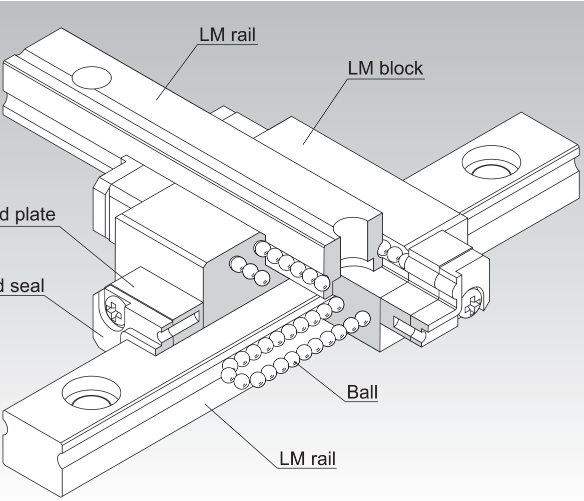
MX

Miniature Cross LM Guide Model MX



Structure and Features

Balls roll in two rows of raceways precision-ground on an LM rail and an LM block, and end plates incorporated in the LM block allow the balls to circulate. This model has two Miniature LM Guide Model RSR rails intersecting at right angles integrated back-to-back into a single block. The Model MX alone achieves an extremely low-profile orthogonal LM System, eliminating the need for conventional saddles and enabling a more compact structure.

4-Way Equal Load

Each row of balls is placed at a contact angle of 45° so that the load ratings applied to the LM block are uniform in the four directions (radial, reverse-radial, and lateral directions), enabling the LM Guide to be used in all orientations.

LM Rail with Tapped Holes

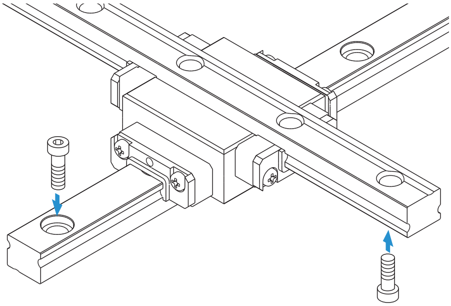
There are two types of the LM rail: one designed to be mounted from the top with bolts, and a semi-standard type whose bottom face has tapped holes, allowing the rail to be mounted from the bottom.

Types and Features

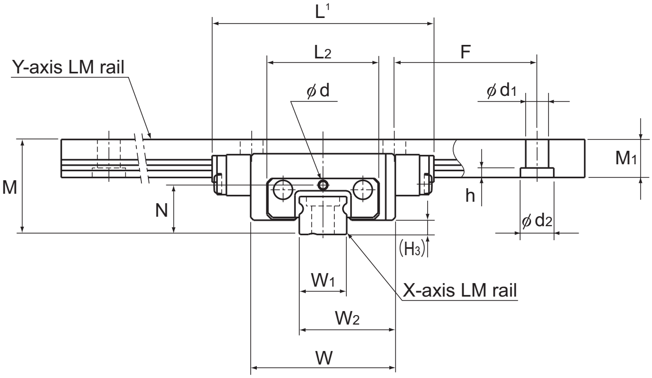
Model MX

Dimensional Table⇒A1-322

Model MX is divided into two types: RSR5 cross type and RSR7W cross type.



Model MX



Model No.	Outer dimensions			LM block dimensions			
	Height M	Width W	Length[1] L	L_2	N	Lubrication hole d	H_3
MX 5M	10	15.2	23.3	11.8	5.2	0.8	1.5
MX 7WM	14.5	30.2	40.8	24.6	7.4	1.2	2

