Linear Bushing

LBE／LBD／LBB／LM／LME／LMB

IKO Linear Bushing is a high precision linear motion rolling guide which travels along a shaft to achieve endless linear motion. In the external cylinder, a retainer, steel balls, etc. are compactly incorporated. Wide variations in size are available for selections suitable for each application.

Low frictional linear motion

Steel balls are accurately guided by a retainer, so low frictional resistance and stable linear motion can be achieved.

Simple replacement of conventional plain bushings

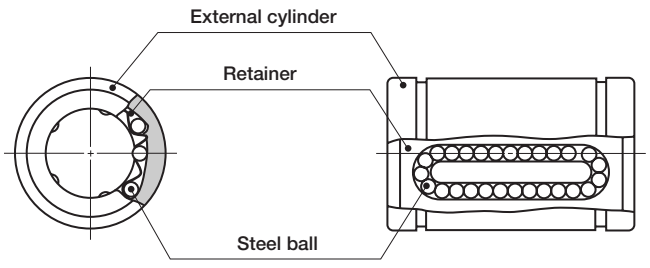
It is easy to use Linear Bushings instead of conventional plain bushings, because both types are used with a round shaft, and no major redesign is necessary.

Wide variations

For each dimensional series, standard, adjustable clearance and open types are available with and without seals, so the best linear bushing for the application may be selected.

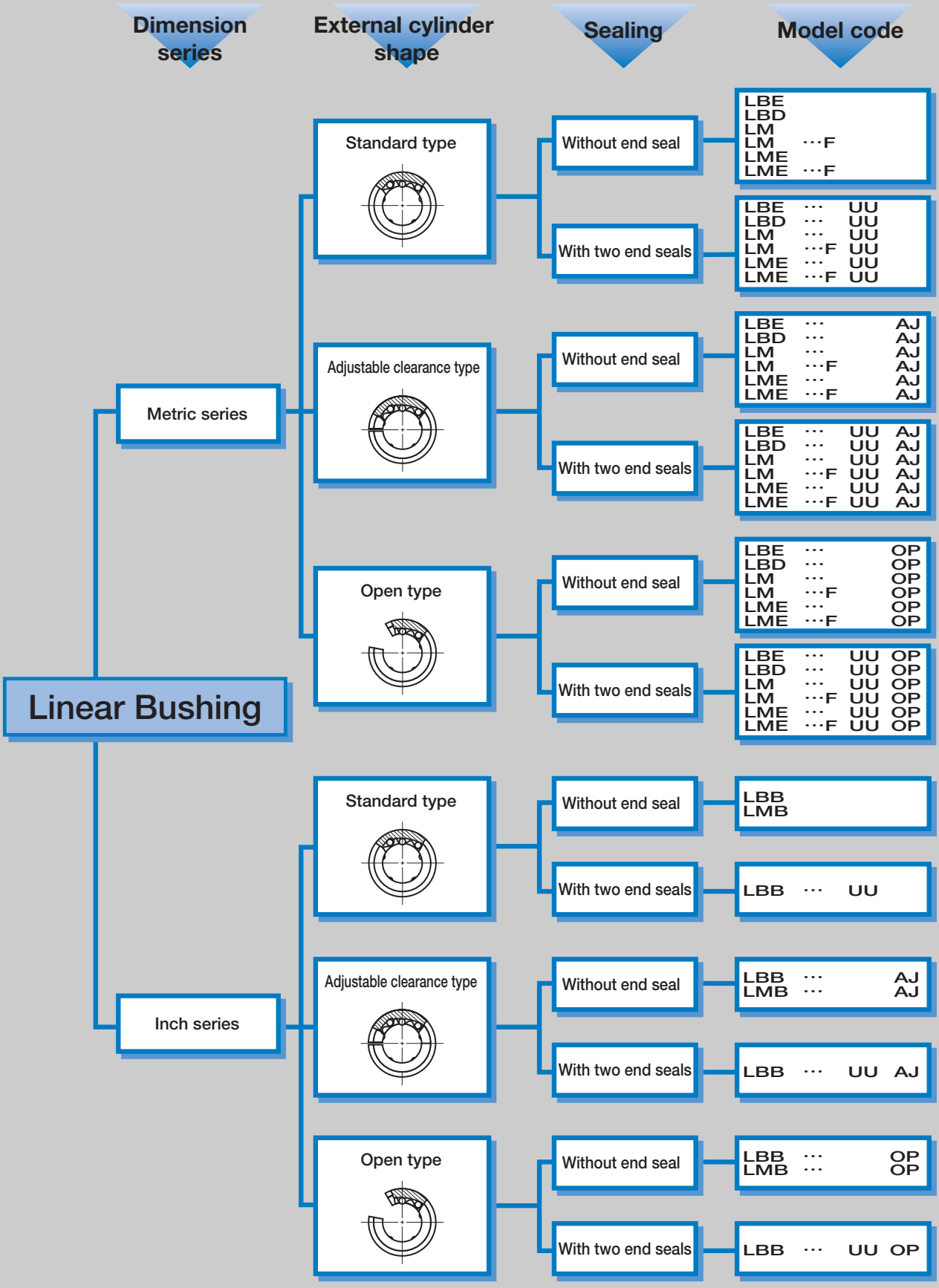
Stainless steel type

Linear Bushings made of stainless steel are also available. This type is suitable for applications where corrosion resistance is important.



Structure of Linear Bushing

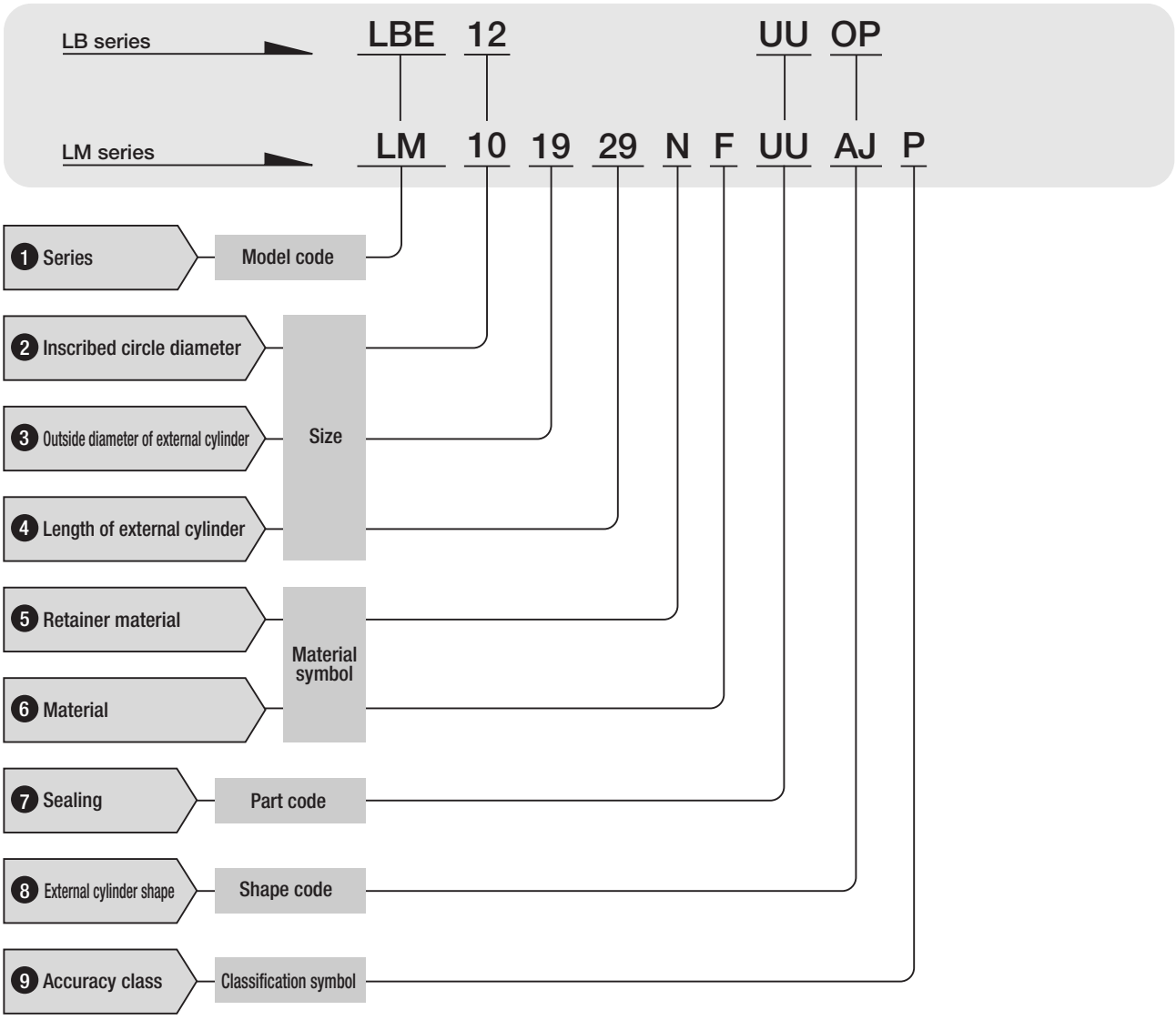
Linear Bushing series



Remark : "F" in the model code indicates that it is stainless steel type.

Identification number and specification

The specification of Linear Bushing is indicated by the identification number, consisting of a model code, a size, a material symbol, a part code, a shape code and a classification symbol.



1 Series

Metric series : LBE, LBD, LM, LME

Inch series : LBB, LMB

2 Inscribed circle diameter

For the metric series, indicate the inscribed circle diameter in mm. For the inch series, indicate the inscribed circle diameter in the unit of 1/16 inch.

3 Outside diameter of external cylinder

For the metric series, indicate the outside diameter of external cylinder in mm. For the inch series, indicate the outside diameter of external cylinder in the unit of 1/16 inch.

4 Length of external cylinder

For the metric series, indicate the length of the external cylinder in mm. For the inch series, indicate the length of external cylinder in the unit of 1/16 inch.

5 Retainer material

Carbon steel made	: No symbol
Synthetic resin made	: N

In case of LM series, specify the retainer material. For applicable models and sizes, see the "Model number" column in the table of dimensions on pages E-132 to E-165. The maximum operating temperature for the synthetic resin type is 100˚C. Continuous operation is possible at temperatures up to 80˚C.
In all of LB series, the retainer is made of synthetic resin.

6 Material

High carbon steel made	: No symbol
Stainless steel made	: F

Specify the component part material. For applicable models and sizes, see the "Model number" column in the table of dimensions on pages E-132 to E-165.

7 Sealing

Without end seal	: No symbol
With two end seals	: UU

The two seal types incorporate seals with superior dust protection performance at both ends of the external cylinder for preventing intrusion of foreign matter. The maximum allowable temperature for seals is 120˚C.

8 External cylinder shape

Standard type	: No symbol
Adjustable clearance type	: AJ
Open type	: OP

See "External cylinder shape" shown below.

External cylinder shape

Standard type
This type is widely used as a general purpose linear guide. High and precision classes are available.

Adjustable clearance type
A slot in a longitudinal direction is made on the external cylinder in order to adjust the clearance. When this type is used with a housing which can adjust the bore diameter, the radial internal clearance can be adjusted without fit selection between the linear bushing and shaft. It is possible to give a preload.

Open type
This type has one or two fewer ball circuits than the standard type, creating an open section to allow clearance for a shaft support.
The open type bushing is commonly used with long shafts when one or more support blocks are needed to reduce shaft deflection or sag. The width of the support blocks can be determined to match the (*E*) dimension of fan shaped open section shown in the table of dimensions. The radial internal clearance can also be adjusted.

9 Accuracy class

High	: No symbol
Precision	: P

For details of accuracy, see the table of dimensions on pages E-132 to E-165. High class and precision class are available for the LBD, LBB, LM and LMB standard type series.
For the adjustable clearance type and the open type, only high class is available, and the accuracy values are applicable only before cutting the external cylinders.

Load Rating

Summarized descriptions of load ratings of Linear Bushing are given below. For details of load rating definitions and load calculations, see "General description".

Basic dynamic load rating *C*

The basic dynamic load rating is defined as the constant load both in direction and magnitude under which a group of identical Linear Bushings are individually operated and 90% of the units in the group can travel 50 x 10^3 meters free from material damage due to rolling contact fatigue.

