

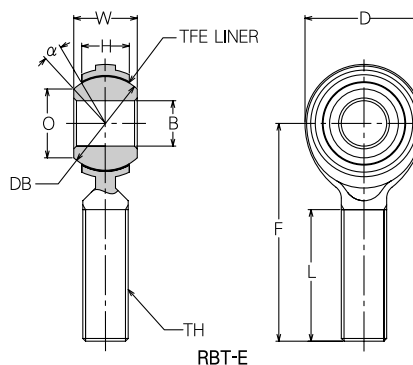
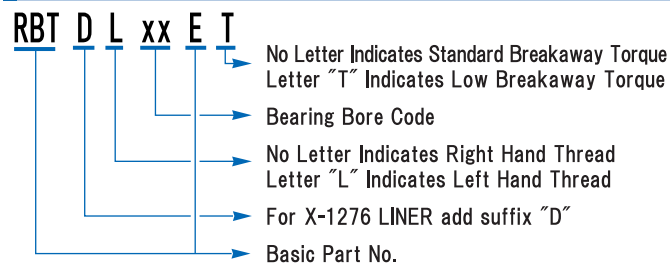
RBT-E

ROD END MALE **SELF-LUBRICATING** **2 PIECE**

Materials

BODY 303 Stainless Steel
BALL 440C Stainless Steel
LINER Teflon / Fabric

Description of Types



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.50	W 0 - 0.13	H ± 0.3	F ± 0.5	TH JIS Class 2	L ± 0.7	α (deg.)	ϕO Ref.	S ϕDB Ref.	Radial Static Limit Load kN	Static Ultimate Load kN	Approx. Weight g
RBT3E	3	12	6	4.50	27	M3 × 0.5	15	11	6.8	9.04	0.41	1.66	6
RBT4E	4	14	7	5.25	30	M4 × 0.7	17	12	7.6	10.32	0.60	2.45	10
RBT5E	5	16	8	6.00	33	M5 × 0.8	20		8.8	11.91	0.98	3.92	12
RBT6E	6	18	9	6.75	36	M6 × 1.0	22	10	11.1	14.29	1.44	5.78	19
RBT8E	8	22	12	9.00	42	M8 × 1.25	25	12	12.7	17.46	2.69	10.78	32
RBT10E	10	26	14	10.50	48	M10 × 1.5	29		15.2	20.64	4.16	16.67	54
RBT12E	12	30	16	12.00	54	M12 × 1.75	33	14	17.6	23.81	5.88	23.53	85
RBT14E	14	34	19	13.50	60	M14 × 2.0	36		19.2	26.99	6.61	26.47	126
RBT15E	15	36	20	14.50	63		38	13	21.5	29.37	8.09	32.36	150
RBT16E	16	38	21	15.00	66	M16 × 2.0	40	15	19.4	28.58	8.33	33.34	185
RBT18E	18	42	23	16.50	72	M18 × 1.5	44	15	21.9	31.75	11.52	46.09	258
RBT20E	20	46	25	18.00	78	M20 × 1.5	47	14	24.4	34.93	12.01	48.05	340
RBT22E	22	50	28	20.00	84	M22 × 1.5	51	15	25.8	38.10	13.48	53.93	435
RBT25E	25	56	31	22.00	94	M24 × 2.0	57		29.6	42.86	17.40	69.62	730
RBT28E	28	62	35	24.00	103	M27 × 2.0	62	17	32.3	47.63	20.83	83.35	1000
RBT30E	30	66	37	25.00	110	M30 × 2.0	66		34.8	50.80	24.76	99.04	1320

Notes

- Teflon liner permanently bonded to Body I.D.
 - Oscillation load shall be kept within the static load range,
as Teflon liner load endurance is greater than body breaking load.
 - Made to order only. (from RBT15E to RBT30E)
 - No Load Rotational Breakaway Torque.
Standard All Size: 0.02 ~ 0.34N · m
Low Torque All Size: 0.02N · m MAX
(Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

RBT

ROD END FEMALE **SELF-LUBRICATING** **2 PIECE**

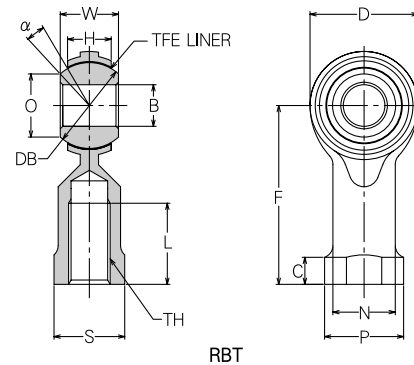
Materials

BODY 303 Stainless Steel
BALL 440C Stainless Steel
LINER Teflon / Fabric

Description of Types

RBT D L xx T

- No Letter Indicates Standard Breakaway Torque
Letter "T" Indicates Low Breakaway Torque
- Bearing Bore Code
- No Letter Indicates Right Hand Thread
Letter "L" Indicates Right Hand Thread
- For X-1276 LINER add suffix "D"
- Basic Part No.



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.5	$\frac{W}{O}$ -0.13	H ± 0.3	F ± 0.5	TH JIS Class 2	L ± 0.7	ϕN ± 0.5	ϕP ± 0.5	C ± 0.7	S ± 0.25	α (deg.)	ϕO Ref.	S ϕ DB Ref.	Radial Static Limit Load kN	Static Ultimate Load kN	Approx. Weight g
RBT3	3	12	6	4.50	21	M3 × 0.5	10.0	6.5	8.0	3.0	7	11	6.8	9.04	0.41	1.66	10
RBT4	4	14	7	5.25	24	M4 × 0.7	12.0	8.0	9.5	4.0	8	12	7.6	10.32	0.60	2.45	12
RBT5	5	16	8	6.00	27	M5 × 0.8	12.5	9.0	11.0		9		8.8	11.91	0.98	7.84	16
RBT6	6	18	9	6.75	30	M6 × 1.0	13.5	10.0	13.0	5.0	11	10	11.1	14.29	1.44	8.62	25
RBT8	8	22	12	9.00	36	M8 × 1.25	16.0	12.5	16.0		14		12.7	17.46	2.69	11.76	43
RBT10	10	26	14	10.50	43	M10 × 1.5	19.5	15.0	19.0	6.5	17	12	15.2	20.64	4.16	16.67	72
RBT12	12	30	16	12.00	50	M12 × 1.75	24.0	17.5	22.0		19		17.6	23.81	5.88	23.53	107
RBT14	14	34	19	13.50	57	M14 × 2.0	27.0	20.0	25.0	8.0	22	14	19.2	26.99	6.61	26.47	160
RBT15	15	36	20	14.50	61								30.0	21.0	26.0	15	21.5
RBT16	16	38	21	15.00	64	M16 × 2.0	33.0	22.0	27.0	10.0	27	15	19.4	28.58	8.33	33.34	210
RBT18	18	42	23	16.50	71	M18 × 1.5	36.0	25.0	31.0				30	21.9	31.75	11.52	46.09
RBT20	20	46	25	18.00	77	M20 × 1.5	40.0	27.5	34.0	12.0	32	15	24.4	34.93	12.01	48.05	380
RBT22	22	50	28	20.00	84	M22 × 1.5	43.0	30.0	37.0				36	25.8	38.10	13.48	53.93
RBT25	25	56	31	22.00	94	M24 × 2.0	48.0	33.5	42.0	15.0	41	17	29.6	42.86	17.40	69.62	870
RBT28	28	62	35	24.00	103	M27 × 2.0	53.0	37.5	46.0				32.3	47.63	20.83	83.35	1180
RBT30	30	66	37	25.00	110	M30 × 2.0	56.0	40.0	50.0	34.8	50.80	24.76	99.04	1450			

