

## Features of the Linear Bushing

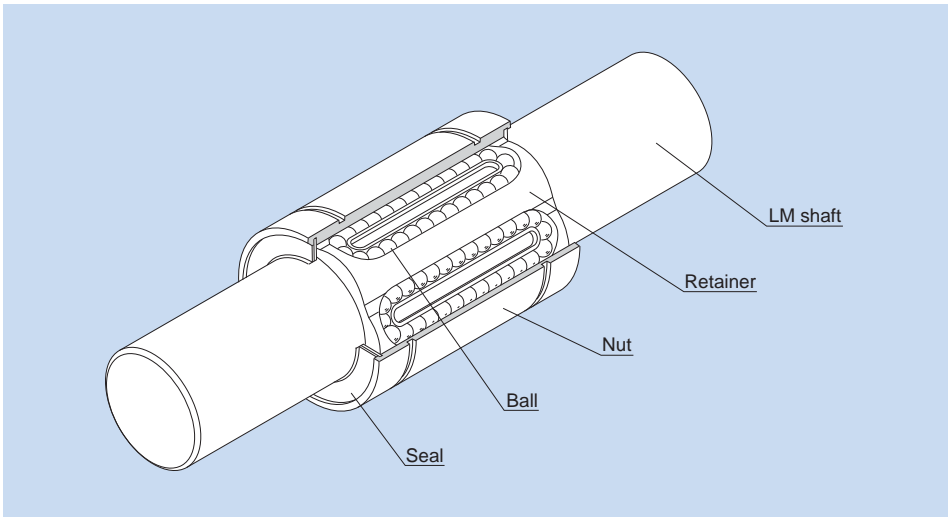


Fig.1 Structure of Linear Bushing Model LM···UU

### Structure and Features

Linear Bushing model LM is a linear motion system used in combination with a cylindrical LM shaft to perform infinite straight motion. The balls in the loaded area of the nut are in point contact with the LM shaft. This allows straight motion with minimal friction resistance and achieves highly accurate and smooth motion despite the small permissible load.

The nut uses high-carbon chromium bearing steel and its outer and inner surfaces are ground after being heat-treated.

The Linear Bushing is used in a broad array of applications, such as slide units of precision equipment including OA equipment and peripherals, measuring instruments, automatic recorders and digital 3D measuring instruments, industrial machines including multi-spindle drilling machine, punching press, tool grinder, automatic gas cutting apparatus, printing machine, card selector and food packing machine.

## Features and Types

### Features of the Linear Bushing

#### [Interchangeability]

Since the dimensional tolerances of the Linear Bush's components are standardized, they are interchangeable. The LM shaft is machined through cylindrical grinding, which can easily be performed, and it allows highly accurate fitting clearance to be achieved.

#### [Highly Accurate Retainer Plate]

Since the retainer, which guides three to eight rows of balls, is integrally molded, it is capable of accurately guiding the balls in the traveling direction and achieving stable running accuracy.

Small-diameter types use integrally molded retainers made of synthetic resin. It reduces noise generated during operation and allows for superb lubrication.

#### [Wide Array of Types]

A wide array of types are available, such as standard type, clearance-adjustable type, open type, long type and flanged linear bushing, allowing the user to select a type that meets the intended use.

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## Dedicated Shafts for Model LM

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The LM shaft of the Linear Bushing needs to be manufactured with much consideration for hardness, surface roughness and dimensional accuracy of the shaft since balls roll directly on it. THK manufactures dedicated LM shafts for the Linear Bushing.

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## Standard LM Shafts

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THK manufactures high quality, dedicated LM shafts for Linear Bushing model LM series.

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## Specialy Machined Types

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THK also supports special machining processes such as tapping, milling, threading, through hole and joggling, as shown in the Fig.2, at your request.

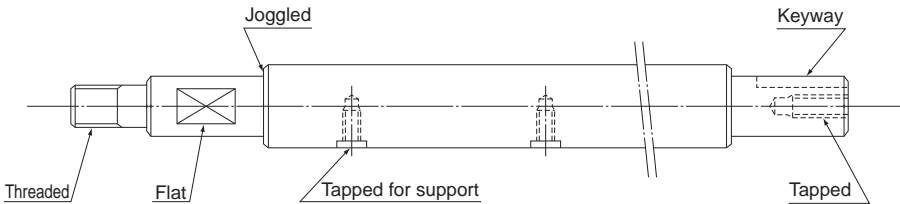


Fig.2

## Table of Rows of Balls and Masses for Clearance-adjustable Types and Open Types of the Linear Bushing

Shaft diameter	Clearance-adjustable type			Open type		
	Model No.	Rows of balls	Mass g	Model No.	Rows of balls	Mass g
6	LM 6-AJ	4	7.8	—	—	—
8	LM 8S-AJ	4	10	—	—	—
	LM 8-AJ	4	14.7	—	—	—
10	LM 10-AJ	4	29	—	—	—
12	LM 12-AJ	4	31	LM 12-OP	3	25
13	LM 13-AJ	4	42	LM 13-OP	3	34
16	LM 16-AJ	5(4)	68	LM 16-OP	4(3)	52
20	LM 20-AJ	5	85	LM 20-OP	4	69
25	LM 25-AJ	6(5)	216	LM 25-OP	5(4)	188
30	LM 30-AJ	6	245	LM 30-OP	5	210
35	LM 35-AJ	6	384	LM 35-OP	5	350
38	LM 38-AJ	6	475	LM 38-OP	5	400
40	LM 40-AJ	6	579	LM 40-OP	5	500
50	LM 50-AJ	6	1560	LM 50-OP	5	1340
60	LM 60-AJ	6	1820	LM 60-OP	5	1650
80	LM 80-AJ	6	4320	LM 80-OP	5	3750
100	LM 100-AJ	6	8540	LM 100-OP	5	7200
120	LM 120-AJ	8	14900	LM 120-OP	6	11600

Note) The numbers of ball rows in the table apply to types using a resin retainer. Those of types using a metal retainer are indicated in parentheses.