Basic static load rating C_0

The basic static load rating is defined as the static load that gives a prescribed constant contact stress at the center of the contact area between the rolling element and raceway receiving the maximum load.

Relationships between load ratings and the position of ball circuits

Load ratings of Linear Bushing are affected by the position of the ball circuits. In the table of dimensions, two types of load ratings are shown corresponding to the load directions and steel ball circuit positions as shown in Fig. 1 and Fig. 2.
In Fig. 1 the load direction is in line with the steel ball circuit position and this direction is referred to as load direction A in the table of dimensions. In general, the load ratings for this direction are also used, when the load direction is indeterminate or the steel ball circuit position in relation to the load direction cannot be determined.
In Fig. 2, the load direction is pointed at the center of two ball circuits and this direction is referred to as load direction B in the table of dimensions. In general, a larger load can be received in this case compared with load direction A.

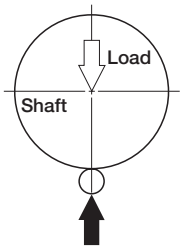


Fig. 1 Load direction A

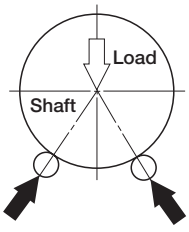


Fig. 2 Load direction B

❶ Clearance

Adjustable clearance and open type Linear Bushings can be adjusted for radial internal clearance if they are used with a housing which can adjust the bore diameter.
However, if the degree of the adjustment is excessive, deformation at the contact points between steel balls and shaft or external cylinder becomes large, resulting in short life. Therefore, it is recommended to prepare a shaft with a specified fit tolerance and adjust the radial internal clearance to zero or minimal preload by matching the individual components.
The clearance is adjusted while checking with a dial gage. The adjustment is generally completed when the shaft is rotated in an unloaded condition and light resistance is caused by the rotation of shaft. In this condition, the radial internal clearance becomes zero or minimal preload. For open type Linear Bushings having three rows of ball circuits, clearance adjustment can not be made.

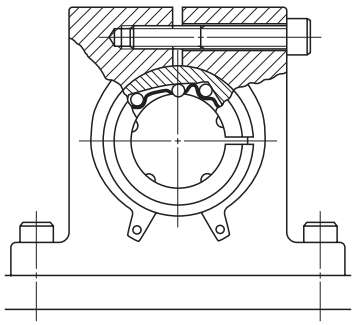


Fig. 3 Example of clearance adjustment

❷ Raceway surface

Since Linear Bushings operate with a shaft as a raceway surface, the shaft should be heat-treated and ground. Recommended surface hardness and roughness of the shaft are shown in Table 1, and also recommended minimum effective hardening depth of the raceway is shown in Table 2.

Table 1 Surface hardness and roughness of raceway

Item	Recommended value	Remarks
Surface hardness	58～64HRC	When the raceway hardness is less than the necessary hardness, multiply load ratings by the hardness factor.
Surface roughness	0.2μmRa or better (0.8μmRy or better)	When the required accuracy is not severe, a surface roughness of about 0.8μmRa (3.2μmRy) is adequate.

Table 2 Minimum effective hardening depth unit : mm

Shaft diameter over	Shaft diameter incl.	Recommended minimum effective hardening depth
–	28	0.8
28	50	1.0
50	100	1.5
100	150	2.0

❸ Lubrication

Linear Bushings can be used with oil or grease lubrication. A good quality lithium-soap base grease is recommended for grease lubrication.

❹ When rotational motion is present

Linear Bushings can only be operated in linear motion and can not be rotated. When linear motion in short stroke length and rotation are both required, **IKO** Stroke Rotary Bushing (See page E-176.) is recommended. If linear motion in long stroke length and rotation are both required, a combination of Linear Bushing
and **IKO** Needle Roller Bearing as shown in Fig. 4 is recommended.

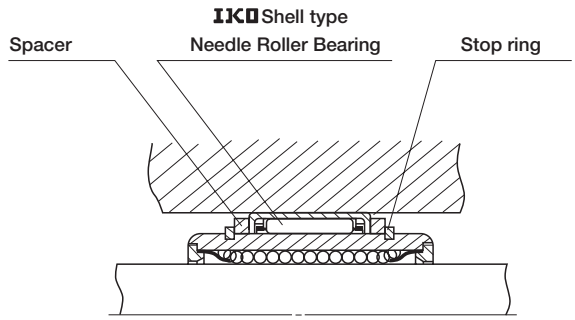


Fig. 4 Example of configuration for long stroke linear motion and rotation

❺ Precaution for use of Open type Linear Bushing having three rows of ball circuits

Open type Linear Bushings having three rows of ball circuits can be used only for the load direction shown in Fig. 5. If two Linear Bushings are used in parallel, by considering the load distribution, the arrangement shown in Fig. 6 is recommended.
This type can not be adjusted for radial internal clearance.

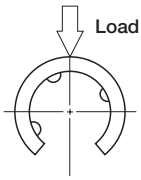


Fig. 5

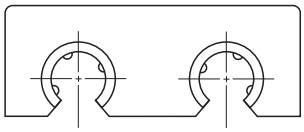


Fig. 6

Fit

Table 3 shows the recommended fit tolerances for Linear Bushing. The fit between Linear Bushing and housing is usually clearance fit. For some special applications, an interference fit may be required.
For adjustable clearance or open type Linear Bushings, the following recommendations apply. The shaft diameter is finished smaller than the lower limit of the tolerance range of the inscribed circle diameter of the Linear Bushing, while the housing diameter is finished larger than the upper limit of the tolerance range of the outside diameter of the external cylinder of the Linear Bushing.

Table 3 Recommended fit tolerance

Type \ Item		Shaft		Housing	
		Normal clearance	Closer clearance	Clearance fit	Interference fit
LBD, LBB	High class	f6,g6	h6	H7	J7
LM, LMB	Precision class	f5,g5	h5	H6	J6
LBE, LME	–	h6	j6	H7	J7

Mounting

When press-fitting the Linear Bushing into the housing, do not hit the end plate. The correct method is to gradually push the external cylinder with a jig for assembling. (See Fig. 7.) Then the external cylinder is fixed in the axial direction with a stop ring or a stopper plate. When inserting the shaft into the Linear Bushing assembled into a housing, gradually and gently insert a shaft avoiding to give impact on the steel balls and retainers.
If two shafts are used in parallel, fix one shaft accurately as a datum shaft and locate the second shaft to the datum shaft keeping the parallelism. Fig. 8 shows an example of general assembling.

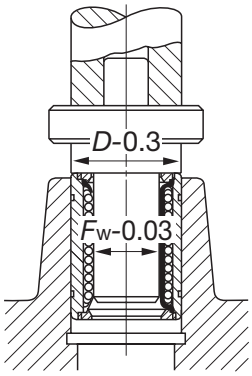


Fig. 7

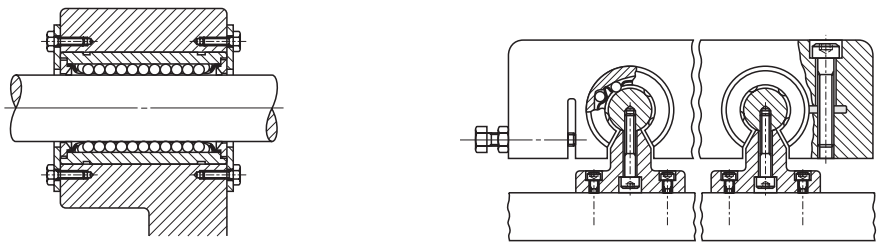


Fig. 8 Example of assembling

Accessories

Steel shaft for Linear Bushing

In order to achieve full performance of Linear Bushing, heat-treated and ground steel shafts with high accuracy are available. Commercial shafts can also be delivered upon request. For details, consult IKO.

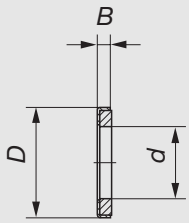
Shaft support block

Support blocks are prepared for supporting the ends of shaft for Linear Bushing. For details, consult IKO.

Felt seals for Linear Bushing

Felt seals are available for Linear Bushing without end seal. If dust protection and minimal frictional resistance in linear motion are both required, felt seals are recommended.
Dimensions of felt seals are shown in Table 4.

Table 4 Dimensions of felt seals for Linear Bushing



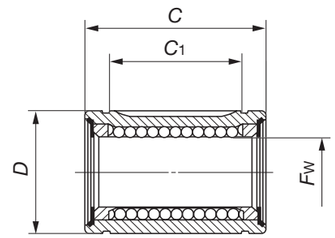
unit : mm

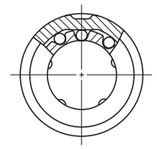
Model number	*d*	*D*	*B*
FLM 6	6	12	2
FLM 8	8	15	2
FLM 10	10	19	3
FLM 13	13	23	3
FLM 16	16	28	4
FLM 20	20	32	4
FLM 25	25	40	5
FLM 30	30	45	5
FLM 35	35	52	5
FLM 40	40	60	5
FLM 50	50	80	10
FLM 60	60	90	10
FLM 80	80	120	10
FLM 100	100	150	10

Remark : These felt seals are used with LM or LBD models. For other models and types, consult IKO for details.

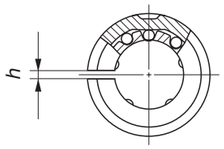
IKO Linear Bushing : Metric series

Standard type :	Adjustable clearance type :	Open type :
LBE	LBE···AJ	LBE···OP

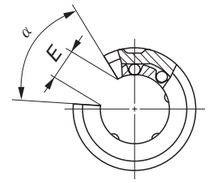




LBE



LBE···AJ



LBE···OP

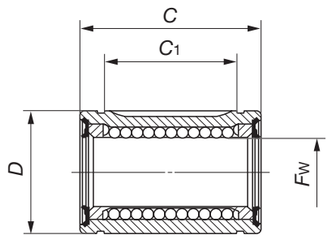
Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g	Fw	Tolerance μm
5	LBE 5	3	8.6	LBE 5 AJ	3	8.4	———	—	—	5	+8 0
8	LBE 8	3	16.9	LBE 8 AJ	3	16.6	———	—	—	8	
12	LBE 12	4	36.5	LBE 12 AJ	4	35.5	LBE 12 OP	3	29.5	12	
16	LBE 16	4	47	LBE 16 AJ	4	46.5	LBE 16 OP	3	37.5	16	+9 −1
20	LBE 20	5	84.5	LBE 20 AJ	5	83	LBE 20 OP	4	72	20	
25	LBE 25	5	161	LBE 25 AJ	5	159	LBE 25 OP	4	141	25	+11 −1
30	LBE 30	6	305	LBE 30 AJ	6	300	LBE 30 OP	5	265	30	
40	LBE 40	6	555	LBE 40 AJ	6	545	LBE 40 OP	5	480	40	+13 −2
50	LBE 50	6	935	LBE 50 AJ	6	925	LBE 50 OP	5	815	50	

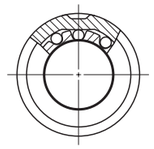
Nominal dimensions and tolerances mm: D	Tolerance μm	C	Tolerance μm	C1	Tolerance μm	h	E	α Degree	Eccentricity Max. μm	Basic dynamic load rating C: Load direction A N	Load direction B N	Basic static load rating C0: Load direction A N	Load direction B N	Preferable circlip DIN 471
12	0 −8	22	0 −210	12	+270 0	1.5	—	—	12	90.6	73.6	213	213	12×1
16		25		14		1.5	—	—		121	98.6	255	255	16×1
22	0 −9	32		20		1.5	7.5	78°	13	284	327	575	813	22×1.2
26		36	0 −250	22	+330 0	1.5	10	78°		311	357	587	830	26×1.2
32		45		28		2.0	10	60°	14	617	734	1 150	1 680	32×1.5
40	0 −11	58		40	+390 0	2.0	12.5	60°	15	1 070	1 270	2 020	2 960	42×1.75
47		68	0 −300	48		2.0	12.5	50°		1 560	1 650	3 060	3 910	48×1.75
62	0 −13	80		56	+460 0	2.0	16.8	50°	17	2 710	2 870	4 890	6 250	62×2
75		100	0 −350	72		2.0	21	50°		3 940	4 180	7 130	9 120	75×2.5