Notes

- Teflon liner permanently bonded to race I.D.
 - Oscillation load shall be kept within the static load range, as Teflon liner load endurance is greater than body breaking load.
 - Made to order only. (from RBT15 to RBT30)
 - No Load Rotational Breakaway Torque.
 Standard All Size: 0.02 ~ 0.34N · m
 Low Torque All Size: 0.02N · m MAX
 (Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

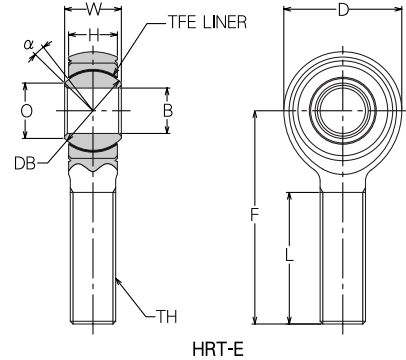
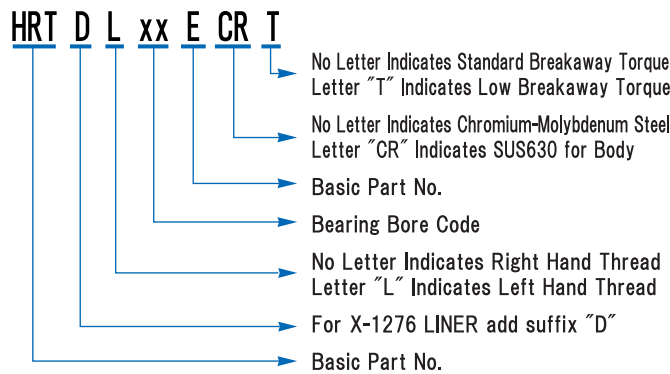
HRT-E

MALE ROD ENDS **SELF-LUBRICATING** **3 PIECE**

Materials

	HRT-E	HRT-ECR
BODY	Chromium-Molybdenum Steel Zinc Plated	SUS630 Stainless Steel Passivated
RACE	410 Stainless Steel / Heat Treated	410 Stainless Steel / Heat Treated
BALL	440C Stainless Steel / Heat Treated	440C Stainless Steel / Heat Treated
LINER	Teflon / Fabric	Teflon / Fabric

Description of Types



Dimensions in mm

MINEBEA Part No.	φB H7	φD ± 0.50	W ₀ - 0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	α (deg)	φ O Ref.	S φ DB Ref.	No Load Rotational Breakaway Torque N · m	Static Limit Load kN(3)		Radial Static Ultimate Load (3) kN	Fatigue Load (3) kN	Approx. Weight g
											Standard	Radial	Axial (2)			
HRT3E	3	16.0	7.0	5.25	30.0	M3 × 0.5	10.0	18	5.2	8.73	0.06 ~ 0.68 {0.6 ~ 6.9kgf · cm}	3.62	1.96	4.51	0.73	25
HRT4E	4	18.0	9.5	7.75	35.0	M4 × 0.7	16.0	16	5.8	11.11		6.27	3.53	7.84	1.27	30
HRT5E	5	20.5	11.0	8.75	39.5	M5 × 0.8	22.0	15	7.8	13.49	0.12 ~ 1.13 {1.2 ~ 11.5kgf · cm}	10.29	5.09	12.84	2.10	35
HRT6E	6					M6 × 1.0						14.51		18.14	2.99	
HRT8E	8	23.0	8.25	46.0	M8 × 1.25	29.0	14	10.9	15.48	26.77		5.29	33.44	5.54	40	
HRT10E	10	26.0	10.75	47.0	M10 × 1.5					8		12.2	17.46	37.65	6.76	47.07
HRT12E	12	34.0	16.0	13.25	62.0	M12 × 1.75	37.0	10	15.4	22.22	100.71	9.70	125.81	20.98	195	
HRT14E	14	36.0	17.0	14.25	64.0	M14 × 2.0	38.0	8	18.9	25.40						82.96
HRT15E	15	38.0	18.0	15.25	65.0						M16 × 2.0	39.5	10	19.2	26.99	101.40
HRT16E	16	39.0	19.0		72.5	M16 × 1.5	42.0	12	20.4	28.58						120.62
HRT17E	17	41.0	20.0	16.30	79.5	M18 × 1.5	46.0	10			22.9	31.75	121.30	12.84	151.61	25.20
HRT18E	18	43.0			83.0	M20 × 1.5	50.0	13	22.9	31.75			156.21	15.10	195.25	32.55
HRT20E	20	45.0	22.0	19.30	86.0	M22 × 1.5	51.0	6	27.1	34.92	0.23 ~ 1.80 {2.3 ~ 18.4kgf · cm}	300.08	20.88	375.10	62.56	1150
HRT22E	22	52.0			105.0	M24 × 2.0	59.0	15	32.3	47.62		283.70	23.24	354.60	59.13	1500
HRT25E	25	70.0	35.0	25.30	110.0	M27 × 2.0	62.0	14	36.8	50.80		271.93	24.81	339.89	56.68	1800
HRT28E	28	75.0			120.0	M30 × 2.0	65.0					40.4	54.77			
HRT30E	30	78.0	37.0	26.30	120.0	M30 × 2.0	65.0	14	40.4	54.77						