Model number coding

4 MX7W M UU C1 +140L P M / 110L P T M

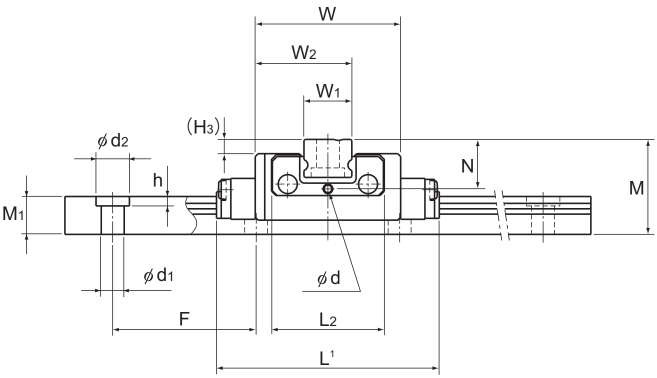
- 4: Total No. of LM blocks
- MX7W M: Model number
- UU: Contamination protection accessory symbol
- C1: Radial clearance symbol
  - Normal (No symbol)
  - Light preload (C1)
- +140L: LM rail length on the X axis (in mm)
- P: Accuracy symbol
  - Normal grade (No Symbol)
  - Precision grade (P)
- M: LM rail is made of stainless steel
- 110L: LM rail length on the Y axis (in mm)
- P: Accuracy symbol
- T: Symbol for LM rail jointed use
- M: LM rail is made of stainless steel

Notes: See contamination protection accessories on A**1-547**. See A**1-74** for radial clearance symbol. See A**1-86** for accuracy symbol.

If the product is of the semi-standard type that uses tapped holes in the LM rail for mounting, include a “K” in the model number after the accuracy symbol.

Example: 4MX7WMUUC1+120LP K M/100LP K TM

Add symbol "K"

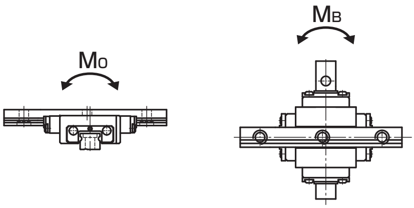


Unit: mm

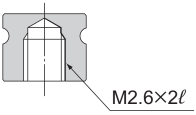
	LM rail dimensions						Basic load rating		Static permissible moment[3] N·m		Mass	
	Width W1	W2	Height M1	Pitch F	d1×d2×h	Length[2] Max	C kN	C0 kN	M0	MB	LM block kg	LM rail kg/m
	5 $^{0}_{-0.02}$	10.1	4	15	2.4×3.5×1	200	0.59	1.1	2.57	2.57	0.01	0.14
	14 $^{0}_{-0.025}$	22.1	5.2	30	3.5×6×3.2	400	2.04	3.21	14.7	14.7	0.051	0.51

[1] Length L shown in the table is the length with the contamination protection accessories (code: UU).
[2] The maximum length indicates the standard maximum length of an LM rail. (See **A1-324**.)
[3] Static permissible moment 1 block: the static permissible moment with one LM block

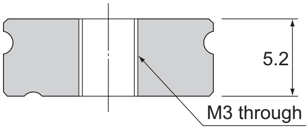
Notes: Since stainless steel is used in the LM block, LM rail, and balls, these models are highly resistant to corrosion and environment.
Please be aware that the balls will fall out of the LM block if it is removed from the LM rail.



For the LM rail mounting holes, a semi-standard type with tapped holes in the LM rail is also available.



Model MX5M



Model MX7WM

When mounting the LM rail of model MX7WM, take into account the thread length of the mounting bolt in order to prevent the bolt end from sticking out of the top face of the LM rail.

Standard Lengths and Maximum Lengths of LM Rails

Table 1 shows the standard lengths and the maximum lengths of model MX variations.

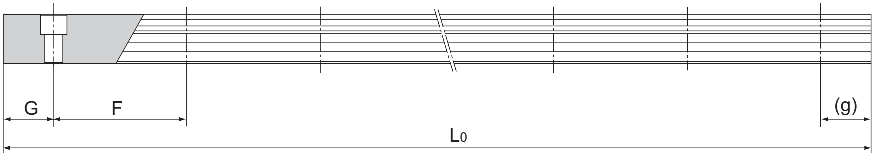


Table 1: Standard Lengths and Maximum Lengths of LM Rails for Model MX

Unit: mm

Model No.	MX 5	MX 7W
LM rail standard lengths (L_0)	40 55 70 100 130 160	50 80 110 140 170 200 260 290
Standard pitch F	15	30
G, g	5	10
Max length	200	400

Note: The maximum length varies with accuracy grades. Contact THK for details.