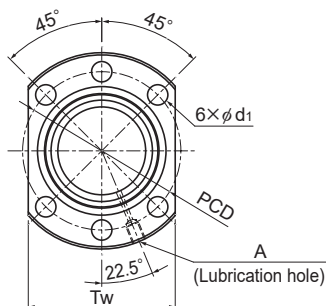


# EPB-V With Preload

DN value	130,000
----------	---------



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	Loaded circuits Rows x turns	Basic load rating		Rigidity K N/μm
						Ca kN	C <sub>a</sub> kN	
EPB 1605V-6	16	5	16.75	13.49	3×1	9.3	13.1	315
EPB 2004V-8	20	4	20.5	18.06	4×1	8.2	15.5	503
EPB 2005V-6	20	5	20.75	17.49	3×1	10.6	17.3	396
EPB 2006V-6	20	6	21	16.93	3×1	13.8	20.4	388
EPB 2008V-6	20	8	21	16.93	3×1	13.7	20.4	388
EPB 2010V-6	20	10	21.25	16.36	3×1	17.3	24.5	398
EPB 2504V-8	25	4	25.5	23.06	4×1	9.1	19.5	602
EPB 2505V-6	25	5	25.75	22.49	3×1	12.1	22.6	491
EPB 2506V-6	25	6	26	21.93	3×1	16.0	27.1	488
EPB 2508V-6	25	8	26	21.93	3×1	15.9	27.1	487
EPB 2510V-4	25	10	26	21.93	2×1	11.3	18.0	331
EPB 2512V-4	25	12	26.25	21.36	2×1	14.0	21.2	332
EPB 2806V-6	28	6	29	24.93	3×1	17.5	32.0	560
EPB 3204V-10	32	4	32.5	30.06	5×1	12.3	31.9	921
EPB 3205V-6	32	5	32.75	29.49	3×1	13.9	30.2	616
EPB 3205V-8	32	5	32.75	29.49	4×1	17.8	40.3	811
EPB 3206V-8	32	6	33	28.93	4×1	23.9	49.5	826
EPB 3208V-8	32	8	33.25	28.36	4×1	29.2	55.2	797
EPB 3210V-6	32	10	33.75	27.24	3×1	32.1	52.2	602
EPB 3212V-6	32	12	33.75	27.24	3×1	32	52.2	602
EPB 3604V-6	36	4	36.5	34.04	3×1	8.4	22.2	636
EPB 3606V-8	36	6	37	32.93	4×1	25.2	56.2	914
EPB 3608V-8	36	8	37.25	32.36	4×1	31.6	64.8	908

Note: When the QZ Lubricator and W wiper ring are attached, the overall length of the nut dimensions will increase. Contact THK for details.

### Model number coding

**EPB3205V-6 RR G0 +650L C3**

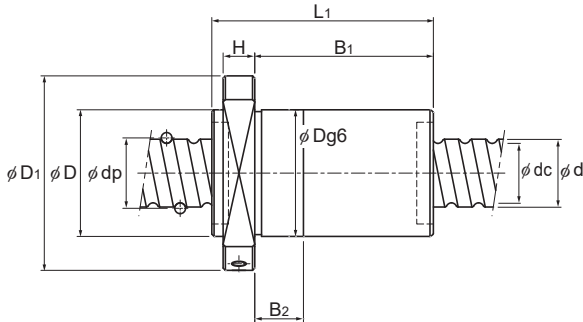
Model No.

Clearance symbol

Accuracy symbol

Ball screw shaft length (mm)

Seal symbol (RR : Labyrinth seal, WW : Wiper ring.)