Notes

- Teflon liner permanently bonded to race I.D.
 - Axial load indicates either the smaller value of static load or proof load.
 - Special specification can bare higher fatigue load.
 - Made to order only.
 - No Load Rotational Breakaway Torque.
Low Torque All Size: 0.02N · m MAX
(Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

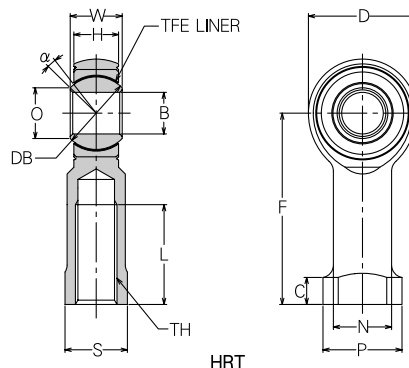
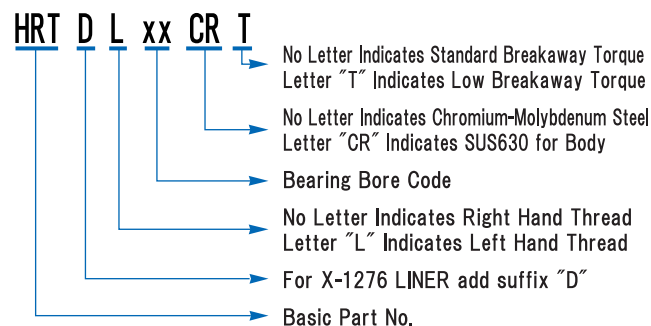
HRT

ROD END FEMALE **SELF-LUBRICATING** **3 PIECE**

Materials

	HRT	HRT-CR
BODY	Chromium-Molybdenum Steel Zinc Plated	SUS630 Stainless Steel Passivated
RACE	410 Stainless Steel / Heat Treated	410 Stainless Steel / Heat Treated
BALL	440C Stainless Steel / Heat Treated	440C Stainless Steel / Heat Treated
LINER	Teflon / Fabric	Teflon / Fabric

Description of Types



Dimensions in mm

MINEBEA Part No.	φB H7	φD ± 0.5	W ₀ ± 0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	φN ± 0.5	φP ± 0.5	C +0.2 -0.7	S ± 0.25	α (deg.)	φO Ref.	S φDB Ref.	No Load Rotational Breakaway Torque N · m	Static Limit Load kN(3)		Radial Static Ultimate Load (3) kN	Fatigue Load (3) kN	Approx. Weight g
																Standard	Radial			
HRT3	3	16.0	7.0	5.25	30.0	M3 × 0.5	16	7.0	9	3.5	8	18	5.2	8.73	0.06 ~ 0.68 (0.6 ~ 6.9kgf · cm)	14.70	1.96	30.89	5.14	29
HRT4	4	18.0	9.5	7.75	32.0	M4 × 0.7		8.5	11		10	16	5.8	11.11		31.38	3.53	43.34	7.15	35
HRT5	5	20.5	11.0	8.75	35.0	M5 × 0.8	19	10.8	15	4.5	12	15	7.8	13.49		27.94	5.09	34.91	5.78	40
HRT6	6	20.5		37.0	M6 × 1.0	22	12.5	17	14	14	10.9	15.48	34.02	5.29	42.46	7.06	51			
HRT8	8	23.0	8.25	41.0	M8 × 1.25	24	14.0	19	6.5	15	8	12.2	17.46	37.65	6.76	47.07	7.84	73		
HRT10	10	26.0	12.5	10.75	46.0	M10 × 1.5	24	14.0	19	6.5	20	10	15.4	22.22	0.12 ~ 1.13 (1.2 ~ 11.5kgf · cm)	78.06	8.33	97.57	16.18	150
HRT12	12	34.0	16.0	13.25	57.0	M12 × 1.75	32	18.5	24		7.5	8	18.9	25.40		82.96	9.02	103.65	17.25	165
HRT14	14	36.0	17.0	14.25	60.0	M14 × 2.0	34	20.0	25	8.5	21	11	19.0	26.19		95.32	9.31	119.15	19.80	189
HRT15	15	38.0	18.0	15.25	62.0	M16 × 2.0	35	22.0	27	9.5	23	10	19.2	26.99	100.71	9.70	125.81	20.98	218	
HRT16	16	39.0	19.0		63.5		M16 × 2.0	37	23.0		28	24	12	20.4	28.58	101.40	10.29	126.70	21.08	241
HRT17	17	41.0	20.0	16.30	68.0	M16 × 1.5	40	24.0	30	10.0	26	10	26	31.75	120.62	12.16	150.72	25.10	283	
HRT18	18	43.0			74.0	M18 × 1.5	41	25.0	36		12.0	30	6	27.1	34.92	121.30	12.84	151.61	25.20	330
HRT20	20	45.0	22.0	19.30	76.0	M20 × 1.5	47	28.0	36	12.0	30	6	32.3	47.62	156.21	15.10	195.25	32.55	580	
HRT22	22	52.0			85.0	M22 × 1.5	54	42.0	50		14.0	43	15	32.3	47.62	302.43	20.88	378.04	63.05	1230
HRT25	25	70.0	35.0	25.30	105.0	M24 × 2.0	58	44.0	56	15.0	47	14	36.8	50.80	283.70	23.24	354.60	59.13	1620	
HRT28	28	75.0			110.0	M27 × 2.0	62	48.0	60		16.0	51	14	40.4	54.77	271.93	24.81	339.89	56.68	1930
HRT30	30	78.0	37.0	26.30	120.0	M30 × 2.0	62	48.0	60	16.0	51	14	40.4	54.77	271.93	24.81	339.89	56.68	1930	

Notes

- Teflon liner permanently bonded to race I.D.
 - Axial load indicates either the smaller value of static load or proof load.
 - Select Type "CR" for higher load capability.
 - Made to order only.
 - No Load Rotational Breakaway Torque.
Low Torque All Size: 0.02N · m MAX
(Radial Clearance 0.05mm MAX)
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

