

Linear Bushings (Lubrication Unit MX)

Single / Double / Flanged Single

Linear Bushings (Lubrication Unit MX) – Straight Single & Double

Type	Outer Cylinder		Balls	Pad Case / Retainer	Ambient Operating Temperature	Accessories
	Material	Hardness				
LMU-MX	52100 Bearing Steel	58 HRC min.	—	52100 Bearing Steel	Plastic (Duracon M90 Equivalent)	-20~80°C Seal Material Nitrile Rubber

Single Double

Pad Case Outer Diameter: D-0.2

Ⓢ No need to fill with grease prior to use because the product is already filled with Lithium soap-based grease in addition to the built-in lubrication unit.

Single Ⓢ For linear bushings, hardened shafts with g6 tolerance are recommended. P.202-288 are recommended.

Part Number	Type	dr	ToL.	D		L	L ₁	V	B	W	D ₁	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating			Mass (g)
				ToL.	Surface Treatment										C (Dynamic) N	Co (Static) N	Co (Static) N	
LMU-MX	10	0	19	0	39	29	0	5	19.4	1.3	18	0.4	0.012	4	372	549	76	35
	12	0	21	0	41	30	0	5.5	20.4	2.0	20	0.8	0.015	5	412	598	80	45
	16	-0.009	28	-0.013	49	37	-0.2	7	23.3	3.0	27	1.6	0.020	6	775	1180	127	80
	20	0	32	0	56	42	0	7	27.3	3.0	30.5	1.6	0.020	5	882	1370	109	109
	25	0	40	0	77	59	0	9	37.3	1.85	38	1.5	0.020	6	980	1570	255	255
	30	-0.010	45	-0.016	84	64	0	10	40.8	2.1	43	1.5	0.020	6	1570	2740	286	286
	35	0	52	0	92	70	0	11	45.3	2.1	49	1.5	0.020	6	1670	3140	453	453
	40	0	60	0	104	80	0	12	56.3	2.6	57	1.5	0.020	6	2160	4020	687	687
	40	-0.012	80	-0.019	128	100	0	14	68.8	2.6	76.5	1.5	0.020	6	3820	7940	1763	1763

Double

Part Number	Type	dr	ToL.	D		L	L ₁	V	B	W	D ₁	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating			Allowable Static Moment (MoN·m)	Mass (g)
				ToL.	Surface Treatment										C (Dynamic) N	Co (Static) N	Co (Static) N		
LMUW-MX	10	0	19	0	65	55	0	5	41.4	1.3	18	0.4	0.015	4	588	1100	7.24	66	
	12	0	21	0	68	57	0	5.5	43.4	1.6	20	0.8	0.015	5	657	1200	10.9	84	
	16	-0.010	28	-0.016	82	70	-0.3	6	49.8	1.6	27	0.8	0.020	6	1230	2350	19.7	152	
	20	0	32	0	94	80	0	7	57.8	1.85	30.5	1.5	0.020	5	1400	2740	26.8	191	
	25	0	40	0	130	112	0	9	78.3	2.1	38	1.5	0.025	6	1560	3140	43.4	459	
	30	-0.012	45	-0.019	143	123	0	10	85.3	2.1	43	1.5	0.025	6	2490	5490	82.8	504	
	35	0	52	0	157	135	-0.4	11	94.8	2.1	49	1.5	0.025	6	2650	6270	110	823	
	40	0	60	0	175	151	0	12	116.8	2.6	57	1.5	0.025	6	3430	8040	147	1203	
	40	-0.015	80	-0.022	220	192	0	14	142.8	2.6	76.5	1.5	0.025	6	6080	15900	397	3163	

Linear Bushings (Lubrication Unit MX) – Flanged Single Type

Type	Outer Cylinder			Balls	Pad Case / Retainer	Ambient Operating Temperature	Accessories
	Material	Hardness	Surface Treatment				
LHFR-MX	52100 Bearing Steel	58 HRC min.	—	52100 Bearing Steel	Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material Nitrile Rubber
LHFS-MX	52100 Bearing Steel	58 HRC min.	Electroless Nickel Plating	440C Stainless Steel Equivalent	Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material Nitrile Rubber

Round Flange Square Flange Compact Flange

Mounting Direction

Pad Case Outer Diameter: D-0.2

Ⓢ No need to fill with grease prior to use because the product is already filled with Lithium soap-based grease in addition to the built-in lubrication unit.