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

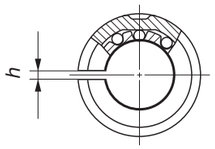
IKO Linear Bushing with Seals : Metric series

Standard type :	Adjustable clearance type :	Open type :
LBE···UU	LBE···UU AJ	LBE···UU OP

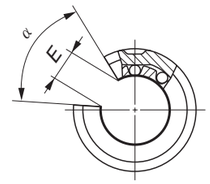




LBE···UU



LBE···UU AJ



LBE···UU OP

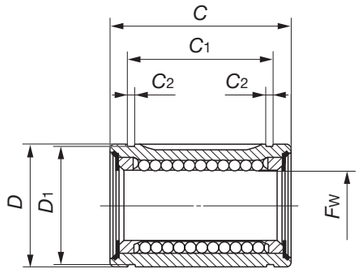
Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g	Fw	Tolerance μm
5	LBE 5 UU	3	8.6	LBE 5 UU AJ	3	8.4	———	—	—	5	+8 0
8	LBE 8 UU	3	17	LBE 8 UU AJ	3	16.7	———	—	—	8	
12	LBE 12 UU	4	36.5	LBE 12 UU AJ	4	36	LBE 12 UU OP	3	29.5	12	
16	LBE 16 UU	4	47.5	LBE 16 UU AJ	4	47	LBE 16 UU OP	3	38	16	+9 −1
20	LBE 20 UU	5	85	LBE 20 UU AJ	5	83.5	LBE 20 UU OP	4	72.5	20	
25	LBE 25 UU	5	162	LBE 25 UU AJ	5	160	LBE 25 UU OP	4	142	25	+11 −1
30	LBE 30 UU	6	305	LBE 30 UU AJ	6	305	LBE 30 UU OP	5	265	30	
40	LBE 40 UU	6	555	LBE 40 UU AJ	6	550	LBE 40 UU OP	5	485	40	+13 −2
50	LBE 50 UU	6	940	LBE 50 UU AJ	6	930	LBE 50 UU OP	5	815	50	

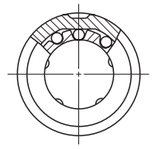
Nominal dimensions and tolerances mm: D	Tolerance μm	C	Tolerance μm	C1	Tolerance μm	h	E	α Degree	Eccentricity Max. μm	Basic dynamic load rating C: Load direction A N	Load direction B N	Basic static load rating C0: Load direction A N	Load direction B N	Preferable circlip DIN 471
12	0 −8	22	0 −210	12	+270 0	1.5	—	—	12	90.6	73.6	213	213	12×1
16		25		14		1.5	—	—		121	98.6	255	255	16×1
22	0 −9	32	0 −250	20	+330 0	1.5	7.5	78°	13	284	327	575	813	22×1.2
26		36		22		1.5	10	78°		311	357	587	830	26×1.2
32	0 −11	45	0 −250	28	+330 0	2.0	10	60°	14	617	734	1 150	1 680	32×1.5
40		58		40	+390 0	2.0	12.5	60°	15	1 070	1 270	2 020	2 960	42×1.75
47		68	0 −300	48		2.0	12.5	50°		1 560	1 650	3 060	3 910	48×1.75
62	0 −13	80	0 −300	56	+460 0	2.0	16.8	50°	17	2 710	2 870	4 890	6 250	62×2
75		100	0 −350	72		2.0	21	50°		3 940	4 180	7 130	9 120	75×2.5

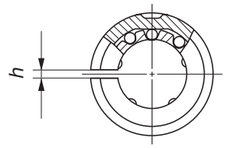
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

IKO Linear Bushing : Metric series

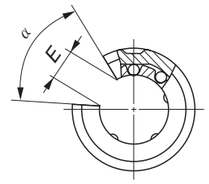
Standard type : LBD
Adjustable clearance type : LBD···AJ
Open type : LBD···OP




LBD



LBD···AJ



LBD···OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g	Fw	Tolerance μm Precision	Tolerance μm High
6	LBD 6	3	5.1	LBD 6 AJ	3	5.0	———	—	—	6		
8	LBD 8S	3	8.3	LBD 8S AJ	3	8.1	———	—	—	8		
	LBD 8	3	11.8	LBD 8 AJ	3	11.5	———	—	—	8		
10	LBD 10	4	25.5	LBD 10 AJ	4	25	LBD 10 OP	3	20.5	10	— 0 −6	— 0 −9
13	LBD 13	4	41.5	LBD 13 AJ	4	40.5	LBD 13 OP	3	33	13		
16	LBD 16	4	58	LBD 16 AJ	4	57	LBD 16 OP	3	47	16		
20	LBD 20	5	80	LBD 20 AJ	5	79	LBD 20 OP	4	69	20		
25	LBD 25	5	160	LBD 25 AJ	5	158	LBD 25 OP	4	142	25	— 0 −7	— 0 −10
30	LBD 30	6	220	LBD 30 AJ	6	215	LBD 30 OP	5	196	30		
35	LBD 35	6	320	LBD 35 AJ	6	315	LBD 35 OP	5	280	35		
40	LBD 40	6	440	LBD 40 AJ	6	435	LBD 40 OP	5	390	40	— 0 −8	— 0 −12
50	LBD 50	6	1 390	LBD 50 AJ	6	1 380	LBD 50 OP	5	1 220	50		

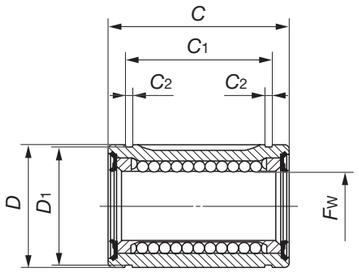
Nominal dimensions and tolerances mm: D	Tolerance μm	C	Tolerance μm	C1(1)	Tolerance μm	C2	D1	h	E	α Degree	Eccentricity Max. μm Precision	Eccentricity Max. μm High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C0: Load direction A N	Basic static load rating C0: Load direction B N
12	0 −11	19	0 −200	13.5	0 −200	1.1	11.5	1.5	—	—	8	12	78.0	63.4	155	155
15		17		11.5		1.1	14.3	1.5	—	—			74.7	60.7	128	128
15		24		17.5		1.1	14.3	1.5	—	—			121	98.6	255	255
19	0 −13	29		22		1.3	18	1.5	7	80°			197	226	405	573
23		32		23		1.3	22	1.5	9	80°			292	336	578	818
28		37		26.5		1.6	27	1.5	11	80°			426	489	766	1 080
32	0 −16	42		30.5		1.6	30.5	2.0	11	60°	10	15	617	734	1 150	1 680
40		59	0 −300	41	0 −300	1.85	38	2.0	12	50°			1 070	1 270	2 020	2 960
45		64		44.5		1.85	43	2.0	15	50°			1 460	1 540	2 780	3 560
52	0 −19	70		49.5		2.1	49	2.0	17	50°	12	20	1 610	1 710	3 080	3 940
60		80		60.5		2.1	57	2.0	20	50°			2 710	2 870	4 890	6 250
80		100		74		2.6	76.5	2.0	25	50°			3 940	4 180	7 130	9 120

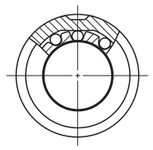
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

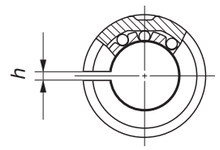
IKO Linear Bushing with Seals : Metric series

Standard type : LBD···UU
Adjustable clearance type : LBD···UU AJ
Open type : LBD···UU OP

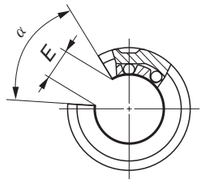




LBD···UU



LBD···UU AJ



LBD···UU OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g	Fw	Tolerance μm Precision	Tolerance μm High
6	LBD 6 UU	3	5.2	LBD 6 UU AJ	3	5.1	———	—	—	6		
8	LBD 8S UU	3	8.4	LBD 8S UU AJ	3	8.2	———	—	—	8		
	LBD 8 UU	3	11.8	LBD 8 UU AJ	3	11.6	———	—	—	8		
10	LBD 10 UU	4	25.5	LBD 10 UU AJ	4	25.5	LBD 10 UU OP	3	20.5	10	— 0 −6	— 0 −9
13	LBD 13 UU	4	41.5	LBD 13 UU AJ	4	40.5	LBD 13 UU OP	3	33.5	13		
16	LBD 16 UU	4	58	LBD 16 UU AJ	4	57	LBD 16 UU OP	3	47.5	16		
20	LBD 20 UU	5	80.5	LBD 20 UU AJ	5	79.5	LBD 20 UU OP	4	69.5	20		
25	LBD 25 UU	5	161	LBD 25 UU AJ	5	159	LBD 25 UU OP	4	143	25	— 0 −7	— 0 −10
30	LBD 30 UU	6	220	LBD 30 UU AJ	6	220	LBD 30 UU OP	5	197	30		
35	LBD 35 UU	6	320	LBD 35 UU AJ	6	320	LBD 35 UU OP	5	280	35		
40	LBD 40 UU	6	440	LBD 40 UU AJ	6	435	LBD 40 UU OP	5	390	40	— 0 −8	— 0 −12
50	LBD 50 UU	6	1 400	LBD 50 UU AJ	6	1 380	LBD 50 UU OP	5	1 220	50		

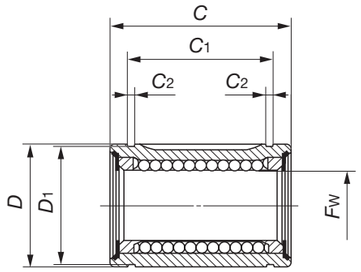
D	Tolerance μm	C	Tolerance μm	C1(1)	Tolerance μm	C2	D1	h	E	α Degree	Eccentricity Max. μm Precision	Eccentricity Max. μm High	Basic dynamic load rating C Load direction A N	Basic dynamic load rating C Load direction B N	Basic static load rating C0 Load direction A N	Basic static load rating C0 Load direction B N
12	0 −11	19	0 −200	13.5	0 −200	1.1	11.5	1.5	—	—	8	12	78.0	63.4	155	155
15		17		11.5		1.1	14.3	1.5	—	—			74.7	60.7	128	128
15		24		17.5		1.1	14.3	1.5	—	—			121	98.6	255	255
19	0 −13	29		22		1.3	18	1.5	7	80°			197	226	405	573
23		32		23		1.3	22	1.5	9	80°			292	336	578	818
28		37		26.5		1.6	27	1.5	11	80°			426	489	766	1 080
32	0 −16	42		30.5		1.6	30.5	2.0	11	60°	10	15	617	734	1 150	1 680
40		59	0 −300	41	0 −300	1.85	38	2.0	12	50°			1 070	1 270	2 020	2 960
45		64		44.5		1.85	43	2.0	15	50°			1 460	1 540	2 780	3 560
52	0 −19	70		49.5		2.1	49	2.0	17	50°	12	20	1 610	1 710	3 080	3 940
60		80		60.5		2.1	57	2.0	20	50°			2 710	2 870	4 890	6 250
80		100		74		2.6	76.5	2.0	25	50°			3 940	4 180	7 130	9 120

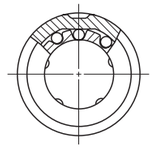
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

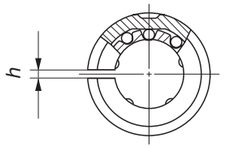
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

IKO Linear Bushing : Inch series

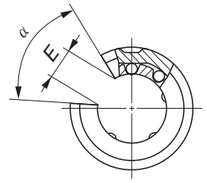
Standard type : LBB
Adjustable clearance type : LBB···AJ
Open type : LBB···OP




