



Patented

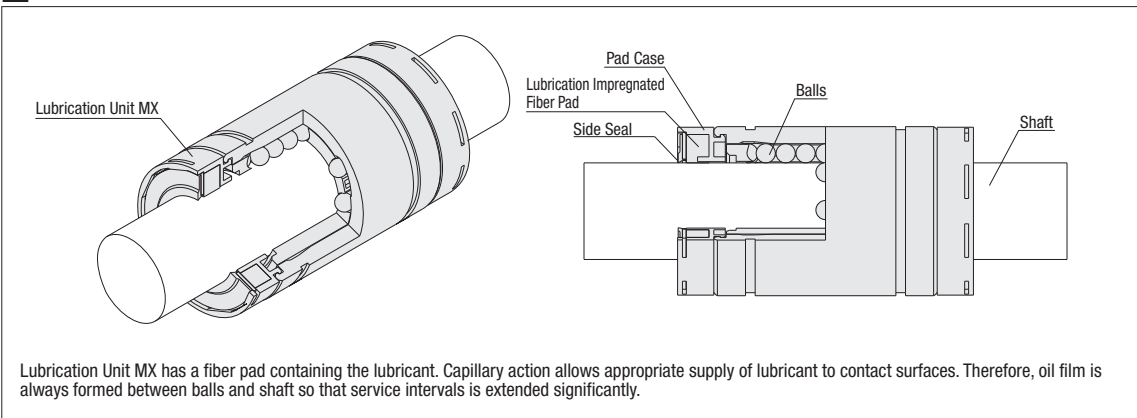
Single / Double / Flanged Single

## Long Term Maintenance Free Lubrication Unit MX Characteristics and Features

### Features of Lubrication Unit MX

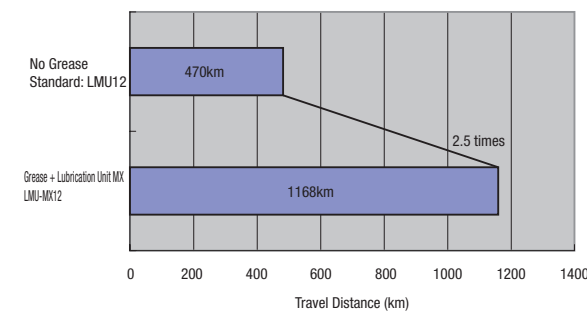
- Extended maintenance period**  
Long durability of lubrication performance has resulted in significant reduction of maintenance load especially with machines and equipment environments where applying grease is not easy.
- Environmentally friendly system**  
Proper amount of lubricant to ball rolling surface at right time makes the system environment-friendly.
- Cost advantage**  
Contributes to reduction of maintenance costs and product troubles caused by failing to lubricate.
- Reduced manufacturing steps**  
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.

### Structure of Lubrication Unit MX



## 2.5x durability with a little cost addition to the Standard Type

### Endurance Test Result



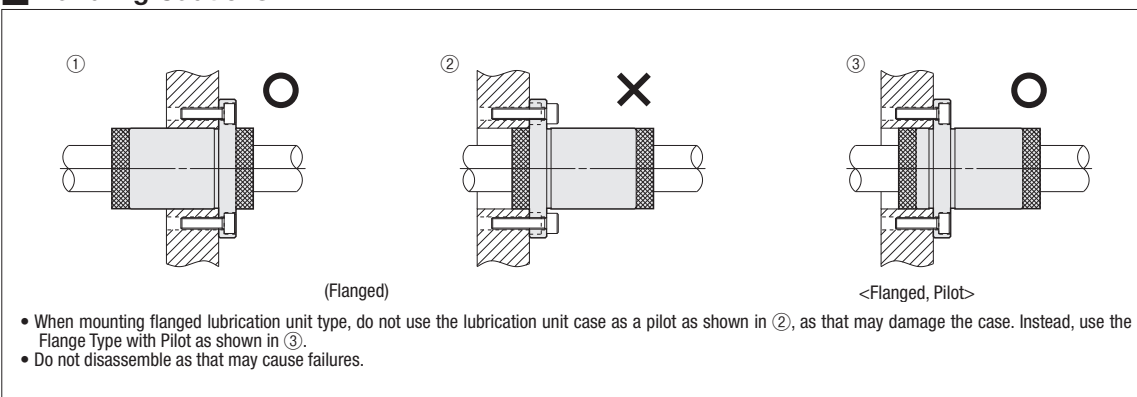
<Test Condition>

Sample : Linear Bushing LMU12 with Anti-rust oil,  
Linear Bushing with Lubrication Unit LMU-MX12  
Applied Load : 206N (50% against Basic Dynamic Load Rating 412N)  
Average Speed : 42m/min(0.7m/sec)  
Stroke : 100mm  
Lubricant : Grease, initial filling only (LMU-MX12 only)  
Shaft Material : SUJ2 58HRC  
24 hours, continuously operated