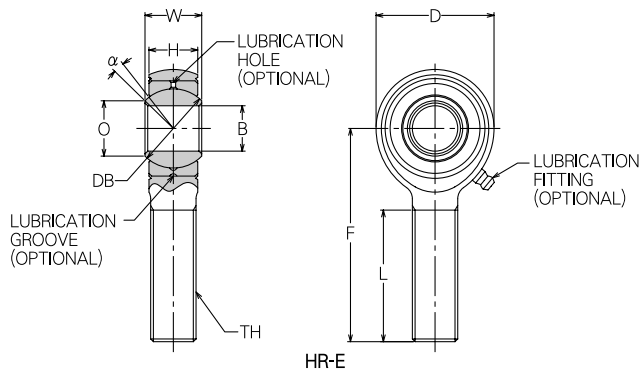
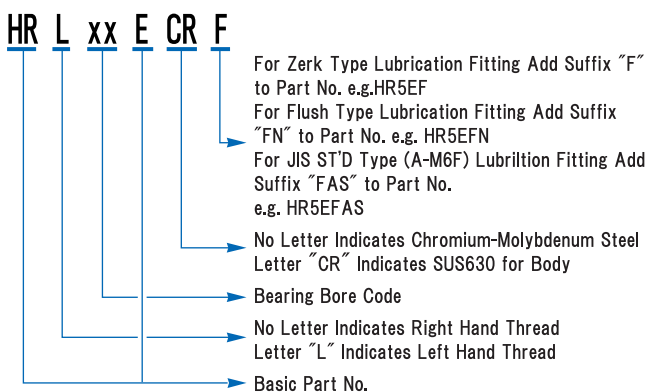
HR-E

MALE ROD ENDS | METAL TO METAL | 3 PIECE

Materials

	HR-E	HR-ECR
BODY	Chromium-Molybdenum Steel Zinc Plated	SUS630 Stainless Steel Passivated
RACE	410 Stainless Steel / Heat Treated	410 Stainless Steel / Heat Treated
BALL	Bearing Steel / Chrome Plated	Bearing Steel / Heat Treated

Description of Types



Dimensions in mm

MINEBEA Part No.	φB H7	φD ± 0.5	W 0 - 0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	α (deg.)	φ O Ref.	S φ DB Ref.	Static Limit Load kN		Radial Static Ultimate Load kN	Fatigue Load (2) kN	Approx. Weight g
											Radial	Axial (1)			
HR3E	3	16.0	7.0	5.25	30.0	M3 × 0.5	10.0	18	5.2	8.73	3.62	2.94	4.51	0.73	25
HR4E	4	18.0	9.5	7.75	35.0	M4 × 0.7	16.0	16	5.8	11.11	6.27	3.53	7.84	1.27	30
HR5E	5	20.5	11.0	8.75	39.5	M5 × 0.8	22.0	15	7.8	13.49	10.29	5.09	12.84	2.10	35
HR6E	6					M6 × 1.0					14.51		18.14		
HR8E	8	23.0	12.5	8.25	46.0	M8 × 1.25	29.0	14	10.9	15.48	26.77	5.58	33.44	5.54	40
HR10E	10	26.0		10.75	47.0	M10 × 1.5					8		12.2		
HR12E	12	34.0	16.0	13.25	62.0	M12 × 1.75	37.0	10	15.4	22.22	62.46	8.33	78.06	12.94	126
HR14E	14	36.0	17.0	14.25	64.0	M14 × 2.0	38.0	8	18.9	25.40	82.96	9.02	103.65	17.25	140
HR15E	15	38.0	18.0		65.0										
HR16E	16	39.0	19.0	15.25	66.5	M16 × 2.0	39.5	10	19.2	26.99	100.71	9.70	125.81	20.98	195
HR17E	17	41.0	20.0		72.5	M16 × 1.5	42.0	12	20.4	28.58	101.40	10.29	126.70	21.08	220
HR18E	18	43.0		16.30	79.5	M18 × 1.5	46.0	10							
HR20E	20	45.0	22.0	19.30	83.0	M20 × 1.5	50.0	13	22.9	31.75	121.30	12.84	151.61	25.20	290
HR22E	22	52.0			86.0	M22 × 1.5	51.0	6	27.1	34.92	156.21	15.10	195.25	32.55	450
HR25E	25	70.0	35.0	25.30	105.0	M24 × 2.0	59.0	15	32.3	47.62	300.08	20.88	375.10	62.56	1150
HR28E	28	75.0			110.0	M27 × 2.0	62.0	14	36.8	50.80	283.70	23.24	354.60	59.13	1500
HR30E	30	78.0	37.0	26.30	120.0	M30 × 2.0	65.0	14	40.4	54.77	271.93	24.81	339.89	56.68	1800

Notes

- (1) Axial load indicates either the smaller value of static load or proof load.
 - (2) Special specification can bare higher fatigue load.
 3. Made to order only.
 4. Radial clearance All Size: 0.051mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

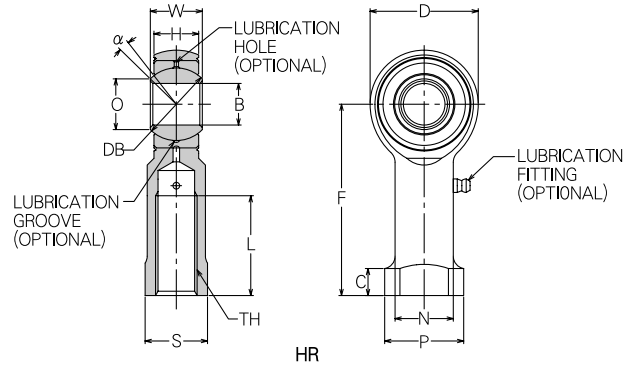
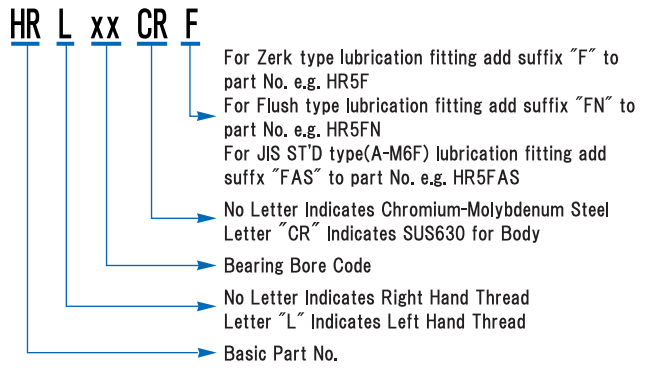
HR

ROD END FEMALE	METAL TO METAL	3 PIECE
-----------------------	-----------------------	----------------

Materials

	HR	HR-CR
BODY	Chromium-Molybdenum Steel Zinc Plated	SUS630 Stainless Steel Passivated
RACE	Stainless Steel / Heat Treated	Stainless Steel / Heat Treated
BALL	Bearing Steel / Chrome Plated	Stainless Steel / Heat Treated