LBB



LBB···AJ



LBB···OP

Shaft diameter mm (inch)	Model number: Standard type	Bal circuits	Mass (Ref.) g	Adjustable clearance type	Bal circuits	Mass (Ref.) g	Open type	Bal circuits	Mass (Ref.) g	Fw	Tolerance μm: Precision	Tolerance μm: High
6.350 (1/4)	LBB 4	3	7.1	———	—	—	———	—	—	1/4 6.350		
9.525 (3/8)	LBB 6	4	10.3	———	—	—	———	—	—	3/8 9.525		
12.700 (1/2)	LBB 8	4	32	LBB 8 AJ	4	31.5	LBB 8 OP	3	28	1/2 12.700	0	0
15.875 (5/8)	LBB 10	4	65	LBB 10 AJ	4	64	LBB 10 OP	3	54	5/8 15.875	−8	−13
19.050 (3/4)	LBB 12	5	79.5	LBB 12 AJ	5	78.5	LBB 12 OP	4	68.5	3/4 19.050		
25.400 (1)	LBB 16	5	147	LBB 16 AJ	5	145	LBB 16 OP	4	127	1 25.400		
31.750 (1 1/4)	LBB 20	6	325	LBB 20 AJ	6	320	LBB 20 OP	5	285	1 1/4 31.750	0	0
38.100 (1 1/2)	LBB 24	6	535	LBB 24 AJ	6	530	LBB 24 OP	5	470	1 1/2 38.100	−10	−15
50.800 (2)	LBB 32	6	1 040	LBB 32 AJ	6	1 030	LBB 32 OP	5	915	2 50.800		0 −20

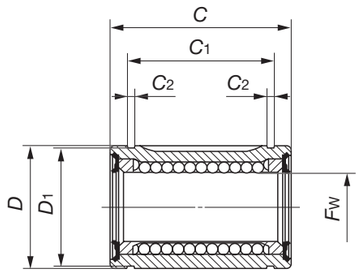
D	Tolerance μm	C	Tolerance μm	C1(1)	Tolerance μm	C2	D1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C0: Load direction A N	Basic static load rating C0: Load direction B N
1/2 12.700	0 −10	3/4 19.050	0 −381	12.98	0 −200	0.99	12.04	—	—	—	8	12	80.0	64.9	156	156
5/8 15.875		7/8 22.225		16.15		0.99	15.16	—	—	—			117	134	227	320
7/8 22.225		1 1/4 31.750		24.46		1.17	21.21	1/16 1.588	5/16 7.938	50°		13	290	333	577	816
1 1/8 28.575		1 1/2 38.100		28.04		1.42	27.30	3/32 2.381	3/8 9.525	60°			424	488	766	1 080
1 1/4 31.750		1 5/8 41.275		29.61		1.42	30.33	3/32 2.381	7/16 11.112	60°	9	14	608	724	1 150	1 680
1 9/16 39.688		2 1/4 57.150		44.53		1.73	37.85	3/32 2.381	9/16 14.288	60°	10	15	1 070	1 280	2 020	2 960
2 50.800	0 −13	2 5/8 66.675	0 −508	50.92	0 −300	1.73	48.51	3/32 2.381	5/8 15.875	50°			1 920	2 030	3 570	4 570
2 3/8 60.325		3 76.200		61.26		2.18	57.53	1/8 3.175	3/4 19.050	50°	11	17	2 460	2 610	4 330	5 540
3 76.200	0 −15	4 101.600		81.07		2.62	72.64	1/8 3.175	1 25.400	50°			3 960	4 190	7 140	9 130

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

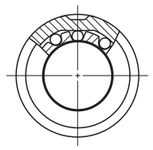
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

IKO Linear Bushing with Seals : Inch series

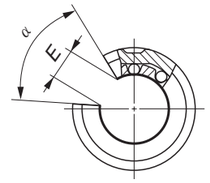
Standard type : **LBB···UU**
Adjustable clearance type : **LBB···UU AJ**
Open type : **LBB···UU OP**



LBB···UU



LBB···UU AJ



LBB···UU OP

Shaft diameter mm (inch)	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g	Fw	Tolerance μm Pre-cision	Tolerance μm High
6.350 (1/4)	LBB 4 UU	3	7.1	———	—	—	———	—	—	1/4 6.350		
9.525 (3/8)	LBB 6 UU	4	10.4	———	—	—	———	—	—	3/8 9.525		
12.700 (1/2)	LBB 8 UU	4	32	LBB 8 UU AJ	4	31.5	LBB 8 UU OP	3	28	1/2 12.700	0	0
15.875 (5/8)	LBB 10 UU	4	65	LBB 10 UU AJ	4	64	LBB 10 UU OP	3	54	5/8 15.875	−8	−13
19.050 (3/4)	LBB 12 UU	5	80	LBB 12 UU AJ	5	79	LBB 12 UU OP	4	69	3/4 19.050		
25.400 (1)	LBB 16 UU	5	148	LBB 16 UU AJ	5	145	LBB 16 UU OP	4	128	1 25.400		
31.750 (1 1/4)	LBB 20 UU	6	325	LBB 20 UU AJ	6	320	LBB 20 UU OP	5	290	1 1/4 31.750	0	0
38.100 (1 1/2)	LBB 24 UU	6	535	LBB 24 UU AJ	6	530	LBB 24 UU OP	5	475	1 1/2 38.100	−10	−15
50.800 (2)	LBB 32 UU	6	1 040	LBB 32 UU AJ	6	1 030	LBB 32 UU OP	5	920	2 50.800		0 −20

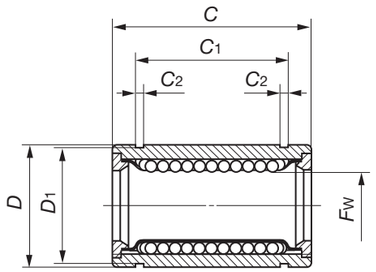
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

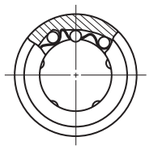
Nominal dimensions and tolerances mm: D	Tolerance μm	C	Tolerance μm	C1(1)	Tolerance μm	C2	D1	h	E	α Degree	Eccentricity Max. μm Pre-cision	Eccentricity Max. μm High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C0: Load direction A N	Basic static load rating C0: Load direction B N
1/2 12.700		3/4 19.050		12.98		0.99	12.04	—	—	—		12	80.0	64.9	156	156
5/8 15.875		7/8 22.225		16.15		0.99	15.16	—	—	—	8		117	134	227	320
7/8 22.225	0	1 1/4 31.750	0	24.46	0	1.17	21.21	1/16 1.588	5/16 7.938	50°		13	290	333	577	816
1 1/8 28.575	−10	1 1/2 38.100	−381	28.04	−200	1.42	27.30	3/32 2.381	3/8 9.525	60°			424	488	766	1 080
1 1/4 31.750		1 5/8 41.275		29.61		1.42	30.33	3/32 2.381	7/16 11.112	60°	9	14	608	724	1 150	1 680
1 9/16 39.688		2 1/4 57.150		44.53		1.73	37.85	3/32 2.381	9/16 14.288	60°	10	15	1 070	1 280	2 020	2 960
2 50.800	0	2 5/8 66.675	0	50.92	0	1.73	48.51	3/32 2.381	5/8 15.875	50°			1 920	2 030	3 570	4 570
2 3/8 60.325	−13	3 76.200	−508	61.26	−300	2.18	57.53	1/8 3.175	3/4 19.050	50°	11	17	2 460	2 610	4 330	5 540
3 76.200	0 −15	4 101.600		81.07		2.62	72.64	1/8 3.175	1 25.400	50°			3 960	4 190	7 140	9 130

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

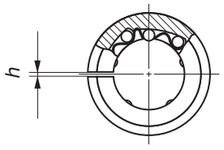
IKO Linear Bushing : Metric series

Standard type :	Adjustable clearance type :	Open type :
LM	LM··· AJ	LM··· OP
LM···N (Synthetic resin retainer)	LM···N AJ (Synthetic resin retainer)	LM···N OP (Synthetic resin retainer)

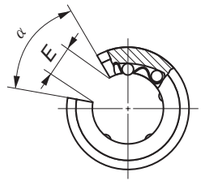




LM



LM···AJ



LM···OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
6	LM 61219	4	8.5	——	–	–	——	–	–
	LM 61219N	4	7.6	LM 61219N AJ	4	7.5			
8	LM 81517	4	11	——	–	–	——	–	–
	LM 81517N	4	10.4	LM 81517N AJ	4	10			
	LM 81524	4	17	——	–	–	——	–	–
	LM 81524N	4	15	LM 81524N AJ	4	14.7			
10	LM 101929	4	36	——	–	–	——	–	–
	LM 101929N	4	29.5	LM 101929N AJ	4	29	LM 101929N OP	3	23
12	LM 122130	4	42	LM 122130 AJ	4	41	LM 122130 OP	3	32
	LM 122130N	4	31.5	LM 122130N AJ	4	31	LM 122130N OP	3	25
13	LM 132332	4	49	LM 132332 AJ	4	48	LM 132332 OP	3	37.5
	LM 132332N	4	43	LM 132332N AJ	4	42	LM 132332N OP	3	34
16	LM 162837	4	78	LM 162837 AJ	4	77	LM 162837 OP	3	60
	LM 162837N	4	69.5	LM 162837N AJ	4	68	LM 162837N OP	3	52
20	LM 203242	5	100	LM 203242 AJ	5	98	LM 203242 OP	4	85
	LM 203242N	5	98	LM 203242N AJ	5	95	LM 203242N OP	4	69
25	LM 254059	6	260	LM 254059 AJ	6	255	LM 254059 OP	5	220
	LM 254059N	6	220	LM 254059N AJ	6	216	LM 254059N OP	5	188
30	LM 304564	6	290	LM 304564 AJ	6	285	LM 304564 OP	5	245
	LM 304564N	6	250	LM 304564N AJ	6	245	LM 304564N OP	5	210
35	LM 355270	6	425	LM 355270 AJ	6	420	LM 355270 OP	5	355
	LM 355270N	6	390	LM 355270N AJ	6	384	LM 355270N OP	5	335
40	LM 406080	6	675	LM 406080 AJ	6	665	LM 406080 OP	5	575
	LM 406080N	6	585	LM 406080N AJ	6	579	LM 406080N OP	5	500
50	LM 5080100	6	1 740	LM 5080100 AJ	6	1 720	LM 5080100 OP	5	1 480
	LM 5080100N	6	1 580	LM 5080100N AJ	6	1 560	LM 5080100N OP	5	1 340

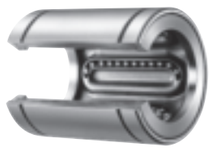
Nominal dimensions and tolerances mm: F_w	Tolerance μm: Precision	High	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm: Precision	High	Basic dynamic load rating C: Load direction A N	Load direction B N	Basic static load rating C_0: Load direction A N	Load direction B N
6			12		19		13.5		1.1	11.5	– 1	–	–			80.7	92.7	167	237
8			15	0 −11	17		11.5		1.1	14.3	– 1	–	–			87.4	100	160	226
8			15		24		17.5		1.1	14.3	– 1	–	–			121	139	255	361
10	0 −6	0 −9	19		29	0 −200	22	0 −200	1.3	18	– 1	– 6.8	– 80	8	12	179	206	354	501
12			21	0 −13	30		23		1.3	20	1.5	8	80			259	298	503	711
13			23		32		23		1.3	22	1.5	9	80			266	306	506	716
16			28		37		26.5		1.6	27	1.5	11	80			426	489	766	1 080
20			32		42		30.5		1.6	30.5	1.5	11	60			562	668	1 010	1 470
25	0 −7	0 −10	40	0 −16	59		41		1.85	38	2	12	50	10	15	920	974	1 780	2 280
30			45		64		44.5		1.85	43	2.5	15	50			1 350	1 430	2 500	3 200
35	0 −8	0 −12	52	0 −19	70	0 −300	49.5	0 −300	2.1	49	2.5	17	50	12	20	1 610	1 710	3 080	3 940
40			60		80		60.5		2.1	57	3	20	50			2 030	2 150	3 620	4 640
50			80		100		74		2.6	76.5	3	25	50			3 940	4 180	7 130	9 120

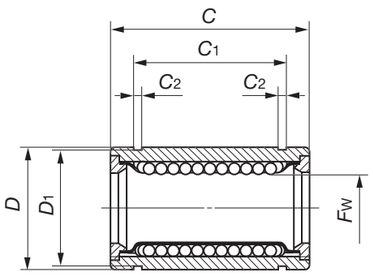
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark 1 : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.
2 : The end plate for the standard type and the adjustable clearance type with a shaft diameter of 40 mm or less is fixed using a stop ring for hole.