Unit: mm

Nut dimensions											Nut mass kg	Shaft mass kg/m	Permissible rotational speed min <sup>-1</sup>
Outer diameter D	Flange diameter D <sub>1</sub>	Overall length L <sub>1</sub>	H	B <sub>1</sub>	B <sub>2</sub>	PCD	d <sub>1</sub>	T <sub>w</sub>	Lubrication hole A				
28	48	65	10	50	12	38	5.5	40	M6	0.23	1.35	5,000	
36	58	69	10	54	12	47	6.6	44	M6	0.31	2.26	5,000	
36	58	65	10	50	12	47	6.6	44	M6	0.37	2.17	5,000	
36	58	73	10	58	12	47	6.6	44	M6	0.40	2.11	5,000	
36	58	87	10	72	15	47	6.6	44	M6	0.47	2.20	5,000	
36	58	102	10	87	15	47	6.6	44	M6	0.52	2.14	5,000	
40	62	70	10	55	12	51	6.6	48	M6	0.34	3.58	5,000	
40	62	66	10	51	12	51	6.6	48	M6	0.40	3.48	5,000	
40	62	74	10	59	12	51	6.6	48	M6	0.42	3.40	5,000	
40	62	88	10	73	15	51	6.6	48	M6	0.50	3.51	5,000	
40	62	81	10	66	18	51	6.6	48	M6	0.48	3.57	5,000	
40	62	91	10	76	18	51	6.6	48	M6	0.49	3.50	4,950	
42	71	72	12	60	15	57	6.6	55	M6	0.51	4.32	4,480	
50	80	81	12	64	15	65	9	62	M6	0.81	5.95	4,000	
50	80	67	12	50	12	65	9	62	M6	0.67	5.82	3,960	
50	80	78	12	61	12	65	9	62	M6	0.75	5.82	3,960	
50	80	95	12	78	15	65	9	62	M6	0.88	5.71	3,930	
50	80	117	12	100	18	65	9	62	M6	1.00	5.63	3,900	
50	80	108	12	91	18	65	9	62	M6	0.86	5.45	3,850	
56	118	104	14	104	20	71	9	65	M6	1.52	5.68	3,850	
56	86	58	14	44	15	70	9	65	M6	0.96	7.58	3,560	
56	86	92	14	78	15	70	9	65	M6	1.09	7.31	3,510	
56	86	112	14	98	20	70	9	65	M6	1.22	7.21	3,480	

The rigidity values in the table represent spring constants each obtained from the load and the elastic deformation when providing a preload 8% of the basic dynamic load rating (Ca) and applying an axial load three times greater than the preload.

These values do not include the rigidity of the components related to mounting the nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.

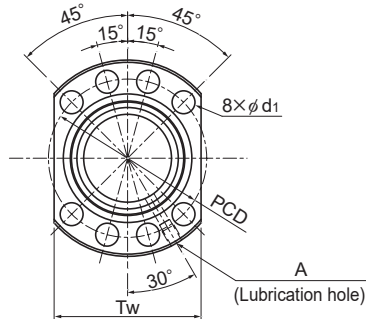
If the applied preload (Fa0) is not 10% of Ca, the rigidity value (K<sub>N</sub>) is obtained from the following equation.

$$K_N = K \left( \frac{Fa_0}{0.1Ca} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table

# EPB-V With Preload

DN value	130,000
----------	---------



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	Loaded circuits Rows x turns	Basic load rating		Rigidity K N/μm
						Ca kN	C <sub>0a</sub> kN	
EPB 4004V-6	40	4	40.5	38.06	3×1	8.8	24.7	692
EPB 4005V-6	40	5	40.75	37.49	3×1	15.4	38.8	751
EPB 4006V-12	40	6	41	36.93	6×1	37.5	94.4	1,470
EPB 4008V-8	40	8	41.25	36.36	4×1	33.8	74.5	1,014
EPB 4010V-6	40	10	41.75	35.24	3×1	37.3	69.3	756
EPB 4010V-8	40	10	41.75	35.24	4×1	47.6	92.4	995
EPB 4012V-8	40	12	41.75	35.2	4×1	47.6	92.4	995
EPB 5005V-12	50	5	50.75	47.49	6×1	30.9	99.1	1,764
EPB 5008V-8	50	8	51.25	46.36	4×1	37.2	93.9	1,216
EPB 5010V-8	50	10	51.75	45.24	4×1	54.3	120.5	1,234
EPB 6310V-4	63	10	64.75	58.2	2×1	34.5	80.1	800

Note: When the QZ Lubricator and W wiper ring are attached, the overall length of the nut dimensions will increase. Contact THK for details.