Part Number	Type	dr	ToL.	D		L	L ₁	V	H	T	d	d ₁	t	P.C.D.	W	F	A	Eccentricity	Rows of Balls	*Perpendicularity	Basic Load Rating			Mass (g)
				ToL.	Surface Treatment																C (Dynamic) N	Co (Static) N	Co (Static) N	
LHFR-MX LHFS-MX LHFC-MX LHFRM-MX LHFSM-MX LHFCM-MX	10	0	19	0	39	29	0	5	40	6	4.5	7.5	4.1	29	30	—	29	0.012	4	0.012	372	549	76	68
	12	0	21	0	41	30	0	5.5	42	6	4.5	7.5	4.1	32	32	—	32	0.015	5	0.015	412	598	80	72
	16	-0.009	28	-0.016	49	37	-0.2	7	48	8	5.5	9	5.1	38	37	22	31	0.020	6	0.020	775	1180	127	119
	20	0	32	0	56	42	0	7	54	10	6.6	11	6.1	43	42	24	36	0.020	5	0.020	882	1370	191	178
	25	0	40	0	77	59	0	9	62	11	6.6	11	6.1	51	50	32	40	0.025	6	0.025	980	1570	359	344
	30	-0.010	45	-0.016	84	64	0	10	74	13	9	14	8.1	60	58	35	49	0.025	6	0.025	1570	2740	494	412
	35	0	52	0	92	70	0	11	82	13	9	14	8.1	67	64	38	55	0.025	6	0.025	1670	3140	678	603
	40	0	60	0	104	80	0	12	96	13	9	14	8.1	78	75	45	64	0.025	6	0.025	2160	4020	1093	946
	40	-0.012	80	-0.022	128	100	0	14	116	14	9	14	8.1	98	92	56	80	0.025	6	0.025	3820	7940	2263	2100

Ⓢ For Precautions for Use, see P.369. Ⓢ Height-Adjusting Spacers for Flanged Bushings can be chosen from P.384.

*Perpendicularity of D part to flange mounting surface

Part Number Example
LMU-MX16
LHFR-MX12

Ⓢ Various Grease Application Services are not applicable.

Linear Bushings (Lubrication Unit MX)

Flanged Double / Center Flanged Double

Ⓢ Details of Lubrication Unit MX P.369.

Linear Bushings (Lubrication Unit MX) – Flanged Double

Type	Outer Cylinder			Balls	Pad Case / Retainer	Ambient Operating Temp.	Accessories
	Material	Hardness	Surface Treatment				
LHFRW-MX	52100 Bearing Steel	58 HRC min.	—	52100 Bearing Steel	Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material Nitrile Rubber
LHFSW-MX	52100 Bearing Steel	58 HRC min.	Electroless Nickel Plating	440C Stainless Steel Equivalent	Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material Nitrile Rubber

Round Flange Square Flange Compact Flange

Mounting Direction

Pad Case Outer Diameter: D-0.2

Ⓢ No need to fill with grease prior to use because the product is already filled with Lithium soap-based grease in addition to the built-in lubrication unit.