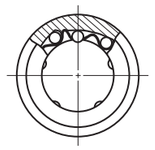
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

IKO Linear Bushing : Metric series

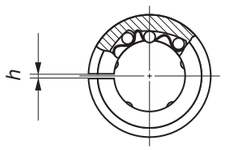
Standard type :	Adjustable clearance type :	Open type :
LM	**LM··· AJ**	**LM··· OP**
LM···N (Synthetic resin retainer)	**LM···N AJ** (Synthetic resin retainer)	**LM···N OP** (Synthetic resin retainer)



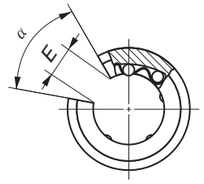




LM



LM···AJ



LM···OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
60	LM 6090110	6	2 000	LM 6090110 AJ	6	1 980	LM 6090110 OP	5	1 700
	LM 6090110N	6	1 860	LM 6090110N AJ	6	1 820	LM 6090110N OP	5	1 610
80	LM 80120140	6	4 480	LM 80120140 AJ	6	4 440	LM 80120140 OP	5	3 810
100	LM 100150175	6	9 620	LM 100150175 AJ	6	9 540	LM 100150175 OP	5	8 180
120	LM 120180200	8	15 000	LM 120180200 AJ	8	14 900	LM 120180200 OP	6	11 600
150	LM 150210240	8	20 300	LM 150210240 AJ	8	20 200	LM 150210240 OP	6	15 700

Nominal dimensions and tolerances mm: F_W	Tolerance μm: Precision	Tolerance μm: High	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C N: Load direction A	Basic dynamic load rating C N: Load direction B	Basic static load rating C_0 N: Load direction A	Basic static load rating C_0 N: Load direction B
60	0	0	90	0	110	0	85	0	3.15	86.5	3	30	50	17	25	4 760	5 040	8 150	10 400
80	−9	−15	120	−22	140	−300	105.5	−300	4.15	116	3	40	50			8 710	9 220	14 500	18 500
100	0	0	150	0	175	0	125.5	0	4.15	145	3	50	50	20	30	14 500	15 300	22 800	29 200
120	−10	−20	180	−25	200	−400	158.6	−400	4.15	175	4	85	80			25 800	25 500	44 300	49 400
150	0	0	210	0	240		170.6		5.15	204	4	105	80	25	40	35 600	35 100	61 200	68 200
	−13	−25		−29															

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

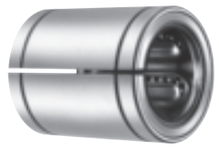
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

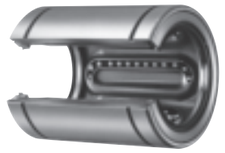
IKO Linear Bushing with Seals : Metric series

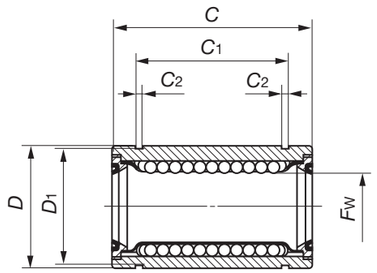
Standard type :
LM··· UU
LM···N UU (Synthetic resin retainer)

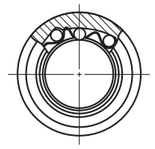
Adjustable clearance type :
LM··· UU AJ
LM···N UU AJ (Synthetic resin retainer)

Open type :
LM··· UU OP
LM···N UU OP (Synthetic resin retainer)

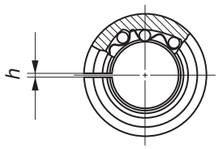




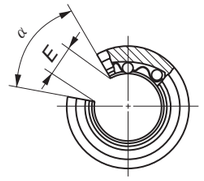




LM···UU



LM···UU AJ



LM···UU OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
6	LM 61219 UU	4	8.5	——	–	–	——	–	–
	LM 61219N UU	4	7.6	LM 61219N UU AJ	4	7.5			
8	LM 81517 UU	4	11	——	–	–	——	–	–
	LM 81517N UU	4	10.4	LM 81517N UU AJ	4	10			
	LM 81524 UU	4	17	——	–	–	——	–	–
	LM 81524N UU	4	15	LM 81524N UU AJ	4	14.7			
10	LM 101929 UU	4	31	——	–	–	——	–	–
	LM 101929N UU	4	29.5	LM 101929N UU AJ	4	29	LM 101929N UU OP	3	23
12	LM 122130 UU	4	41	LM 122130 UU AJ	4	40	LM 122130 UU OP	3	31
	LM 122130N UU	4	31.5	LM 122130N UU AJ	4	31	LM 122130N UU OP	3	25
13	LM 132332 UU	4	49	LM 132332 UU AJ	4	48	LM 132332 UU OP	3	37.5
	LM 132332N UU	4	43	LM 132332N UU AJ	4	42	LM 132332N UU OP	3	34
16	LM 162837 UU	4	78	LM 162837 UU AJ	4	77	LM 162837 UU OP	3	60
	LM 162837N UU	4	69.5	LM 162837N UU AJ	4	68	LM 162837N UU OP	3	52
20	LM 203242 UU	5	100	LM 203242 UU AJ	5	98	LM 203242 UU OP	4	85
	LM 203242N UU	5	98	LM 203242N UU AJ	5	95	LM 203242N UU OP	4	69
25	LM 254059 UU	6	260	LM 254059 UU AJ	6	255	LM 254059 UU OP	5	220
	LM 254059N UU	6	220	LM 254059N UU AJ	6	216	LM 254059N UU OP	5	188
30	LM 304564 UU	6	290	LM 304564 UU AJ	6	285	LM 304564 UU OP	5	245
	LM 304564N UU	6	250	LM 304564N UU AJ	6	245	LM 304564N UU OP	5	210
35	LM 355270 UU	6	410	LM 355270 UU AJ	6	405	LM 355270 UU OP	5	346
	LM 355270N UU	6	390	LM 355270N UU AJ	6	384	LM 355270N UU OP	5	335
40	LM 406080 UU	6	675	LM 406080 UU AJ	6	665	LM 406080 UU OP	5	575
	LM 406080N UU	6	585	LM 406080N UU AJ	6	579	LM 406080N UU OP	5	500
50	LM 5080100 UU	6	1 740	LM 5080100 UU AJ	6	1 720	LM 5080100 UU OP	5	1 480
	LM 5080100N UU	6	1 580	LM 5080100N UU AJ	6	1 560	LM 5080100N UU OP	5	1 340

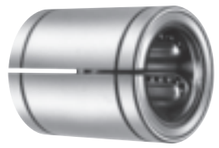
Nominal dimensions and tolerances mm: F_w	Tolerance μm: Precision	Tolerance μm: High	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C_0: Load direction A N	Basic static load rating C_0: Load direction B N
6			12		19		13.5		1.1	11.5	– 1	–	–			80.7	92.7	167	237
8			15	0 −11	17		11.5		1.1	14.3	– 1	–	–			87.4	100	160	226
8			15		24		17.5		1.1	14.3	– 1	–	–			121	139	255	361
10	0 −6	0 −9	19		29	0 −200	22	0 −200	1.3	18	– 1	– 6.8	– 80	8	12	179	206	354	501
12			21	0 −13	30		23		1.3	20	1.5	8	80			259	298	503	711
13			23		32		23		1.3	22	1.5	9	80			266	306	506	716
16			28		37		26.5		1.6	27	1.5	11	80			426	489	766	1 080
20			32		42		30.5		1.6	30.5	1.5	11	60			562	668	1 010	1 470
25	0 −7	0 −10	40	0 −16	59		41		1.85	38	2	12	50	10	15	920	974	1 780	2 280
30			45		64		44.5		1.85	43	2.5	15	50			1 350	1 430	2 500	3 200
35			52		70	0 −300	49.5	0 −300	2.1	49	2.5	17	50			1 610	1 710	3 080	3 940
40	0 −8	0 −12	60	0 −19	80		60.5		2.1	57	3	20	50	12	20	2 030	2 150	3 620	4 640
50			80		100		74		2.6	76.5	3	25	50			3 940	4 180	7 130	9 120

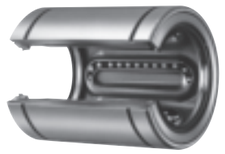
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark 1 : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.
2 : The end plate for the standard type and the adjustable clearance type with a shaft diameter of 40mm or less is fixed using a stop ring for hole.

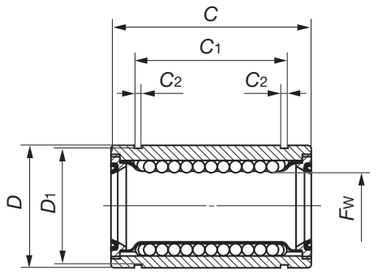
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

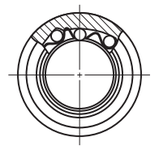
IKO Linear Bushing with Seals : Metric series

Standard type :	Adjustable clearance type :	Open type :
LM··· UU	LM··· UU AJ	LM··· UU OP
LM···N UU (Synthetic resin retainer)	LM···N UU AJ (Synthetic resin retainer)	LM···N UU OP (Synthetic resin retainer)

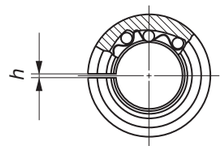




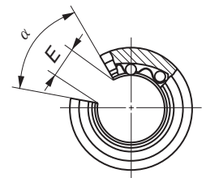




LM···UU



LM···UU AJ



LM···UU OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
60	LM 6090110 UU	6	2 000	LM 6090110 UU AJ	6	1 980	LM 6090110 UU OP	5	1 700
	LM 6090110N UU	6	1 860	LM 6090110N UU AJ	6	1 820	LM 6090110N UU OP	5	1 610
80	LM 80120140 UU	6	4 480	LM 80120140 UU AJ	6	4 440	LM 80120140 UU OP	5	3 810
100	LM 100150175 UU	6	9 620	LM 100150175 UU AJ	6	9 540	LM 100150175 UU OP	5	8 180
120	LM 120180200 UU	8	14 700	LM 120180200 UU AJ	8	14 600	LM 120180200 UU OP	6	11 400
150	LM 150210240 UU	8	19 900	LM 150210240 UU AJ	8	19 800	LM 150210240 UU OP	6	15 400

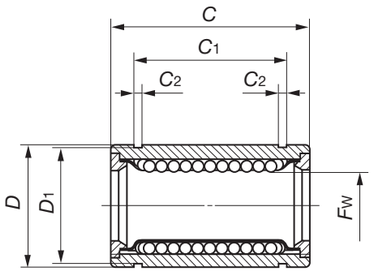
Shaft diameter mm	Nominal dimensions and tolerances mm: Fw	Tolerance μm: Precision	Tolerance μm: High	D	Tolerance μm	C	Tolerance μm	C1(1)	Tolerance μm	C2	D1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C0: Load direction A N	Basic static load rating C0: Load direction B N
60	60	0	0	90	0	110	0	85	0	3.15	86.5	3	30	50	17	25	4 760	5 040	8 150	10 400
	80	−9	−15	120	−22	140	−300	105.5	−300	4.15	116	3	40	50			8 710	9 220	14 500	18 500
100	100	0	0	150	0	175	0	125.5	0	4.15	145	3	50	50	20	30	14 500	15 300	22 800	29 200
120	120	−10	−20	180	−25	200	−400	158.6	−400	4.15	175	4	85	80			25 800	25 500	44 300	49 400
150	150	0	0	210	0	240		170.6		5.15	204	4	105	80	25	40	35 600	35 100	61 200	68 200

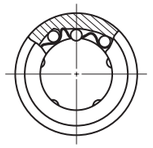
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

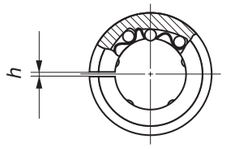
IKO Linear Bushing : Metric series

Standard type :	Adjustable clearance type :	Open type :
LME	LME··· AJ	LME··· OP
LME···N (Synthetic resin retainer)	LME···N AJ (Synthetic resin retainer)	LME···N OP (Synthetic resin retainer)