## Model number coding

**EPB4005V-6 RR G0 +650L C3**

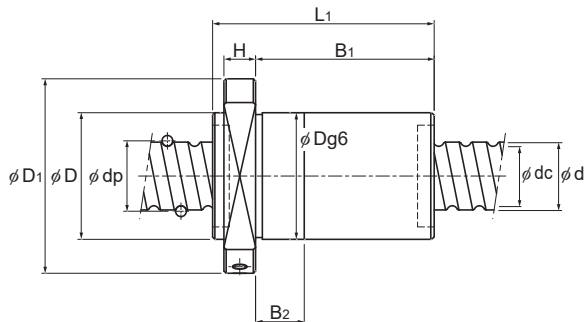
Model No.

Clearance symbol

Accuracy symbol

Ball screw shaft length (mm)

Seal symbol (RR : Labyrinth seal, WW : Wiper ring.)



Unit: mm

Nut dimensions											Nut mass kg	Shaft mass kg/m	Permissible rotational speed min <sup>-1</sup>
Outer diameter D	Flange diameter D <sub>1</sub>	Overall length L <sub>1</sub>	H	B <sub>1</sub>	B <sub>2</sub>	PCD	d <sub>1</sub>	T <sub>w</sub>	Lubrication hole A				
63	93	59	14	45	12	78	9	70	M8	0.96	9.40	3,200	
63	93	65	14	51	12	78	9	70	M8	1.01	9.23	3,190	
63	93	117	14	103	18	78	9	70	M8	1.61	9.09	3,170	
63	93	113	14	99	18	78	9	70	M8	1.54	8.98	3,150	
63	93	105	14	91	20	78	9	70	M8	1.37	8.76	3,110	
63	93	129	14	115	20	78	9	70	M8	1.64	8.76	3,110	
63	93	152	14	138	20	78	9	70	M8	1.79	8.97	3,110	
75	110	104	16	88	18	93	11	85	M8	2.08	14.59	2,560	
75	110	115	16	99	18	93	11	85	M8	2.16	14.28	2,530	
75	110	131	16	115	18	93	11	85	M8	2.30	14.00	2,510	
90	125	89	18	71	18	108	11	95	M8	2.10	22.64	2,000	

The rigidity values in the table represent spring constants each obtained from the load and the elastic deformation when providing a preload 8% of the basic dynamic load rating (Ca) and applying an axial load three times greater than the preload.

These values do not include the rigidity of the components related to mounting the nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.

If the applied preload (Fa0) is not 10% of Ca, the rigidity value (K<sub>N</sub>) is obtained from the following equation.

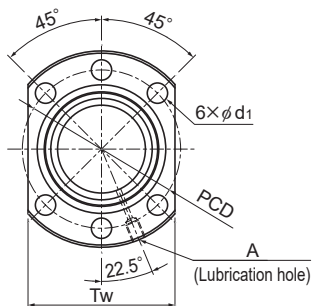
$$K_N = K \left( \frac{Fa_0}{0.1Ca} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table