Description of Types



Dimensions in mm

MINEBEA Part No.	φB H7	φD ± 0.5	W 0 -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	φN ± 0.5	φP ± 0.5	C +0.2 -0.1	S ± 0.25	α (deg.)	φO Ref.	S φDB Ref.	Static Limit Load kN		Radial Static Ultimate Load kN	Fatigue Load (2) kN	Approx. Weight g
															Radial	Axial (1)			
HR3	3	16.0	7.0	5.25	30.0	M3 × 0.5	16	7.0	9	3.5	8	18	5.2	8.73	22.45	2.94	30.89	5.14	29
HR4	4	18.0	9.5	7.75	32.0	M4 × 0.7		8.5	11		10	16	5.8	11.11	34.71	3.53	43.34	7.15	35
HR5	5	20.5	11.0	8.75	35.0	M5 × 0.8	19	10.8	15	4.5	12	15	7.8	13.49	27.94	5.09	34.91	5.78	40
HR6	6				37.0	M6 × 1.0													
HR8	8	23.0	12.5	8.25	41.0	M8 × 1.25	22	12.5	17	6.5	14	14	10.9	15.48	34.02	5.58	43.44	7.06	51
HR10	10	26.0		10.75	46.0	M10 × 1.5	24	14.0	19		15	8	12.2	17.46	37.65	6.76	47.07	7.84	73
HR12	12	34.0	16.0	13.25	57.0	M12 × 1.75	32	18.5	24	7.5	20	10	15.4	22.22	78.06	8.33	97.57	16.18	150
HR14	14	36.0	17.0	14.25	60.0	M14 × 2.0	33	19.0											
HR15	15	38.0	18.0	15.25	62.0		M16 × 2.0	34	20.0	25	8.5	21	11	19.0	26.19	95.32	9.31	119.15	19.80
HR16	16	39.0	19.0		63.5	M16 × 2.0		35	22.0	27	9.5	23	10	19.2	26.99	100.71	9.70	125.81	20.98
HR17	17	41.0	20.0	16.30	68.0	M16 × 1.5	37	23.0	28	9.5	24	12	20.4	28.58	101.40	10.29	126.70	21.08	241
HR18	18	43.0			74.0	M18 × 1.5	40	24.0	30	10.0	26	10							
HR20	20	45.0	22.0	19.30	76.0	M20 × 1.5	41	25.0	36	12.0	30	6	27.1	34.92	156.21	15.10	195.25	32.55	580
HR22	22	52.0			85.0	M22 × 1.5	47	28.0											
HR25	25	70.0	35.0	25.30	105.0	M24 × 2.0	54	42.0	50	14.0	43	15	32.3	47.62	300.08	20.88	378.04	63.05	1230
HR28	28	75.0			110.0	M27 × 2.0	58	44.0	56	15.0	47	14	36.8	50.80	283.70	23.24	354.60	59.13	1620
HR30	30	78.0	37.0	26.30	120.0	M30 × 2.0	62	48.0	60	16.0	51								

Notes

- (1) Axial load indicates either the smaller value of static load or proof load.
 - (2) Special specification can bare higher fatigue load.
 3. Made to order only.
 4. Radial Clearance All Size: 0.051mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

PR-E

ROD END MALE | **METAL TO METAL** | **4 PIECE**

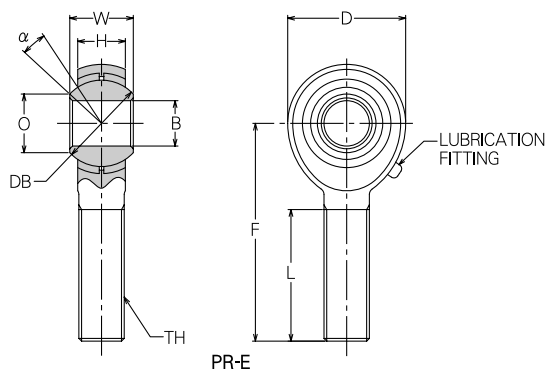
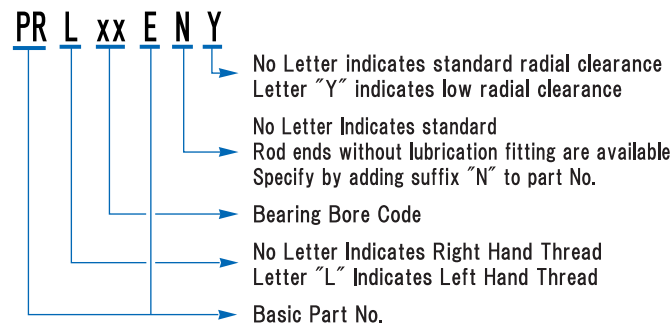
Materials

BODY Low Carbon Steel / Zinc Plated

INSERT Copper Alloy

BALL Bearing Steel / Chrome Plated

Description of Types



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.5	W 0 -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	α (deg.)	ϕO Ref.	$S \phi DB$ Ref.	Radial Static Limit Load kN	Static Ultimate Load kN	Approx. Weight g
PR3E (1)	3	12	6	4.50	27	M3 × 0.5	15	14	5.2	7.94	1.56	2.45	7
PR4E (1)	4	14	7	5.25	30	M4 × 0.7	17	13	6.5	9.52	2.25	3.53	10
PR5E	5	16	8	6.00	33	M5 × 0.8	20		7.7	11.11	4.51	7.06	13
PR6E	6	18	9	6.75	36	M6 × 1.0	22	14	9.0	12.70	6.37	9.90	19
PR8E	8	22	12	9.00	42	M8 × 1.25	25	13	10.4	15.88	13.72	21.47	32
PR10E	10	26	14	10.50	48	M10 × 1.5	29		12.9	19.05	18.82	29.41	54
PR12E	12	30	16	12.00	54	M12 × 1.75	33	16	15.4	22.22	25.20	39.42	85
PR14E	14	34	19	13.50	60	M14 × 2.0	36	15	16.9	25.40	30.49	47.75	126
PR16E	16	38	21	15.00	66	M16 × 2.0	40		19.4	28.58	38.04	59.64	185
PR18E	18	42	23	16.50	72	M18 × 1.5	44	21.9	31.75	46.28	72.47	258	
PR20E	20	46	25	18.00	78	M20 × 1.5	47	14	24.4	34.92	53.83	84.33	340
PR22E	22	50	28	20.00	84	M22 × 1.5	51	15	25.8	38.10	63.93	100.22	435

Notes

- Lubrication fitting are not available for PR3E, PR4E.
 - Radial Clearance
Standard Clearance: 0.051mm MAX
Low Clearance: 0.030mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