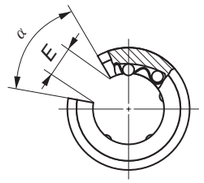




LME



LME···AJ



LME···OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
5	LME 51222N	4	10	LME 51222N AJ	4	9.5	——	–	–
8	LME 81625	4	22.5	——	–	–	——	–	–
	LME 81625N	4	20	LME 81625N AJ	4	19			
12	LME 122232	4	45.5	LME 122232 AJ	4	44.5	LME 122232 OP	3	35
	LME 122232N	4	41	LME 122232N AJ	4	40	LME 122232N OP	3	32
16	LME 162636	4	59	LME 162636 AJ	4	58	LME 162636 OP	3	45
	LME 162636N	4	56.5	LME 162636N AJ	4	54.5	LME 162636N OP	3	44
20	LME 203245	5	105	LME 203245 AJ	5	100	LME 203245 OP	4	84
	LME 203245N	5	92	LME 203245N AJ	5	90	LME 203245N OP	4	75
25	LME 254058	6	240	LME 254058 AJ	6	235	LME 254058 OP	5	200
	LME 254058N	6	220	LME 254058N AJ	6	215	LME 254058N OP	5	181
30	LME 304768	6	360	LME 304768 AJ	6	355	LME 304768 OP	5	300
	LME 304768N	6	325	LME 304768N AJ	6	320	LME 304768N OP	5	272
40	LME 406280	6	800	LME 406280 AJ	6	790	LME 406280 OP	5	670
	LME 406280N	6	705	LME 406280N AJ	6	694	LME 406280N OP	5	600
50	LME 5075100	6	1 260	LME 5075100 AJ	6	1 250	LME 5075100 OP	5	1 060
	LME 5075100N	6	1 130	LME 5075100N AJ	6	1 110	LME 5075100N OP	5	970
60	LME 6090125	6	2 270	LME 6090125 AJ	6	2 240	LME 6090125 OP	5	1 900
	LME 6090125N	6	1 860	LME 6090125N AJ	6	1 820	LME 6090125N OP	5	1 610
80	LME 80120165	6	5 140	LME 80120165 AJ	6	5 100	LME 80120165 OP	5	4 350

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.

F_w	Tolerance μm	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm	Basic dynamic load rating C Load direction A N	Basic dynamic load rating C Load direction B N	Basic static load rating C_0 Load direction A N	Basic static load rating C_0 Load direction B N
5	+8 0	12	0 −8	22	0 −200	14.5	0 −200	1.1	11.5	1	–	–	12	90.8	104	219	310
8		16		25		16.5		1.1	15.2	– 1	–	–		121	139	255	361
12		22	0 −9	32		22.9		1.3	21	1.5	7.5	78		259	298	503	711
16	+9 −1	26		36		24.9		1.3	24.9	1.5	10	78		283	325	514	726
20		32		45		31.5		1.6	30.3	2	10	60		562	668	1 010	1 470
25	+11 −1	40	0 −11	58	0 −300	44.1	0 −300	1.85	37.5	2	12.5	60	15	920	974	1 780	2 280
30		47		68		52.1		1.85	44.5	2	12.5	50		1 350	1 430	2 500	3 200
40	+13 −2	62	0 −13	80		60.6		2.15	59	3	16.8	50	17	2 030	2 150	3 620	4 640
50		75		100		77.6		2.65	72	3	21	50		3 940	4 180	7 130	9 120
60	+16 −4	90	0 −15	125	0 −400	101.7	0 −400	3.15	86.5	3	27.2	54	20	4 760	5 040	8 150	10 400
80		120		165		133.7		4.15	116	3	36.3	54		8 710	9 220	14 500	18 500

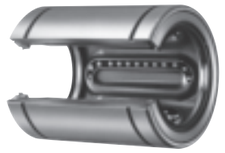
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

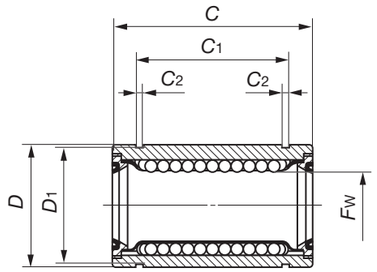
IKO Linear Bushing with Seals : Metric series

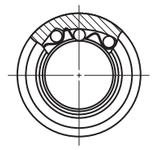
Standard type :
LME··· UU
LME···N UU (Synthetic resin retainer)

Adjustable clearance type :
LME··· UU AJ
LME···N UU AJ (Synthetic resin retainer)

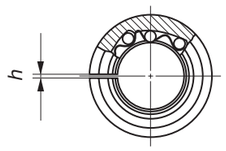
Open type :
LME··· UU OP
LME···N UU OP (Synthetic resin retainer)



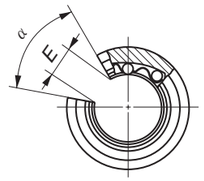




LME···UU



LME···UU AJ



LME···UU OP

Shaft diameter mm	Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
5	LME 51222N UU	4	10	LME 51222N UU AJ	4	9.5	——	–	–
8	LME 81625 UU	4	22	——	–	–	——	–	–
	LME 81625N UU	4	20	LME 81625N UU AJ	4	19			
12	LME 122232 UU	4	45.5	LME 122232 UU AJ	4	44.5	LME 122232 UU OP	3	35
	LME 122232N UU	4	41	LME 122232N UU AJ	4	40	LME 122232N UU OP	3	32
16	LME 162636 UU	4	59	LME 162636 UU AJ	4	58	LME 162636 UU OP	3	45
	LME 162636N UU	4	56.5	LME 162636N UU AJ	4	54.5	LME 162636N UU OP	3	44
20	LME 203245 UU	5	105	LME 203245 UU AJ	5	100	LME 203245 UU OP	4	84
	LME 203245N UU	5	92	LME 203245N UU AJ	5	90	LME 203245N UU OP	4	75
25	LME 254058 UU	6	240	LME 254058 UU AJ	6	235	LME 254058 UU OP	5	200
	*LME 254058N UU	6	220	*LME 254058N UU AJ	6	215	*LME 254058N UU OP	5	181
30	LME 304768 UU	6	360	LME 304768 UU AJ	6	355	LME 304768 UU OP	5	300
	LME 304768N UU	6	325	LME 304768N UU AJ	6	320	LME 304768N UU OP	5	272
40	LME 406280 UU	6	800	LME 406280 UU AJ	6	790	LME 406280 UU OP	5	670
	LME 406280N UU	6	705	LME 406280N UU AJ	6	694	LME 406280N UU OP	5	600
50	LME 5075100 UU	6	1 260	LME 5075100 UU AJ	6	1 250	LME 5075100 UU OP	5	1 060
	LME 5075100N UU	6	1 130	LME 5075100N UU AJ	6	1 110	LME 5075100N UU OP	5	970
60	LME 6090125 UU	6	2 270	LME 6090125 UU AJ	6	2 240	LME 6090125 UU OP	5	1 900
	LME 6090125N UU	6	2 050	LME 6090125N UU AJ	6	2 000	LME 6090125N UU OP	5	1 580
80	LME 80120165 UU	6	5 140	LME 80120165 UU AJ	6	5 100	LME 80120165 UU OP	5	4 350

Model number

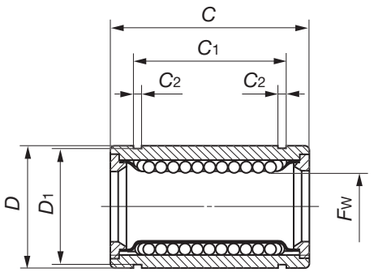
Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : Seals of the Linear Bushings marked with an asterisk (*) protrude a little from the end face of external cylinder.

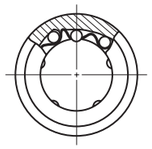
Nominal dimensions and tolerances mm													Eccentricity	Basic dynamic load rating C		Basic static load rating C0	
F_w	Tolerance μm	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Max. μm	Load direction A N	Load direction B N	Load direction A N	Load direction B N
5	+8 0	12	0 −8	22	0 −200	14.5	0 −200	1.1	11.5	1	–	–	12	90.8	104	219	310
8		16		25		16.5		1.1	15.2	– 1	–	–		121	139	255	361
12		22	0 −9	32		22.9		1.3	21	1.5	7.5	78		259	298	503	711
16	+9 −1	26		36		24.9		1.3	24.9	1.5	10	78		283	325	514	726
20		32		45		31.5		1.6	30.3	2	10	60		562	668	1 010	1 470
25	+11 −1	40	0 −11	58	0 −300	44.1	0 −300	1.85	37.5	2	12.5	60	15	920	974	1 780	2 280
30		47		68		52.1		1.85	44.5	2	12.5	50		1 350	1 430	2 500	3 200
40	+13 −2	62	0 −13	80		60.6		2.15	59	3	16.8	50	17	2 030	2 150	3 620	4 640
50		75		100		77.6		2.65	72	3	21	50		3 940	4 180	7 130	9 120
60	+16 −4	90	0 −15	125	0 −400	101.7	0 −400	3.15	86.5	3	27.2	54	20	4 760	5 040	8 150	10 400
80		120		165		133.7		4.15	116	3	36.3	54		8 710	9 220	14 500	18 500

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

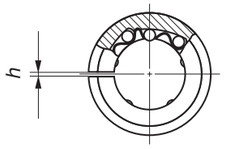
IKO Linear Bushing : Inch series

Standard type :	Adjustable clearance type :	Open type :
LMB	LMB··· AJ	LMB··· OP
LMB···N (Synthetic resin retainer)	LMB···N AJ (Synthetic resin retainer)	LMB···N OP (Synthetic resin retainer)

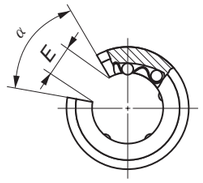




LMB



LMB···AJ



LMB···OP

Shaft diameter mm (inch)	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
6.350 (1/4)	LMB 4812	3	9.1	——	–	–	——	–	–
	LMB 4812N	4	8.5	LMB 4812N AJ	4	8.0			
9.525 (3/8)	LMB 61014	4	27.5	——	–	–	——	–	–
	LMB 61014N	4	12.5	LMB 61014N AJ	4	12			
12.700 (1/2)	LMB 81420	4	44	LMB 81420 AJ	4	43	LMB 81420 OP	3	33.5
	LMB 81420N	4	40	LMB 81420N AJ	4	38	LMB 81420N OP	3	28
15.875 (5/8)	LMB 101824	4	85	LMB 101824 AJ	4	83	LMB 101824 OP	3	64
	LMB 101824N	4	76	LMB 101824N AJ	4	74	LMB 101824N OP	3	57
19.050 (3/4)	LMB 122026	5	98	LMB 122026 AJ	5	96	LMB 122026 OP	4	81
	LMB 122026N	5	95	LMB 122026N AJ	5	93	LMB 122026N OP	4	76
25.400 (1)	LMB 162536	6	220	LMB 162536 AJ	6	218	LMB 162536 OP	5	190
	LMB 162536N	6	200	LMB 162536N AJ	6	198	LMB 162536N OP	5	170
31.750 (1 1/4)	LMB 203242	6	490	LMB 203242 AJ	6	485	LMB 203242 OP	5	415
	LMB 203242N	6	440	LMB 203242N AJ	6	430	LMB 203242N OP	5	370
38.100 (1 1/2)	LMB 243848	6	730	LMB 243848 AJ	6	720	LMB 243848 OP	5	620
	LMB 243848N	6	670	LMB 243848N AJ	6	660	LMB 243848N OP	5	570
50.800 (2)	LMB 324864	6	1 530	LMB 324864 AJ	6	1 510	LMB 324864 OP	5	1 300
	LMB 324864N	6	1 140	LMB 324864N AJ	6	1 120	LMB 324864N OP	5	980
63.500 (2 1/2)	LMB 406080	6	2 400	LMB 406080 AJ	6	2 380	LMB 406080 OP	5	2 040
76.200 (3)	LMB 487296	6	4 400	LMB 487296 AJ	6	4 360	LMB 487296 OP	5	3 740
101.600 (4)	LMB 6496128	6	11 000	LMB 6496128 AJ	6	10 900	LMB 6496128 OP	5	9 350

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
(2) : The load rating for three rows of ball circuits is shown as a representative value.
Remark : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.

