

Single Axis Actuator LX

Load Ratings / Allowable Moment List



Stroke

Type	Lubrication Unit MX-Equipped	Block	Rail Length L (mm)															
			75	80	100	125	150	175	200	250	300	350 (340)*	400 (390)*	450 (440)*	500 (490)*	550 (540)*	600 (590)*	
LX15 P524	—	Long 1 pc.	26.9	—	51.9	76.9	101.9	126.9	151.9	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	43.9	68.9	93.9	118.9	143.9	—	—	—	—	—	—	—	—	—
LX20 P526	—	Long 1 pc.	—	16.5	36.5	—	86.5	—	136.5	186.5	236.5	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	76.5	—	126.5	176.5	226.5	—	—	—	—	—	—	—
LX26 P530	—	Long 2 pcs	—	—	17	—	—	—	79.5	129.5	179.5	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	117	167	217	267	317	—	—	—	—	—
LX30 P534	—	Long 1 pc.	—	—	—	—	—	—	105	155	205	255	305	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	91	141	191	241	—	—	—	—	—
LX30 P534	—	Short 1 pc.	—	—	—	29	54	—	104	154	204	254	304	354	404	454	504	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	90	140	190	240	290	340	390	440	490
LX45 P538	—	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LX45 P538	—	Short 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LX45 P538	—	Long 2 pcs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LX45 P538	—	Short 2 pcs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LX45 P538	—	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LX45 P538	—	Long 2 pcs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LX45 P538	—	Short 2 pcs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	MX	Long 1 pc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

⊖ Effective stroke is indicated in dimensions with a margin of 2.5 mm each from the ends.

*Value in () is the stroke for LX45.

Load Rating

Type	Block	Rail			Ball Screw					Bearing (Fixed Side) Axial Direction		
		Basic Dynamic Load Rating C (N)	Basic Static Load Rating C0 (N)	Radial Clearance (μm)	Basic Dynamic Load Rating Ca (N)	Basic Static Load Rating C0a (N)	Shaft Dia. (mm)	Lead (mm)	Root Dia. (mm)	Ball Center Dia. (mm)	Basic Dynamic Load Rating Ca (N)	Allowable Static Load P0a (N)
LX1502	Long	2072	3701	-3-0	208	265	5	2	4.534	5.15	678	415
LX2001	Long	3277	6199	-3-0	482	642	6	1	5.3	6.15	730	461
LX2005					822	1026		5	4.918	6.3		
LX2602	Long	6522	11871	-4-0	1712	2251	8	2	6.4	8.3	1637	1205
LX2605					1600	2097		5	6.46	8.3		
LX2610					782	961		10	6.46	8.3		
LX3005	Long	9732	17218	-4-0	1831	2389	10	5	8.2	10.3	2702	2197
LX3010					1129	1386		10	8.2	10.3		
LX3005	Short	6305	9271	-4-0	1831	2389	10	5	8.2	10.3	2702	2197
LX3010					1129	1386		10	8.2	10.3		
LX4510	Long	18450	32441	-6-0	4167	5945	15	10	11.7	15.5	4355	4106
LX4520					2499	3381		20	11.7	15.5		
LX4510	Short	11826	17175	-6-0	4167	5945	15	10	11.7	15.5	4355	4106
LX4520					2499	3381		20	11.7	15.5		

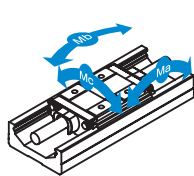
⊖ Rail load ratings are indicated per block.

⊖ For actual life calculations, please use our Technical Calculation Software.

Allowable Moment

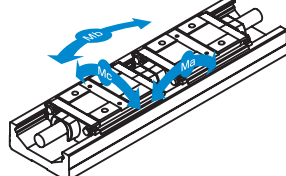
Moment loads can be applied in all three directions.

Single Block Type



Ma: Pitch Moment

Double Block Type



Mb: Yaw Moment

Mc: Roll Moment

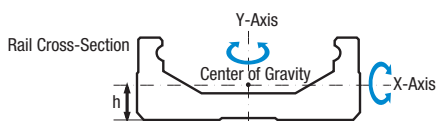
Type	Block Qty.	Block Types	Allowable Static Moment (N·m)		
			Ma	Mb	Mc
LX15	1	Long	13	13	41
	2	Long	27	27	93
LX20	1	Long	353	353	186
	2	Long	70	70	225
LX26	1	Long	902	902	450
	2	Long	126	126	387
LX30	1	Long	1515	1515	774
	2	Long	63	63	208
LX30	1	Short	579	579	417
	2	Short	291	291	972
LX45	1	Long	3945	3945	1944
	2	Long	145	145	515
LX45	1	Short	1444	1444	1029
	2	Short	1444	1444	1029

*Double Block Type values are those when two blocks in contact with each other.

The table above lists reference values in static state. For actual life calculations, please use our Technical Calculation Software.

Rail Rigidity

Rails with Lower Center of Gravity and High Rigidity



Type	Cross Sectional Moment of Inertia (mm ⁴)		Center of Gravity (mm)	Mass (kg/100 mm)
	ℓ _x	ℓ _y		
LX15	1.0 x 10 ³	1.7 x 10 ⁴	3.4	0.13
LX20	3.2 x 10 ³	5.2 x 10 ⁴	4.4	0.22
LX26	1.0 x 10 ⁴	1.4 x 10 ⁵	6.1	0.37
LX30	2.5 x 10 ⁴	3.1 x 10 ⁵	7.8	0.60
LX45	8.8 x 10 ⁴	10.4 x 10 ⁵	11.0	1.10

ℓ_x: Cross Sectional Moment of Inertia around X-axis ℓ_y: Cross Sectional Moment of Inertia around Y-axis

Material

Components	Base (Rail)		Block	Motor Bracket	Support Side Bearing with Housing	Cover	Stopper	Precision Ball Screw (Ground)
	LX15	LX20 / 26 / 30 / 45						
Material	Stainless Steel	Carbon Steel	SCM Material	Aluminum Casting 383.0	5052 Aluminum Alloy	6063 Aluminum Alloy	NBR Nitrile Rubber	SCM415 Alloy Steel (JIS)
Surface Treatment	Low Temperature Black Chrome Plating		Low Temperature Black Chrome Plating	Black Baked Paint Finish	Black Anodize	Black Anodize	—	—
Hardness	—	Induction Hardened HRC58-64	HRC58-62	—	—	—	—	HRC58-62