Part Number	Type	dr	ToL.	D		L	L ₁	V	H	T	d	d ₁	t	P.C.D.	W	F	A	Eccentricity	Rows of Balls	*Perpendicularity	Basic Load Rating			Allowable Static Moment (MoN·m)	Mass (g)
				ToL.	Surface Treatment																C (Dynamic) N	Co (Static) N	Co (Static) N		
LHFRW-MX LHFSW-MX LHFCW-MX LHFRWM-MX LHFSWM-MX LHFCWM-MX	10	0	19	0	65	55	0	5	40	6	4.5	7.5	4.1	29	30	—	29	0.015	4	0.015	588	1100	7.24	66	
	12	0	21	0	68	57	0	5.5	42	6	4.5	7.5	4.1	32	32	—	32	0.015	5	0.015	657	1200	10.9	84	
	16	-0.010	28	-0.016	82	70	-0.3	6	48	8	5.5	9	5.1	38	37	22	31	0.020	6	0.020	1230	2350	19.7	152	
	20	0	32	0	94	80	0	7	54	10	6.6	11	6.1	43	42	24	36	0.020	5	0.020	1400	2740	26.8	191	
	25	0	40	0	130	112	0	9	62	11	6.6	11	6.1	51	50	32	40	0.025	6	0.025	1560	3140	43.4	459	
	30	-0.012	45	-0.019	143	123	0	10	74	13	9	14	8.1	60	58	35	49	0.025	6	0.025	2490	5490	82.8	504	
	35	0	52	0	157	135	-0.4	11	82	13	9	14	8.1	67	64	38	55	0.025	6	0.025	2650	6270	110	823	
	40	0	60	0	175	151	0	12	96	13	9	14	8.1	78	75	45	64	0.025	6	0.025	3430	8040	147	1203	
	40	-0.015	80	-0.022	220	192	0	14	116	14	9	14	8.1	98	92	56	80	0.025	6	0.025	6080	15900	397	3163	

Ⓢ For Precautions for Use, see P.369. Ⓢ Height-Adjusting Spacers for Flanged Bushings can be chosen from P.384.

*Perpendicularity of D to flange mounting surface

Linear Bushings (Lubrication Unit MX) – Center Flanged Double

Type	Outer Cylinder			Balls	Pad Case / Retainer	Ambient Operating Temp.	Accessories
	Material	Hardness	Surface Treatment				
LHMRW-MX	52100 Bearing Steel	58 HRC min.	—	52100 Bearing Steel	Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material Nitrile Rubber
LHMSW-MX	52100 Bearing Steel	58 HRC min.	Electroless Nickel Plating	440C Stainless Steel Equivalent	Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material Nitrile Rubber

Round Flange Square Flange Compact Flange

Mounting Direction

Pad Case Outer Diameter: D-0.2

Ⓢ No need to fill with grease prior to use because the product is already filled with Lithium soap-based grease in addition to the built-in lubrication unit.

Part Number	Type	dr	ToL.	D		L	L ₁	V	H	T	d	d ₁	t	P.C.D.	W	F	A	Eccentricity	Rows of Balls	*Perpendicularity	Basic Load Rating			Allowable Static Moment (MoN·m)	Mass (g)
				ToL.	Surface Treatment																C (Dynamic) N	Co (Static) N	Co (Static) N		
LHMRW-MX LHMSW-MX LHMCW-MX	10	0	19	0	65	55	0	5	24.5	40	6	4.5	7.5	4.1	29	30	—	29	0.015	4	0.015	588	1100	7.24	66
	12	0	21	0	68	57	0	5.5	25.5	42	6	4.5	7.5	4.1	32	32	—	32	0.015	5	0.015	657	1200	10.9	84
	16	-0.010	28	-0.016	82	70	-0.3	6	32	48	8	5.5	9	5.1	38	37	22	31	0.020	6	0.020	1230	2350	19.7	152
	20	0	32	0	94	80	0	7	36	54	10	6.6	11	6.1	43	42	24	36	0.020	5	0.020	1400	2740	26.8	191
	25	0	40	0	130	112	0	9	52	62	11	6.6	11	6.1	51</										