Nominal dimensions and tolerances mm: F_w	Tolerance μm: Precision	Tolerance μm: High	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C_0: Load direction A N	Basic static load rating C_0: Load direction B N
1/4 6.350	0 −6	0 −9	1/2 12.700	0 −11	3/4 19.050	0 −200	12.98	0 −200	0.992	11.906	– 1	–	–	8	12	(2) 82.6	(2) 67.0	(2) 168	(2) 168
3/8 9.525			5/8 15.875		7/8 22.225		16.15		0.992	14.935	– 1	–	–			94.8	109	174	246
1/2 12.700			7/8 22.225	0 −13	1 1/4 31.750		24.46		1.168	20.853	1.5	8.7	80			264	303	505	714
5/8 15.875			1 1/8 28.575		1 1/2 38.100		28.04		1.422	26.899	1.5	9.5	80			424	488	766	1 080
3/4 19.050	0 −7	0 −10	1 1/4 31.750	0 −16	1 5/8 41.275		29.61		1.422	29.870	1.5	10.7	60	10	15	554	659	1 000	1 470
1 25.400			1 9/16 39.688		2 1/4 57.150	0 −300	44.53	0 −300	1.727	37.306	1.5	11.8	50			923	978	1 780	2 280
1 1/4 31.750	0 −8	0 −12	2 50.800	0 −19	2 5/8 66.675		50.92		1.727	47.904	2.5	14.7	50	12	20	1 370	1 450	2 510	3 210
1 1/2 38.100			2 3/8 60.325		3 76.200		61.26		2.184	56.870	3	17.7	50			2 010	2 130	3 610	4 620
2 50.800			3 76.200	0 −22	4 101.600		81.07		2.616	72.085	3	24.7	50	17	25	3 960	4 190	7 140	9 130
2 1/2 63.500	0 −9	0 −15	3 3/4 95.250		5 127.000		100.99		3.048	90.220	3	29.5	50			5 190	5 490	9 090	11 600
3 76.200			4 1/2 114.300		6 152.400	0 −400	120.04	0 −400	3.048	109.474	3	39.6	50			8 620	9 120	14 500	18 500
4 101.600	0 −10	0 −20	6 152.400	0 −25	8 203.200		158.95		3.53	145.923	3	49.5	50	20	30	17 000	18 000	28 600	36 500

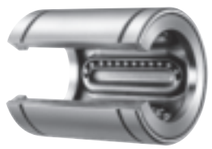
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

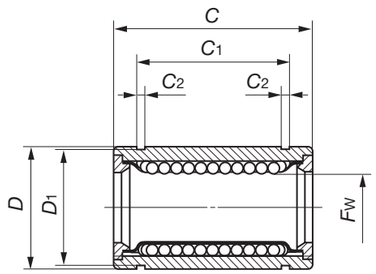
IKO Stainless Steel Linear Bushing : Metric series

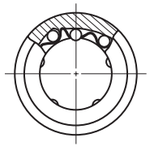
Standard type :
LM··· F
LM···N F (Synthetic resin retainer)

Adjustable clearance type :
LM··· F AJ
LM···N F AJ (Synthetic resin retainer)

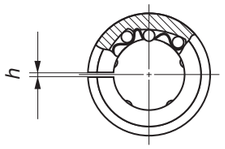
Open type :
LM··· F OP
LM···N F OP (Synthetic resin retainer)



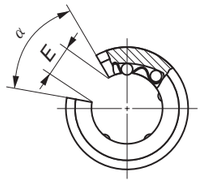




LM···F



LM···F AJ



LM···F OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
6	LM 61219 F	4	8.5	——	–	–	——	–	–
	LM 61219N F	4	7.6	LM 61219N F AJ	4	7.5			
8	LM 81517 F	4	11	——	–	–	——	–	–
	LM 81517N F	4	10.4	LM 81517N F AJ	4	10			
	LM 81524 F	4	17	——	–	–	——	–	–
	LM 81524N F	4	15	LM 81524N F AJ	4	14.7			
10	LM 101929 F	4	36	——	–	–	——	–	–
	LM 101929N F	4	29.5	LM 101929N F AJ	4	29	LM 101929N F OP	3	23
12	LM 122130 F	4	42	LM 122130 F AJ	4	41	LM 122130 F OP	3	32
	LM 122130N F	4	31.5	LM 122130N F AJ	4	31	LM 122130N F OP	3	25
13	LM 132332 F	4	49	LM 132332 F AJ	4	48	LM 132332 F OP	3	37.5
	LM 132332N F	4	43	LM 132332N F AJ	4	42	LM 132332N F OP	3	34
16	LM 162837 F	4	78	LM 162837 F AJ	4	77	LM 162837 F OP	3	60
	LM 162837N F	4	69.5	LM 162837N F AJ	4	68	LM 162837N F OP	3	52
20	LM 203242 F	5	100	LM 203242 F AJ	5	98	LM 203242 F OP	4	85
	LM 203242N F	5	98	LM 203242N F AJ	5	95	LM 203242N F OP	4	69
25	LM 254059 F	6	260	LM 254059 F AJ	6	255	LM 254059 F OP	5	220
	LM 254059N F	6	220	LM 254059N F AJ	6	216	LM 254059N F OP	5	188
30	LM 304564 F	6	290	LM 304564 F AJ	6	285	LM 304564 F OP	5	245
	LM 304564N F	6	250	LM 304564N F AJ	6	245	LM 304564N F OP	5	210
35	LM 355270 F	6	410	LM 355270 F AJ	6	405	LM 355270 F OP	5	346
	LM 355270N F	6	390	LM 355270N F AJ	6	384	LM 355270N F OP	5	335
40	LM 406080 F	6	654	LM 406080 F AJ	6	640	LM 406080 F OP	5	546
	LM 406080N F	6	585	LM 406080N F AJ	6	579	LM 406080N F OP	5	500
50	LM 5080100 F	6	1 700	LM 5080100 F AJ	6	1 680	LM 5080100 F OP	5	1 420
	LM 5080100N F	6	1 580	LM 5080100N F AJ	6	1 560	LM 5080100N F OP	5	1 340
60	LM 6090110 F	6	2 000	LM 6090110 F AJ	6	1 980	LM 6090110 F OP	5	1 650
	LM 6090110N F	6	1 860	LM 6090110N F AJ	6	1 820	LM 6090110N F OP	5	1 610

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.

Nominal dimensions and tolerances mm: F_w	Tolerance μm: Precision	Tolerance μm: High	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C0: Load direction A N	Basic static load rating C0: Load direction B N
6	0	0	12	0	19	0	13.5	0	1.1	11.5	–	–	–	8	12	80.7	92.7	167	237
8	– 6	– 9	15	–11	17	–200	11.5	–200	1.1	14.3	1	–	–			87.4	100	160	226
8			15		24		17.5		1.1	14.3	– 1	–	–			121	139	255	361
10			19		29		22		1.3	18	– 1	– 8	– 80			179	206	354	501
12			21	0	30		23		1.3	20	1.5	8	80			259	298	503	711
13			23	–13	32		23		1.3	22	1.5	9	80			266	306	506	716
16			28		37		26.5		1.6	27	1.5	11	80			426	489	766	1 080
20	0	0	32	0	42		30.5		1.6	30.5	1.5	11	60	10	15	562	668	1 010	1 470
25	– 7	–10	40	–16	59		41		1.85	38	2	12	50			920	974	1 780	2 280
30			45		64		44.5		1.85	43	2.5	15	50			1 350	1 430	2 500	3 200
35			52		70	0	49.5	0	2.1	49	2.5	17	50			1 610	1 710	3 080	3 940
40	0	0	60	0	80	–300	60.5	–300	2.1	57	3	20	50	12	20	2 030	2 150	3 620	4 640
50	– 8	–12	80	–19	100		74		2.6	76.5	3	25	50			3 940	4 180	7 130	9 120
60	0	0	90	0	110		85		3.15	86.5	3	30	50	17	25	4 760	5 040	8 150	10 400
	– 9	–15		–22															

Remark 1 : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.
2 : The end plate for the standard type and the adjustable clearance type with a shaft diameter of 40 mm or less is fixed using a stop ring for hole.

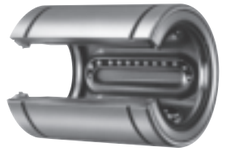
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

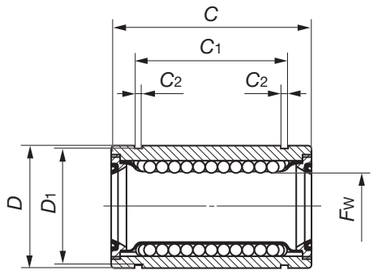
IKO Stainless Steel Linear Bushing with Seals : Metric series

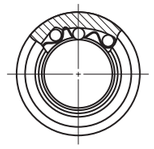
Standard type :
LM··· F UU
LM···N F UU (Synthetic resin retainer)

Adjustable clearance type :
LM··· F UU AJ
LM···N F UU AJ (Synthetic resin retainer)

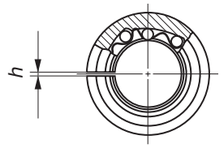
Open type :
LM··· F UU OP
LM···N F UU OP (Synthetic resin retainer)



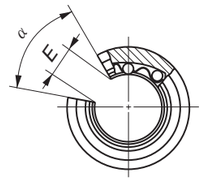




LM···FUU



LM···FUU AJ



LM···FUU OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
6	LM 61219 F UU	4	8.5	——	–	–	——	–	–
	LM 61219N F UU	4	7.6	LM 61219N F UU AJ	4	7.5			
8	LM 81517 F UU	4	11	——	–	–	——	–	–
	LM 81517N F UU	4	10.4	LM 81517N F UU AJ	4	10			
	LM 81524 F UU	4	17	——	–	–	——	–	–
	LM 81524N F UU	4	15	LM 81524N F UU AJ	4	14.7			
10	LM 101929 F UU	4	31	——	–	–	——	–	–
	LM 101929N F UU	4	29.5	LM 101929N F UU AJ	4	29	LM 101929N F UU OP	3	23
12	LM 122130 F UU	4	41	LM 122130 F UU AJ	4	40	LM 122130 F UU OP	3	32
	LM 122130N F UU	4	31.5	LM 122130N F UU AJ	4	31	LM 122130N F UU OP	3	25
13	LM 132332 F UU	4	49	LM 132332 F UU AJ	4	48	LM 132332 F UU OP	3	37.5
	LM 132332N F UU	4	43	LM 132332N F UU AJ	4	42	LM 132332N F UU OP	3	34
16	LM 162837 F UU	4	78	LM 162837 F UU AJ	4	77	LM 162837 F UU OP	3	60
	LM 162837N F UU	4	69.5	LM 162837N F UU AJ	4	68	LM 162837N F UU OP	3	52
20	LM 203242 F UU	5	100	LM 203242 F UU AJ	5	98	LM 203242 F UU OP	4	85
	LM 203242N F UU	5	98	LM 203242N F UU AJ	5	95	LM 203242N F UU OP	4	69
25	LM 254059 F UU	6	260	LM 254059 F UU AJ	6	255	LM 254059 F UU OP	5	220
	LM 254059N F UU	6	220	LM 254059N F UU AJ	6	216	LM 254059N F UU OP	5	188
30	LM 304564 F UU	6	290	LM 304564 F UU AJ	6	285	LM 304564 F UU OP	5	245
	LM 304564N F UU	6	250	LM 304564N F UU AJ	6	245	LM 304564N F UU OP	5	210
35	LM 355270 F UU	6	410	LM 355270 F UU AJ	6	405	LM 355270 F UU OP	5	346
	LM 355270N F UU	6	390	LM 355270N F UU AJ	6	384	LM 355270N F UU OP	5	335
40	LM 406080 F UU	6	636	LM 406080 F UU AJ	6	622	LM 406080 F UU OP	5	546
	LM 406080N F UU	6	585	LM 406080N F UU AJ	6	579	LM 406080N F UU OP	5	500
50	LM 5080100 F UU	6	1 670	LM 5080100 F UU AJ	6	1 650	LM 5080100 F UU OP	5	1 410
	LM 5080100N F UU	6	1 580	LM 5080100N F UU AJ	6	1 560	LM 5080100N F UU OP	5	1 340
60	LM 6090110 F UU	6	1 930	LM 6090110 F UU AJ	6	1 910	LM 6090110 F UU OP	5	1 580
	LM 6090110N F UU	6	1 860	LM 6090110N F UU AJ	6	1 820	LM 6090110N F UU OP	5	1 610

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.