# EBB-V

## Oversized-Ball Preload / No Preload

DN value	130,000
----------	---------



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	Loaded circuits Rows x turns	Basic load rating		Rigidity K N/μm
						Ca kN	C <sub>0a</sub> kN	
EBB 1605V-4	16	5	16.75	13.49	4×1	11.9	17.4	207
EBB 2004V-8	20	4	20.5	18.06	8×1	14.9	30.9	487
EBB 2005V-3	20	5	20.75	17.49	3×1	10.6	17.3	198
EBB 2006V-6	20	6	21	16.93	6×1	25.0	40.8	376
EBB 2008V-6	20	8	21	16.93	6×1	24.9	40.8	375
EBB 2010V-6	20	10	21.25	16.36	6×1	31.4	49.0	385
EBB 2504V-8	25	4	25.5	23.06	8×1	16.4	39.0	583
EBB 2505V-3	25	5	25.75	22.49	3×1	12.1	22.6	245
EBB 2506V-6	25	6	26	21.93	6×1	29.0	54.1	472
EBB 2508V-6	25	8	26	21.93	6×1	28.9	54.1	472
EBB 2510V-3	25	10	26	21.93	3×1	15.9	27.0	243
EBB 2510V-4	25	10	26	21.93	4×1	20.9	37.6	320
EBB 2512V-4	25	12	26.25	21.36	4×1	25.4	42.3	322
EBB 2806V-6	28	6	29	24.93	6×1	31.7	64.1	542
EBB 3204V-10	32	4	32.5	30.06	10×1	22.3	63.9	892
EBB 3205V-3	32	5	32.75	29.49	3×1	13.9	30.2	308
EBB 3205V-4	32	5	32.75	29.49	4×1	17.8	40.3	405
EBB 3205V-6	32	5	32.75	29.49	6×1	25.1	60.4	597
EBB 3206V-8	32	6	33	28.93	8×1	43.3	98.9	800
EBB 3208V-8	32	8	33.25	28.36	8×1	52.9	110.5	772
EBB 3210V-3	32	10	33.75	27.24	3×1	32.1	52.2	301
EBB 3210V-4	32	10	33.75	27.24	4×1	41.3	69.7	396
EBB 3212V-3	32	12	33.75	27.24	3×1	32	52.2	301
EBB 3604V-6	36	4	36.5	34.04	6×1	15.3	44.3	616
EBB 3606V-8	36	6	37	32.93	8×1	45.8	112.4	885
EBB 3608V-8	36	8	37.25	32.36	8×1	57.4	129.7	879

Note: When the QZ Lubricator and W wiper ring are attached, the overall length of the nut dimensions will increase. Contact THK for details.

### Model number coding

**EBB3205V-6 RR G0 +650L C3**

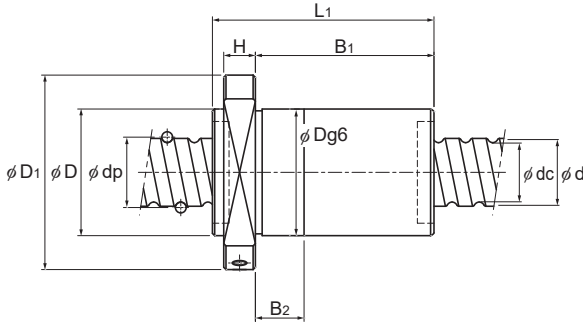
Model No.

Clearance symbol

Accuracy symbol

Ball screw shaft length (mm)

Seal symbol (RR : Labyrinth seal, WW : Wiper ring.)



Unit: mm

Nut dimensions											Nut mass kg	Shaft mass kg/m	Permissible rotational speed min <sup>-1</sup>
Outer diameter D	Flange diameter D <sub>1</sub>	Overall length L <sub>1</sub>	H	B <sub>1</sub>	B <sub>2</sub>	PCD	d <sub>1</sub>	T <sub>w</sub>	Lubrication hole A				
28	48	55	10	40	12	38	5.5	40	M6	0.20	1.35	5,000	
36	58	69	10	54	12	47	6.6	44	M6	0.31	2.26	5,000	
36	58	50	10	35	12	47	6.6	44	M6	0.30	2.17	5,000	
36	58	73	10	58	12	47	6.6	44	M6	0.40	2.11	5,000	
36	58	87	10	72	15	47	6.6	44	M6	0.47	2.20	5,000	
36	58	102	10	87	15	47	6.6	44	M6	0.52	2.14	5,000	
40	62	70	10	55	12	51	6.6	48	M6	0.34	3.58	5,000	
40	62	50	10	35	12	51	6.6	48	M6	0.32	3.48	5,000	
40	62	74	10	59	12	51	6.6	48	M6	0.42	3.40	5,000	
40	62	88	10	73	15	51	6.6	48	M6	0.50	3.51	5,000	
40	62	69	10	54	18	51	6.6	48	M6	0.42	3.57	5,000	
40	62	81	10	66	18	51	6.6	48	M6	0.48	3.57	5,000	
40	62	91	10	76	18	51	6.6	48	M6	0.49	3.50	4,950	
42	71	72	12	60	15	57	6.6	55	M6	0.51	4.32	4,480	
50	80	81	12	64	15	65	9	62	M6	0.81	5.95	4,000	
50	80	52	12	35	12	65	9	62	M6	0.56	5.82	3,960	
50	80	57	12	40	12	65	9	62	M6	0.60	5.82	3,960	
50	80	67	12	50	12	65	9	62	M6	0.67	5.82	3,960	
50	80	95	12	78	15	65	9	62	M6	0.88	5.71	3,930	
50	80	117	12	100	18	65	9	62	M6	1.00	5.63	3,900	
50	80	78	12	61	18	65	9	62	M6	0.67	5.45	3,850	
50	80	90	12	73	18	65	9	62	M6	0.75	5.45	3,850	
56	86	80	14	66	20	71	9	65	M6	1.09	5.68	3,850	
56	86	58	14	44	15	70	9	65	M6	0.96	7.58	3,560	
56	86	92	14	78	15	70	9	65	M6	1.09	7.31	3,510	
56	86	112	14	98	20	70	9	65	M6	1.22	7.21	3,480	

The rigidity values in the table represent spring constants each obtained from the load and the elastic deformation when providing an axial load 24% of the basic dynamic load rating (Ca).

These values do not include the rigidity of the components related to mounting the nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.

If the axial load (Fa) is not 30% of Ca, the rigidity value (K<sub>N</sub>) is obtained from the following equation.

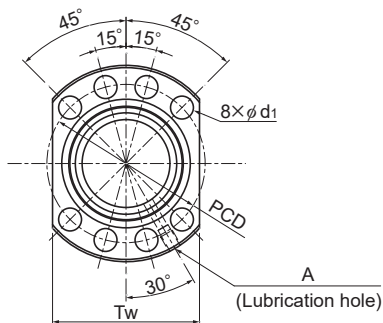
$$K_N = K \left( \frac{F_a}{0.3C_a} \right)^3$$

K: Rigidity value in the dimensional table

# EBB-V

## Oversized-Ball Preload / No Preload

DN value	130,000
----------	---------



Model No.	Screw shaft outer diameter d	Lead Ph	Ball center-to-center diameter dp	Thread minor diameter dc	Loaded circuits Rows x turns	Basic load rating		Rigidity K N/μm
						Ca kN	Ca kN	
EBB 4004V-6	40	4	40.5	38.06	6×1	15.9	49.4	670
EBB 4005V-6	40	5	40.75	37.49	6×1	26.6	77.5	727
EBB 4006V-12	40	6	41	36.93	12×1	68.1	188.7	1,423
EBB 4008V-8	40	8	41.25	36.36	8×1	61.3	148.9	982
EBB 4010V-3	40	10	41.75	35.24	3×1	37.3	69.3	378
EBB 4010V-4	40	10	41.75	35.24	4×1	47.6	92.4	497
EBB 4012V-8	40	12	41.75	35.2	8×1	86.4	184.8	963
EBB 4020V-3	40	20	41.75	35.24	3×1	36.8	69.3	376
EBB 5005V-12	50	5	50.75	47.49	12×1	56.0	198.3	1,708
EBB 5008V-8	50	8	51.25	46.36	8×1	67.5	187.7	1,177
EBB 5010V-4	50	10	51.75	45.24	4×1	54.3	120.5	617
EBB 5020V-3	50	20	52.25	44.11	3×1	55.3	108.8	465
EBB 6310V-4	63	10	64.75	58.2	4×1	61.9	161.0	775
EBB 6312V-4	63	12	65.25	57.1	4×1	80.9	189.1	759
EBB 6316V-4	63	16	65.7	56.0	4×1	134.0	306.4	970
EBB 6320V-3	63	20	65.7	56.0	3×1	104.4	229.3	736
EBB 8010V-4	80	10	81.75	75.2	4×1	68.6	206.9	943
EBB 8012V-4	80	12	82.25	74.1	4×1	92.1	251.7	953
EBB 8016V-4	80	16	82.7	73.0	4×1	154.7	413.2	1,233
EBB 8020V-4	80	20	82.7	73.0	4×1	154.5	413.2	1,232

Note: When the QZ Lubricator and W wiper ring are attached, the overall length of the nut dimensions will increase. Contact THK for details.

### Model number coding

**EBB4005V-6 RR G0 +650L C3**

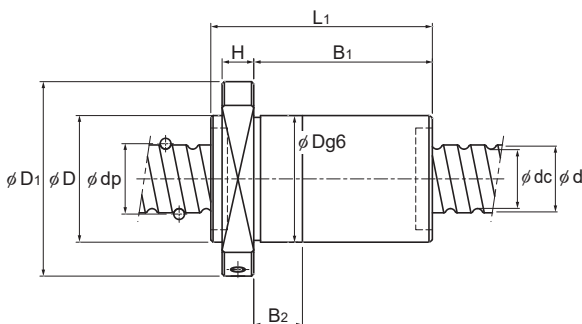
Model No.

Clearance symbol

Accuracy symbol

Ball screw shaft length (mm)

Seal symbol (RR : Labyrinth seal, WW : Wiper ring.)



Unit: mm

	Nut dimensions										Nut mass kg	Shaft mass kg/m	Permissible rotational speed min <sup>-1</sup>
	Outer diameter D	Flange diameter D <sub>1</sub>	Overall length L <sub>1</sub>	H	B <sub>1</sub>	B <sub>2</sub>	PCD	d <sub>i</sub>	T <sub>w</sub>	Lubrication hole A			
	63	93	59	14	45	12	78	9	70	M8	0.96	9.40	3,200
	63	93	65	14	51	12	78	9	70	M8	1.01	9.23	3,190
	63	93	117	14	103	18	78	9	70	M8	1.61	9.09	3,170
	63	93	113	14	99	18	78	9	70	M8	1.54	8.98	3,150
	63	93	75	14	61	20	78	9	70	M8	1.03	8.76	3,110
	63	93	85	14	71	20	78	9	70	M8	1.15	8.76	3,110
	63	93	152	14	138	20	78	9	70	M8	1.79	8.97	3,110
	63	93	122	14	98	27	78	9	70	M8	1.62	9.28	3,110
	75	110	104	16	88	18	93	11	85	M8	2.08	14.59	2,560
	75	110	115	16	99	18	93	11	85	M8	2.16	14.28	2,530
	75	110	87	16	71	18	93	11	85	M8	1.65	14.00	2,510
	75	110	117	16	101	27	93	11	85	M8	2.07	14.32	2,480
	90	125	89	18	71	18	108	11	95	M8	2.10	22.64	2,000
	95	135	104	20	84	25	115	13.5	100	M8	2.93	22.21	1,990
	95	135	125	20	105	25	115	13.5	100	M8	3.27	22.07	1,970
	95	135	122	20	102	27	115	13.5	100	M8	3.48	22.52	1,970
	105	145	93	20	73	18	125	13.5	110	M8	2.60	37.07	1,590
	125	165	110	25	85	25	145	13.5	130	M8	6.06	36.51	1,580
	125	165	131	25	106	25	145	13.5	130	M8	7.15	36.33	1,570
	125	165	149	25	124	25	145	13.5	130	M8	8.13	36.90	1,570

The rigidity values in the table represent spring constants each obtained from the load and the elastic deformation when providing an axial load 24% of the basic dynamic load rating (Ca).

These values do not include the rigidity of the components related to mounting the nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.

If the axial load (Fa) is not 30% of Ca, the rigidity value (K<sub>N</sub>) is obtained from the following equation.

$$K_N = K \left( \frac{F_a}{0.3C_a} \right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table