With 50% of basic load rating applied for testing, the Lubrication Unit MX Type has shown a 2.5 times higher durability performance compared to the one without the MX lubrication unit.

\*The data above are for reference only, and not guaranteed by the manufacturer.  
The data was revised to the above since the 2007 catalog after the safety margin was confirmed by increased test data points.

### Handling Cautions



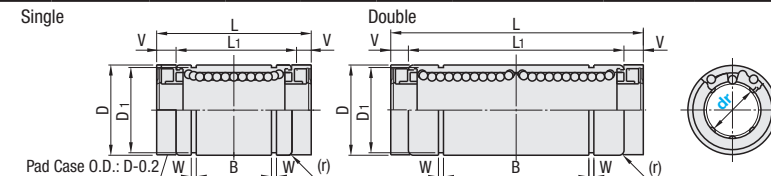
Lubrication Unit **MX** realizes maintenance free.

Features: The most popular Linear Bushing style.

### MISUMI Original



Type	Outer Cylinder	Balls	Pad Case / Retainer	Ambient Operating Temp.	Accessory
Single	Material: SUJ2 Equivalent, Hardness: 58HRC~	Material: SUJ2 Equivalent	Material: Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material: Nitrile Rubber



Pad Case O.D.: D-0.2 / W | B | W (r)  
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

Part Number	Type	dr	Tolerance	D	Tolerance	L	L1	Tolerance	V	B	Tolerance	W	D1	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating C (Dynamic) N/Co (Static) N	Allowable Static Moment (Mo N·m)	Mass (g)
LMU-MX	10	0	19	0	39	29	0	5	19.4	0	1.3	18	0.4	0.012	4	372	549	35	
	12	-0.009	21	-0.013	41	30	0	5.5	20.4	0	1.6	20	0.8	0.015	5	412	598	45	
	16	0	28	0	49	37	-0.2	6	23.3	-0.4	1.85	27	1.5	0.020	6	775	1180	80	
	20	0	32	0	56	42	0	7	27.3	0	2.1	30.5	1.5	0.020	6	882	1370	109	
	25	0	40	0	77	59	0	9	37.3	0	2.6	38	1.5	0.020	6	980	1570	255	
	30	-0.010	45	-0.016	84	64	0	10	40.8	0	2.6	43	1.5	0.020	6	1570	2740	286	
	35	0	52	0	92	70	-0.3	11	45.3	-0.5	2.6	49	1.5	0.020	6	1670	3140	453	
	40	0	60	0	104	80	0	12	56.3	0	2.6	57	1.5	0.020	6	2160	4020	687	
	50	-0.012	80	-0.019	128	100	0	14	68.8	0	2.6	76.5	1.5	0.020	6	3820	7940	1763	

### Double

Part Number	Type	dr	Tolerance	D	Tolerance	L	L1	Tolerance	V	B	Tolerance	W	D1	(r)	Eccentricity (Max.)	Rows of Balls	Basic Load Rating C (Dynamic) N/Co (Static) N	Allowable Static Moment (Mo N·m)	Mass (g)
LMUW-MX	10	0	19	0	65	55	0	5	41.4	0	1.3	18	0.4	0.015	4	588	1100	7.24	66
	12	-0.010	21	-0.016	68	57	0	5.5	43.4	-0.5	1.6	20	0.8	0.015	4	657	1200	10.9	84
	16	0	28	0	82	70	-0.3	6	49.8	0	1.85	27	1.5	0.020	5	1230	2350	19.7	152
	20	0	32	0	94	80	0	7	57.8	0	2.1	30.5	1.5	0.020	5	1400	2740	26.8	191
	25	0	40	0	130	112	0	9	78.3	0	2.6	38	1.5	0.020	6	1560	3140	43.4	459
	30	-0.012	45	-0.019	143	123	0	10	85.3	0	2.6	43	1.5	0.020	6	2490	5490	82.8	504
	35	0	52	0	157	135	-0.4	11	94.8	-0.6	2.6	49	1.5	0.020	6	2650	6270	110	823
	40	0	60	0	175	151	0	12	116.8	0	2.6	57	1.5	0.020	6	3430	8040	147	1203
	50	-0.015	80	-0.022	220	192	0	14	142.8	0	2.6	76.5	1.5	0.020	6	6080	15900	397	3163

