		34.6	30	34.6	16	

⊕ FJEB / FJEB / FJESC / FJES Dimensions in ( ). \* For M Pitch 10-1.25(M10-1.5) - L=30, M Pitch 14-1.5 - L=40 and M18-1.5 - L=40, the effective thread length of Tap is M x 1.5.

**Thread Conversion Adapters**

RoHS 10

Type				Material	Surface Treatment
Full Thread	Stepped Thread	Hex	Hex Shoulder		
SAA	SAB	SAC	SAD	1045 Carbon Steel or Equivalent	Black Oxide
SAAM	SABM	SACM	SADM		
SAAS	SABS	SACS	SADS		

Part Number	Type	M		L	N (Coarse)	NS (Fine) ⊕	E	H	B	(C)
		Coarse Thread	Fine Thread							
SAA	5	—	—	20-100	3 4*	—	5-16	—	8	9.2
SAB	6	—	—	20-100	3 4 5*	—	6-20	3	10	11.5
SAC	8	8S	M8 x 1.0	30-150	4 5 6*	—	8-24	—	13	15
SAAM	10	10S	M10 x 1.25	30-150	5 6* 8*	8*	10-32	4	17	19.6
SABM	12	12S	M12 x 1.25	40-200	6 8 10*	8 10*	12-40	5	19	21.9
SACM	14	14S	M14 x 1.5	40-200	6 8 10* 12*	8 10* 12*	14-48	6	22	25.4
SADM	16	16S	M16 x 1.5	40-200	8 10 12* 14*	8 10 12* 14*	16-56	7	24	27.7
SAAS	18	18S	M18 x 1.5	50-200	10 12 14* 16*	10 12 14* 16*	18-64	8	27	31.2
SABS	20	20S	M20 x 1.5	50-200	10 12 14 16* 18*	10 12 14 16* 18*	20-72	10	30	34.6

⊕ \* marked dimensions are not available for SAA, SAAM and SAAS. ⊕ NS (Fine Thread) pitch is same as M Fine Thread (Nominal Thread Dia.).

⊕ For SAA, SAAM and SAAS, L<sub>1</sub>≤Nx4; for SAB, SABM and SABS, L<sub>1</sub>≤Mx2+E; for SAC, SACM and SACS, L<sub>1</sub>≤Mx4+E; for SAD, SADM and SADS, M+H+N (NS)<sub>1</sub>≤L<sub>1</sub>≤Mx4+H+N (NS)x4

**Part Number Example**

FJERC10-1.5 - 30  
 FJEBF14-1.5 - 100  
 SAB16 (Coarse Thread) - 50 - NS10 (Fine) - E20

**Part Number Alterations**

SABS14 - 100 - N6 - E18 - NWC

**Thread**

Coarse Thread	Fine Thread
3-0.5	M-Pitch
4-0.7	—
5-0.8	—
6-1.0	—
8-1.25	8-1.0
10-1.5	10-1.25
12-1.75	12-1.25
14-2.0	14-1.5
16-2.0	16-1.5
18-2.5	18-1.5
20-2.5	20-1.5

**Sitting**

**Code**

MWC / NWC

**Spec.**

M / N	W
3	0.6
4 or 5	1
6, 8	1.5
10	2
12, 14, 16	2.5
18, 20	3

# Spherical Bearings

Standard Type / Holder Sets

**Spherical Bearing**

RoHS 10

Type	Material	Holder		Material	Surface Treatment
		Holder	Spherical Inner Ring		
Standard Type	RBPB	1035 Carbon Steel	*52100 Bearing Steel (58 HRC min.)	Special Copper Alloy	—

\*Chrome Plating

Shaft Step Shape	Shaft Condition	Allowable Incline Angle α
Large	Stepped part of the shaft contacts the outer circumference of the holder.	Small (α <sub>1</sub> )
Medium	Stepped part of the shaft contacts the side or the inner circumference of the holder.	Middle (α <sub>2</sub> )
No	Shaft contacts the inner circumference of the holder.	Large (α <sub>3</sub> )