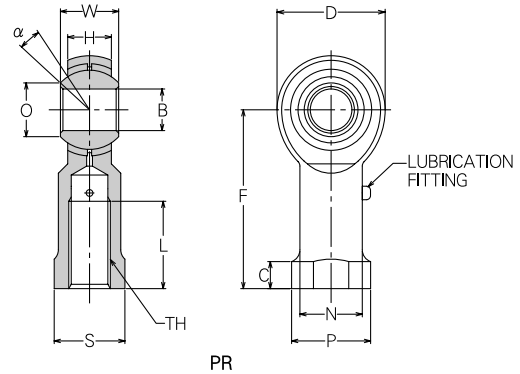
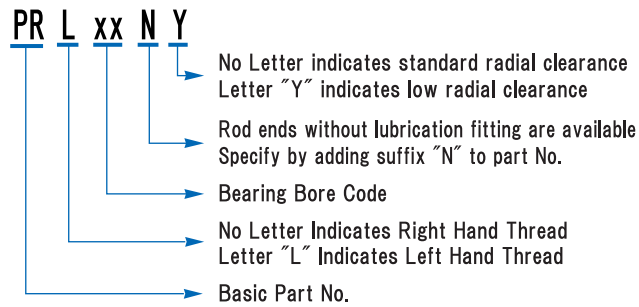
PR

ROD END FEMALE	METAL TO METAL	4 PIECE
----------------	----------------	---------

Materials

- BODY** Low Carbon Steel / Zinc Plated
- INSERT** Copper Alloy
- BALL** Bearing Steel / Chrome Plated

Description of Types



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.5	$\frac{W}{O}$ -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	ϕN ± 0.5	ϕP ± 0.5	C $+0.2$ -0.7	S ± 0.25	α (deg.)	ϕO Ref.	S ϕ DB Ref.	Radial Static Limit Load kN	Static Ultimate Load kN	Approx. Weight g
PR3 (1)	3	12	6	4.50	21	M3 × 0.5	10	6.5	8.0	3.0	7	14	5.2	7.94	4.60	7.15	9
PR4 (1)	4	14	7	5.25	24	M4 × 0.7	12	8.0	9.5	4.0	8	13	6.5	9.52	5.68	8.82	13
PR5	5	16	8	6.00	27	M5 × 0.8	14	9.0	11.0	5.0	9		7.7	11.11	7.84	12.25	17
PR6	6	18	9	6.75	30	M6 × 1.0		10.0	13.0		11	14	14	10.4	15.88	13.63	21.28
PR8	8	22	12	9.00	36	M8 × 1.25	17	12.5	16.0	6.5	17	13	12.9	19.05	18.82	29.41	72
PR10	10	26	14	10.50	43	M10 × 1.5	21	15.0	19.0		19		15.4	22.22	25.20	39.42	107
PR12	12	30	16	12.00	50	M12 × 1.75	24	17.5	22.0	8.0	22	16	16.9	25.40	30.49	47.75	160
PR14	14	34	19	13.50	57	M14 × 2.0	27	20.0	25.0				10.0	27	15	19.4	28.58
PR16	16	38	21	15.00	64	M16 × 2.0	33	22.0	27.0	10.0	30	14				21.9	31.75
PR18	18	42	23	16.50	71	M18 × 1.5	36	25.0	31.0				12.0	32	15	24.4	34.92
PR20	20	46	25	18.00	77	M20 × 1.5	40	27.5	34.0	25.8	38.10	63.93				100.22	490
PR22	22	50	28	20.00	84	M22 × 1.5	43	30.0	37.0								

Notes

- Lubrication fitting are not available for PR3, PR4.
 - Radial Clearance
Standard Clearance: 0.051mm MAX
Low Clearance: 0.030mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

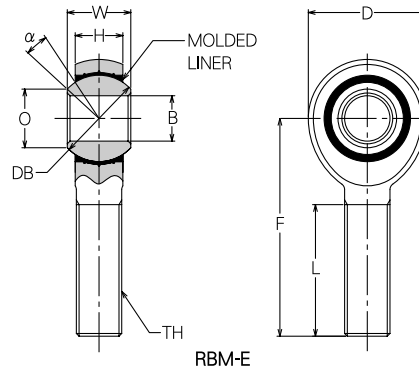
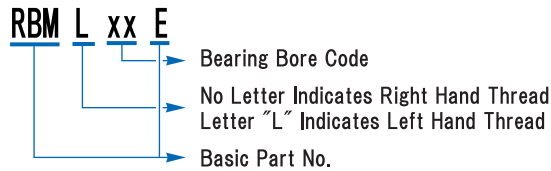
RBM-E

ROD END BEARING | **MOLDED** | **MINELON TN**

Materials

BODY Low Carbon Steel / Zinc Plated
BALL Bearing Steel / Heat Treated / Chrome Plated
LINER Minelon TN

Description of Types



Dimensions in mm

MINEBEA Part No.	φB H7	φD ± 0.5	W 0 -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	α (deg.)	φO Ref.	S φDB Ref.	No Load Rotational Breakaway Torque N · m	Radial Clearance mm	Radial Static Limit Load kN	Dynamic Load kN	Approx. Weight g
RBM5E	5	16	8	6.00	33	M5 × 0.8	20	13	7.7	11.11	0.04MAX	0.03MAX	3.62	1.90	12
RBM6E	6	18	9	6.75	36	M6 × 1.0	22	13	9.0	12.70	{0.4kgf · cmMAX}		5.05	2.17	20
RBM8E	8	22	12	9.00	42	M8 × 1.25	25	14	10.4	15.88	{0.6kgf · cmMAX}	0.05MAX	9.16	3.48	35
RBM10E	10	26	14	10.50	48	M10 × 1.5	29		12.9	19.05			14.61	5.14	55
RBM12E	12	30	16	12.00	54	M12 × 1.75	33	13	15.4	22.22	{1.2kgf · cmMAX}		18.14	6.52	90
RBM14E	14	34	19	13.50	60	M14 × 2.0	36	16	16.9	25.40	{3.5kgf · cmMAX}		24.02	8.72	130
RBM16E	16	38	21	15.00	66	M16 × 2.0	40	19.4	28.58	28.43			10.49	185	
RBM18E	18	42	23	16.50	72	M18 × 1.5	44	15	21.9	31.75	35.79		13.23	250	
RBM20E	20	46	25	18.00	78	M20 × 1.5	47		24.4	34.92	41.18		15.39	310	
RBM22E	22	50	28	20.00	84	M22 × 1.5	51		25.9	38.10	{5.8kgf · cmMAX}		50.01	18.73	400

Notes

- Operating temperature range: - 50 °C ~ + 100 °C
- Dynamic Load Ratings: Cd
 - Reversing & Alternating Load
Dynamic Load Ratings shall be reduced by half from the values given in the table under the use of reversing and alternating load condition.
 - Factor of Operating Temperature and Sliding Speed
Dynamic Load Ratings shall be determined by formula below under the use of High-Temperature and Sliding-Speed condition.
 $Cdt \cdot v = ft \cdot fv \cdot Cd$
 Cdt · v: Dynamic Load Ratings under the use of High-Temperature and Sliding speed.
 ft: Coefficient of Temperature
 fv: Coefficient of Sliding speed

- Static Load Ratings: Cs
 - Dynamic Load Ratings shall be reduced to one-thirds of the values given in the table under the use of that High-Load will be applied continuously or periodically and be reduced to one-sixth of the values given under Reversing and Alternating Load and Impact Load conditions.
 - Factor of Operating Temperature
Dynamic Load Ratings shall be determined by formula below under the use of High-Temperature conditions.
 $Cs \cdot t = ft \cdot Cs$
 Cs · t: Dynamic Load Ratings under the use of High-Temperature condition.
 ft: Coefficient of Temperature
 Cs: Static Load given in the table

Table 1

Temp. °C	~ 40	~ 60	~ 80	~ 100
ft	1.0	0.95	0.8	0.6

Table 2

Sliding Speed m/min	~ 0.3	~ 0.4	~ 0.5	~ 0.6	~ 0.7	~ 0.8	~ 0.9	~ 1.1	~ 1.5	~ 2.5
fv	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1

Table 3

Temp. °C	~ 30	~ 40	~ 60	~ 80	~ 90	~ 100
ft	1.0	0.95	0.85	0.6	0.5	0.3

○ Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10	+ 12	+ 15	+ 18	+ 21
	0	0	0	0	0

RBM

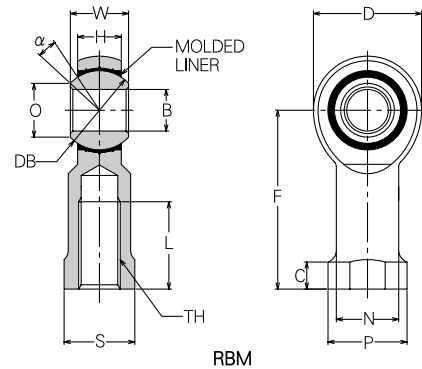
ROD END BEARING FEMALE MOLDED MINELON TN

Materials

BODY Low Carbon Steel / Zinc Plated
BALL Bearing Steel / Heat Treated / Chrome Plated
LINER Minelton

Description of Types

RBM L xx
 Bearing Bore Code
 No Letter Indicates right hands
 Letter "L" Indicates left hands
 Basic Part No.



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.5	W 0 -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	ϕN ± 0.5	ϕP ± 0.5	C + 0.2 - 0.7	S ± 0.25	α (deg.)	ϕO Ref.	S ϕDB Ref.	No Load Rotational Breakaway Torque N · m	Radial Clearance mm	Radial Static Limit Load kN	Dynamic Load kN	Approx. Weight g
RBM5	5	16	8	6.00	27	M5 × 0.8	14	9.0	11	4.0	9	13	7.7	11.11	0.04MAX	0.03MAX	5.98	1.90	16
RBM6	6	18	9	6.75	30	M6 × 1.0		10.0	13	5.0	11		9.0	12.70	[0.4kgf · cmMAX]			7.55	2.17
RBM8	8	22	12	9.00	36	M8 × 1.25	17	12.5	16		14	14	10.4	15.88	0.06MAX	0.05MAX	10.29	3.48	45
RBM10	10	26	14	10.50	43	M10 × 1.5	21	15.0	19		17	14	12.9	19.05	[0.6kgf · cmMAX]			14.61	5.14
RBM12	12	30	16	12.00	50	M12 × 1.75	24	17.5	22	6.5	19	13	15.4	22.22	0.12MAX [1.2kgf · cmMAX]		18.14	6.52	120
RBM14	14	34	19	13.50	57	M14 × 2.0	27	20.0	25	8.0	22	16	16.9	25.40	0.34MAX [3.5kgf · cmMAX]	0.05MAX	24.02	8.72	160
RBM16	16	38	21	15.00	64	M16 × 2.0	33	22.0	27		27			19.4			28.58		
RBM18	18	42	23	16.50	71	M18 × 1.5	36	25.0	31	10.0	27	15	21.9	31.75	0.57MAX [5.8kgf · cmMAX]		35.79	13.23	300
RBM20	20	46	25	18.00	77	M20 × 1.5	40	27.5	34				30			24.4	34.92		
RBM22	22	50	28	20.00	84	M22 × 1.5	43	30.0	37	12.0	32		25.9	38.10			50.01	18.73	480

Notes

- Operating temperature range: - 50 ~ + 100 °C
- Dynamic Load Ratings: Cd
 - Reversing & Alternating Load
Dynamic Load Ratings shall be reduced by half from the values given in the table under the use of reversing and alternating load condition.
 - Factor of Operating Temperature and Sliding Speed
Dynamic Load Ratings shall be determined by formula below under the use of High-Temperature and Sliding-Speed condition.
 $Cdt \cdot v = ft \cdot fv \cdot Cd$
 Cdt · v: Dynamic Load Ratings under the use of High-Temperature and Sliding speed.
 ft: Coefficient of Temperature
 fv: Coefficient of Sliding speed
- Static Load Ratings: Cs
 - Dynamic Load Ratings shall be reduced to one-thirds of the values given in the table under the use of that High-Load will be applied continuously or periodically and be reduced to one-sixth of the values given under Reversing and Alternating Load and Impact Load conditions.
 - Factor of Operating Temperature
Dynamic Load Ratings shall be determined by formula below under the use of High-Temperature conditions.
 $Cs \cdot t = ft \cdot Cs$
 Cs · t: Dynamic Load Ratings under the use of High-Temperature condition.
 ft: Coefficient of Temperature
 Cs: Static Load given in the table

Table 1

Temp. °C	~ 40	~ 60	~ 80	~ 100
ft	1.0	0.95	0.8	0.6

Table 2

Sliding Speed m/min	~ 0.3	~ 0.4	~ 0.5	~ 0.6	~ 0.7	~ 0.8	~ 0.9	~ 1.1	~ 1.5	~ 2.5
fv	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1