For Precautions for Use, see P.303.

kgf=Nx0.101972

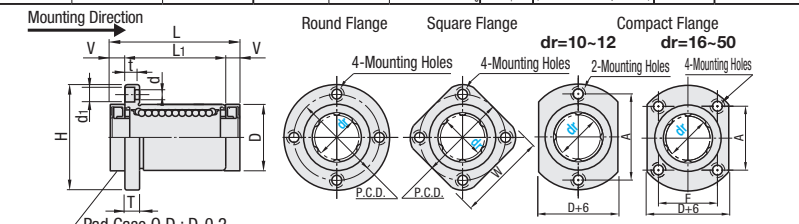
Lubrication Unit **MX** realizes maintenance free.

Features: Easy to assemble with bolt-on flanges.

### MISUMI Original



Type	Outer Cylinder	Balls	Pad Case / Retainer	Ambient Operating Temp.	Accessory
Round Flange/Square Flange/Compact Flange	Material: SUJ2 Equivalent, Hardness: 58HRC~	Material: SUJ2 Equivalent	Material: Plastic (Duracon M90 Equivalent)	-20~80°C	Seal Material: Nitrile Rubber



Pad Case O.D.: 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	Tolerance	D	Tolerance	L	L1	Tolerance	V	H	T	d	t	P.C.D.	W	F	A	Eccentricity	Rows of Balls	Basic Load Rating C (Dynamic) N/Co (Static) N	Mass (g)			
LHFR-MX	10	0	19	0	39	29	0	5	40	6	4.5	7.5	4.1	29	30	-	29	0.012	4	372	549	76	56	68
LHFS-MX	12	-0.009	21	-0.016	41	30	0	5.5	42	6	4.5	7.5	4.1	32	32	-	32	0.012	4	412	598	80	61	72
LHFC-MX	16	0	28	0	49	37	0	6	48	7	5.4	8	5.1	38	37	22	31	0.015	5	775	1180	127	111	119
LHFRM-MX	20	0	32	0	56	42	±0.3	7	54	8	5.5	9	5.1	43	42	24	36	0.015	5	882	1370	191	156	178
LHFSM-MX	25	0	40	0	77	59	±0.3	9	62	8	5.5	9	5.1	51	50	32	40	0.015	5	980	1570	359	319	344
LHFCM-MX	30	-0.010	45	-0.019	84	64	±0.3	10	74	10	6.6	11	6.1	60	58	35	49	0.015	5	1570	2740	494	399	412
	35	0	52	0	92	70	±0.3	11	82	10	6.6	11	6.1	67	64	38	55	0.015	5	1670	3140	678	588	603
	40	0	60	0	104	80	±0.3	12	96	13	9	14	8.1	78	75	45	64	0.020	6	2160	4020	1093	913	946
	50	-0.012	80	-0.022	128	100	±0.3	14	116	13	9	14	8.1	98	92	56	80	0.020	6	3820	7940	2263	2063	2100

For Precautions for Use, see P.303.

Select Height-adjusting Spacers for Flanged Bushings from P.330.

\*Perpendicularity of D to flange mounting surface kgf=Nx0.101972

dr	Straight Single	Straight Double	Round Flange	Square Flange	Compact Flange
10	LMU-MX	LMUW-MX	LHFR-MX	LHFS-MX	LHFC-MX
12	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
16	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
20	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
25	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
30	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
35	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
40	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX
50	LMU-MX	LMUW-MX	LHFRM-MX	LHFSM-MX	LHFCM-MX

Ordering Example  
Part Number  
LMU-MX16  
LHFR-MX12  
Various Grease Application Services are not applicable.

For orders larger than indicated quantity, please request a quotation.