Part Number	Type	d	D	B	B <sub>1</sub>	d <sub>1</sub>	H	R	Ball Dia. Ø (mm)	Allowable Slant Angle			Static Load Capacity Radial Cs (kN)	Mass (g)
										α <sub>1</sub> °	α <sub>2</sub> °	α <sub>3</sub> °		
RBPB	5	16	6	8	7.7	1	0.3	11.112	8	13	30	7.84	8.5	
	6	18	6.75	9	9									
	8	22	9	12	10.4									
	10	26	10.5	14	12.9	1.2	0.5	15.875	8	14	25	16.7	24	
	12	30	12	16	15.4									
	14	34	13.5	19	16.9									
	16	38	15	21	19.4	1.5	0.7	22.225	10	16	24	23.5	39	
	18	42	16.5	23	21.9									
	20	46	18	25	24.4									
	22	50	20	28	25.8	2.5	0.8	28.575	9	15	23	31.4	58	
	25	56	22	31	29.6									
	30	66	25	37	34.8									

**Part Number Example**

RBPB14

**Shaft Fitting**

Usage Condition	Shaft	Housing
Inner Wheel Rotary Load	Normal Load	m6
Outer Wheel Rotary Load	Normal Load	h7
	Non-directional Load	k6

**Spherical Bearing Holder Sets**

RoHS 10

Type	Material	Holder		Material	Surface Treatment	Accessories: Retaining Ring
		Holder	Spherical Inner Ring			
Standard Type	RBPBCB	1045 Carbon Steel or Equivalent	*52100 Bearing Steel (58 HRC min.)	Special Copper Alloy	1045 Carbon Steel or Equivalent	304 Stainless Steel

\*Hard Chrome Plating

Part Number	Type	d	D <sub>H7</sub>	B	B <sub>1</sub>	H	W	T	T <sub>1</sub>	E	dh	D <sub>1</sub>	Tolerance	D <sub>2</sub>	A	F	M (Coarse) (d <sub>2</sub> )	d <sub>1</sub>	H <sub>1</sub>
6	18	6.75	3.25	40	28	13	11	6.38	14	23									
8	22	9	2	45	31	14	12	7.5	18	27									
10	26	10.5	2.5	50	36	16	14	8.25	22	32	-0.009	22	29	19					
12	30	12	3	54	40	18	16	9	24	36									
14	34	13.5	2.5	63	45	20	18	10.75	28	41									
16	38	15	2	70	50	21	19	11.5	35	46	-0.034	34	40	31	M6 (5.2)	9.5	6		
18	42	16.5	2.5	77	54	23	21	12.25	36	50									
20	46	18	—	87	57	24	22	13	40	53									
22	50	20	—	92	62	27	25	15	43	58	-0.01	42	51	39	M8 (6.8)	11	7		
25	56	22	—	97	67	29	27	16	49	63									
30	66	25	—	112	80	33	31	18.5	58	76									

**Part Number Example**

RBPBCB12  
RBPBCM5

**Specifications for Spherical Bearing Holder Sets**

d	Ball Dia. Ø (mm)	Allowable Incline Angle		Static Load Capacity Radial Cs (kN)	Mass (g)
5	11.112	α <sub>1</sub> °	α <sub>2</sub> °	Standard	
6	12.7	13°	30°	7.84	8.5
8	15.875	14°	29°	9.8	13
10	19.05	14°	25°	16.7	24
12	22.225	13°	—	23.5	39
14	25.4	16°	—	31.4	58
16	28.575	15°	—	40.2	84
18	31.75	—	24°	50	111
20	34.925	14°	—	61.8	160
22	38.1	15°	—	73.5	210
25	42.862	9°	23°	88.2	265
30	50.8	17°	24°	111	390

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