Table 3

Temp. °C	~ 30	~ 40	~ 60	~ 80	~ 90	~ 100
ft	1.0	0.95	0.85	0.6	0.5	0.3

○ Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

PBR-EFN

ROD END MALE | BALL INSERT | LOW TORQUE

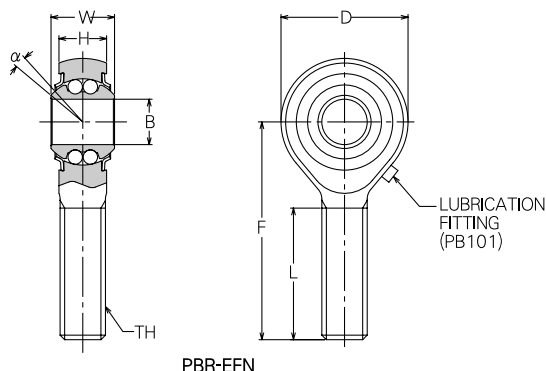
Materials

BODY Chrome Molybdenum Steel / Zinc Plated
INNER RACE Bearing Steel / Chrome Plated
BALL Bearing Steel

Description of Types

PBR L xx EFN

- Bearing Bore Code
- No Letter Indicates Right Hand Thread
Letter "L" Indicates Left Hand Thread
- Basic Part No.



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.5	W 0 -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	α (deg.)	Basic Static Limit Load kN	Basic Dynamic Limit Load kN	Approx. Weight g
PBR5EFN	5	18	8	6.75	33	M5 × 0.8	16	5.5	0.42	1.15	16
PBR6EFN	6	20	9	6.75	36	M6 × 1.0	22	8.0	0.64	2.74	19
PBR8EFN	8	24	12	9.00	42	M8 × 1.25	25	8.5	1.00	4.00	36
PBR10EFN	10	28	14	10.50	48	M10 × 1.5	29	8.0	1.44	4.45	60
PBR12EFN	12	32	16	12.00	54	M12 × 1.75	33	7.5	1.79	4.95	87
PBR14EFN	14	36	19	13.50	60	M14 × 2.0	36	6.0	2.00	5.59	135
PBR16EFN	16	42	21	15.00	66	M16 × 2.0	40	8.0	2.34	6.24	190
PBR18EFN	18	46	23	16.50	72	M18 × 1.5	44	8.5	2.89	7.10	270
PBR20EFN	20	50	25	18.00	78	M20 × 1.5	47	7.0	3.45	7.90	338
PBR22EFN	22	54	28	20.00	84	M22 × 1.5	51	8.0	3.98	9.29	450
PBR25EFN	25	64	31	22.00	94	M24 × 2.0	57	5.0	5.67	11.03	572
PBR30EFN	30	70	37	25.00	110	M30 × 2.0	66	7.5	7.45	14.15	992

Notes

1. Made to order only.
 2. Lubrication: MIL-PRF-23827 (yellow) grease
 3. Radial Clearance All Size: 0.010mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0

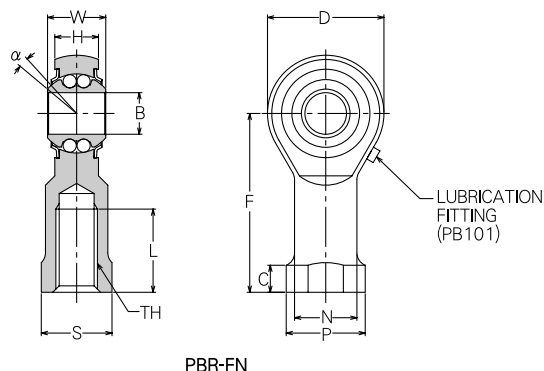
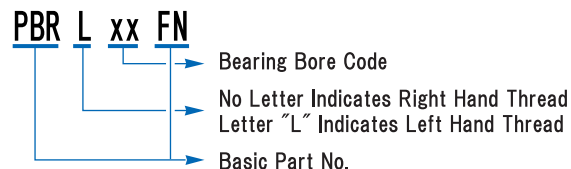
PBR-FN

ROD END FEMALE | BALL INSERT | LOW TORQUE

Materials

BODY Chrome Molybdenum Steel / Zinc Plated
INNER RACE Bearing Steel / Chrome Plated
BALL Bearing Steel

Description of Types



Dimensions in mm

MINEBEA Part No.	ϕB H7	ϕD ± 0.5	W 0 -0.13	H ± 0.13	F ± 0.5	TH JIS Class 2	L ± 0.7	ϕN ± 0.5	ϕP ± 0.5	C $+0.2$ -0.7	S ± 0.25	α (deg.)	Basic Static Limit Load kN	Basic Dynamic Limit Load kN	Approx. Weight g
PBR5FN	5	18	8	6.75	27	M5 × 0.8	14	9.0	11	4.0	9	5.5	0.42	1.15	20
PBR6FN	6	20	9	6.75	30	M6 × 1.0	12	10.0	13	5.0	11	8.0	0.64	2.74	24
PBR8FN	8	24	12	9.00	36	M8 × 1.25	16	12.5	16		14	8.5	1.00	4.00	44
PBR10FN	10	28	14	10.50	43	M10 × 1.5	20	15.0	19	6.5	17	8.0	1.44	4.45	72
PBR12FN	12	32	16	12.00	50	M12 × 1.75	22	17.5	22		19	7.5	1.79	4.95	107
PBR14FN	14	36	19	13.50	57	M14 × 2.0	25	20.0	25	8.0	22	6.0	2.00	5.59	160
PBR16FN	16	42	21	15.00	64	M16 × 2.0	28	22.0	27		8.0	2.34	6.24	224	
PBR18FN	18	46	23	16.50	71	M18 × 1.5	32	25.0	31	10.0	27	8.5	2.89	7.10	293
PBR20FN	20	50	25	18.00	77	M20 × 1.5	33	27.5	34		30	7.0	3.45	7.90	367
PBR22FN	22	54	28	20.00	84	M22 × 1.5	37	30.0	38	12.0	32	8.0	3.98	9.29	480
PBR25FN	25	64	31	22.00	94	M24 × 2.0	42		35	10.0	30	5.0	5.67	11.03	602
PBR30FN	30	70	37	25.00	110	M30 × 2.0	51	40.0	50	15.0	41	7.5	7.45	14.15	978

Notes

- Made to order only.
 - Lubrication: MIL-PRF-23827 (yellow) grease
 - Radial Clearance All Size: 0.010mm MAX
- Please consult MINEBEA for availability of bearings in this series.

Bore size	~ 3	~ 6	~ 10	~ 18	~ 30
H7 Tolerance (μm)	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0