Shaft diameter mm	Nominal dimensions and tolerances mm: F_w	Tolerance μm: Precision	Tolerance μm: High	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm: Precision	Eccentricity Max. μm: High	Basic dynamic load rating C: Load direction A N	Basic dynamic load rating C: Load direction B N	Basic static load rating C0: Load direction A N	Basic static load rating C0: Load direction B N
6	6	0	0	12	0	19	0	13.5	0	1.1	11.5	–	–	–	8	12	80.7	92.7	167	237
8	8	−6	−9	15	−11	17	−200	11.5	−200	1.1	14.3	–	–	–			87.4	100	160	226
	8			15		24		17.5		1.1	14.3	–	–	–			121	139	255	361
10	10			19		29		22		1.3	18	–	–	–			179	206	354	501
12	12			21	0	30		23		1.3	20	1.5	8	80			259	298	503	711
13	13			23	−13	32		23		1.3	22	1.5	9	80			266	306	506	716
16	16			28		37		26.5		1.6	27	1.5	11	80			426	489	766	1 080
20	20	0	0	32	0	42		30.5		1.6	30.5	1.5	11	60	10	15	562	668	1 010	1 470
25	25	−7	−10	40	−16	59		41		1.85	38	2	12	50			920	974	1 780	2 280
30	30			45		64		44.5		1.85	43	2.5	15	50			1 350	1 430	2 500	3 200
35	35	0	0	52	0	70	0	49.5	0	2.1	49	2.5	17	50	12	20	1 610	1 710	3 080	3 940
40	40	−8	−12	60	−19	80	−300	60.5	−300	2.1	57	3	20	50			2 030	2 150	3 620	4 640
50	50			80		100		74		2.6	76.5	3	25	50			3 940	4 180	7 130	9 120
60	60	0	0	90	0	110		85		3.15	86.5	3	30	50	17	25	4 760	5 040	8 150	10 400

Remark 1 : In the tolerance and eccentricity columns, "Precision" refers to precision class and "High" refers to high class.
2 : The end plate for the standard type and the adjustable clearance type with a shaft diameter of 40 mm or less is fixed using a stop ring for hole.

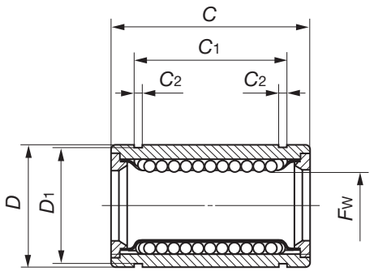
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

IKO Stainless Steel Linear Bushing : Metric series

Standard type :
LME··· F
LME···N F (Synthetic resin retainer)

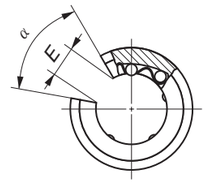
Adjustable clearance type :
LME··· F AJ
LME···N F AJ (Synthetic resin retainer)

Open type :
LME··· F OP
LME···N F OP (Synthetic resin retainer)



LME···F

LME···F AJ



LME···F OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
5	LME 51222N F	4	10	LME 51222N F AJ	4	9.5	——	–	–
8	LME 81625 F	4	22	——	–	–	——	–	–
	LME 81625N F	4	20	LME 81625N F AJ	4	19			
12	LME 122232 F	4	45.5	LME 122232 F AJ	4	44.5	LME 122232 F OP	3	35
	LME 122232N F	4	41	LME 122232N F AJ	4	40	LME 122232N F OP	3	32
16	LME 162636 F	4	59	LME 162636 F AJ	4	58	LME 162636 F OP	3	45
	LME 162636N F	4	56.5	LME 162636N F AJ	4	54.5	LME 162636N F OP	3	44
20	LME 203245 F	5	105	LME 203245 F AJ	5	100	LME 203245 F OP	4	84
	LME 203245N F	5	92	LME 203245N F AJ	5	90	LME 203245N F OP	4	75
25	LME 254058 F	6	240	LME 254058 F AJ	6	235	LME 254058 F OP	5	200
	LME 254058N F	6	220	LME 254058N F AJ	6	215	LME 254058N F OP	5	181
30	LME 304768 F	6	360	LME 304768 F AJ	6	355	LME 304768 F OP	5	300
	LME 304768N F	6	325	LME 304768N F AJ	6	320	LME 304768N F OP	5	272
40	LME 406280 F	6	770	LME 406280 F AJ	6	758	LME 406280 F OP	5	665
	LME 406280N F	6	705	LME 406280N F AJ	6	694	LME 406280N F OP	5	600
50	LME 5075100 F	6	1 250	LME 5075100 F AJ	6	1 230	LME 5075100 F OP	5	1 080
	LME 5075100N F	6	1 130	LME 5075100N F AJ	6	1 110	LME 5075100N F OP	5	970
60	LME 6090125 F	6	2 220	LME 6090125 F AJ	6	2 170	LME 6090125 F OP	5	1 900
	LME 6090125N F	6	2 050	LME 6090125N F AJ	6	2 000	LME 6090125N F OP	5	1 580

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.

Shaft diameter mm	Nominal dimensions and tolerances mm: F_w	Tolerance μm	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm	Basic dynamic load rating C: Load direction A N	Load direction B N	Basic static load rating C_0: Load direction A N	Load direction B N
5	5	+ 8 0	12	0 − 8	22	0 −200	14.5	0 −200	1.1	11.5	1	–	–	12	90.8	104	219	310
8			16		25		16.5		1.1	15.2	– 1	–	–		121	139	255	361
12			22	0 − 9	32		22.9		1.3	21	1.5	7.5	78		259	298	503	711
16		+ 9 − 1	26		36		24.9		1.3	24.9	1.5	10	78		283	325	514	726
20			32	0 −11	45		31.5		1.6	30.3	2	10	60	15	562	668	1 010	1 470
25		+11 − 1	40		58	0 −300	44.1	0 −300	1.85	37.5	2	12.5	60		920	974	1 780	2 280
30			47		68		52.1		1.85	44.5	2	12.5	50		1 350	1 430	2 500	3 200
40		+13 − 2	62	0 −13	80		60.6		2.15	59	3	16.8	50	17	2 030	2 150	3 620	4 640
50			75		100		77.6		2.65	72	3	21	50		3 940	4 180	7 130	9 120
60			90	0 −15	125	0 −400	101.7	0 −400	3.15	86.5	3	27.2	54	20	4 760	5 040	8 150	10 400

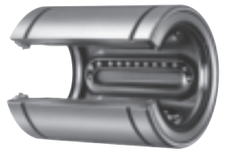
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

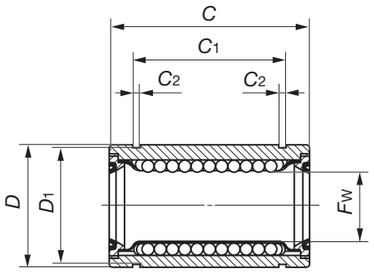
IKO Stainless Steel Linear Bushing with Seals : Metric series

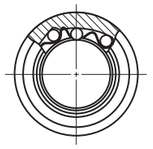
Standard type :
LME··· F UU
LME···N F UU (Synthetic resin retainer)

Adjustable clearance type :
LME··· F UU AJ
LME···N F UU AJ (Synthetic resin retainer)

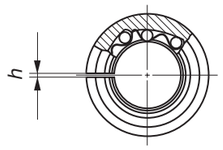
Open type :
LME··· F UU OP
LME···N F UU OP (Synthetic resin retainer)



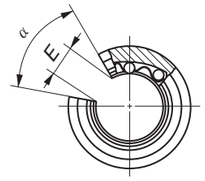




LME···F UU



LME···F UU AJ



LME···F UU OP

Shaft diameter mm	Model number: Standard type	Ball circuits	Mass (Ref.) g	Adjustable clearance type	Ball circuits	Mass (Ref.) g	Open type	Ball circuits	Mass (Ref.) g
5	LME 51222N F UU	4	10	LME 51222N F UU AJ	4	9.5	———	–	–
8	LME 81625 F UU	4	22	———	–	–	———	–	–
	LME 81625N F UU	4	20	LME 81625N F UU AJ	4	19			
12	LME 122232 F UU	4	45.5	LME 122232 F UU AJ	4	44.5	LME 122232 F UU OP	3	35
	LME 122232N F UU	4	41	LME 122232N F UU AJ	4	40	LME 122232N F UU OP	3	32
16	LME 162636 F UU	4	59	LME 162636 F UU AJ	4	58	LME 162636 F UU OP	3	45
	LME 162636N F UU	4	56.5	LME 162636N F UU AJ	4	54.5	LME 162636N F UU OP	3	44
20	LME 203245 F UU	5	105	LME 203245 F UU AJ	5	100	LME 203245 F UU OP	4	84
	LME 203245N F UU	5	92	LME 203245N F UU AJ	5	90	LME 203245N F UU OP	4	75
25	LME 254058 F UU	6	240	LME 254058 F UU AJ	6	235	LME 254058 F UU OP	5	200
	*LME 254058N F UU	6	220	*LME 254058N F UU AJ	6	215	*LME 254058N F UU OP	5	181
30	LME 304768 F UU	6	360	LME 304768 F UU AJ	6	355	LME 304768 F UU OP	5	300
	LME 304768N F UU	6	325	LME 304768N F UU AJ	6	320	LME 304768N F UU OP	5	272
40	LME 406280 F UU	6	752	LME 406280 F UU AJ	6	740	LME 406280 F UU OP	5	645
	LME 406280N F UU	6	705	LME 406280N F UU AJ	6	694	LME 406280N F UU OP	5	600
50	LME 5075100 F UU	6	1 210	LME 5075100 F UU AJ	6	1 190	LME 5075100 F UU OP	5	1 050
	LME 5075100N F UU	6	1 130	LME 5075100N F UU AJ	6	1 110	LME 5075100N F UU OP	5	970
60	LME 6090125 F UU	6	2 160	LME 6090125 F UU AJ	6	2 110	LME 6090125 F UU OP	5	1 850
	LME 6090125N F UU	6	2 050	LME 6090125N F UU AJ	6	2 000	LME 6090125N F UU OP	5	1 580

Note(1) : When circlips are used for mounting, the dimension C_1 minus twice the width of circlip becomes the width of hub.
Remark : Seals of the Linear Bushings marked with an asterisk (*) protrude a little from the end face of external cylinder.

Nominal dimensions and tolerances mm: F_w	Tolerance μm	D	Tolerance μm	C	Tolerance μm	C_1(1)	Tolerance μm	C_2	D_1	h	E	α Degree	Eccentricity Max. μm	Basic dynamic load rating C: Load direction A N	Load direction B N	Basic static load rating C_0: Load direction A N	Load direction B N
5	+8 0	12	0 −8	22	0 −200	14.5	0 −200	1.1	11.5	1	–	–	12	90.8	104	219	310
8		16		25		16.5		1.1	15.2	– 1	–	–		121	139	255	361
12		22	0 −9	32		22.9		1.3	21	1.5	7.5	78		259	298	503	711
16	+9 −1	26		36		24.9		1.3	24.9	1.5	10	78		283	325	514	726
20		32		45		31.5		1.6	30.3	2	10	60		562	668	1 010	1 470
25	+11 −1	40	0 −11	58	0 −300	44.1	0 −300	1.85	37.5	2	12.5	60	15	920	974	1 780	2 280
30		47		68		52.1		1.85	44.5	2	12.5	50		1 350	1 430	2 500	3 200
40	+13 −2	62	0 −13	80		60.6		2.15	59	3	16.8	50	17	2 030	2 150	3 620	4 640
50		75		100		77.6		2.65	72	3	21	50		3 940	4 180	7 130	9 120
60		90	0 −15	125	0 −400	101.7	0 −400	3.15	86.5	3	27.2	54	20	4 760	5 040	8 150	10 400

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch