PRODUCT GUIDE · USER MANUAL

# MGN Miniature Linear Guide Rail

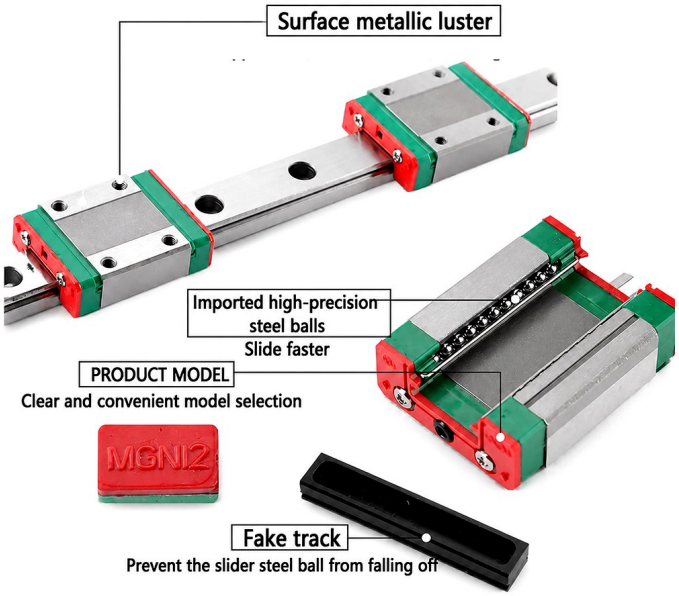
MGN7 · MGN9 · MGN12 · MGN15

Standard (C) and Long (H) Sliding Blocks · Rail Lengths 100–600 mm

Model selection | Dimensions | Installation & care

## 01 Product Overview

A compact rail-and-carriage assembly for guided linear motion, including applications such as 3D printers and other mechanical positioning systems. Select the rail width, block type and length to match your installation.




Product structure and components (illustrative MGN series example)

**Package contents:** 1 × MGN linear guide rail + 2 × matching sliding blocks. Verify the selected model and length against your order.

## 02 Features at a Glance

### Ball-Bearing Design

Internal steel balls support linear sliding movement.

### Compact Design

Miniature profile for limited installation space.

### Metal Construction

Metal rail and sliding blocks with mounting holes.

### Model Options

MGN7, MGN9, MGN12 and MGN15; C and H block options.

### Light Preload

Sliding blocks are supplied with light preload.

### End Cap Design

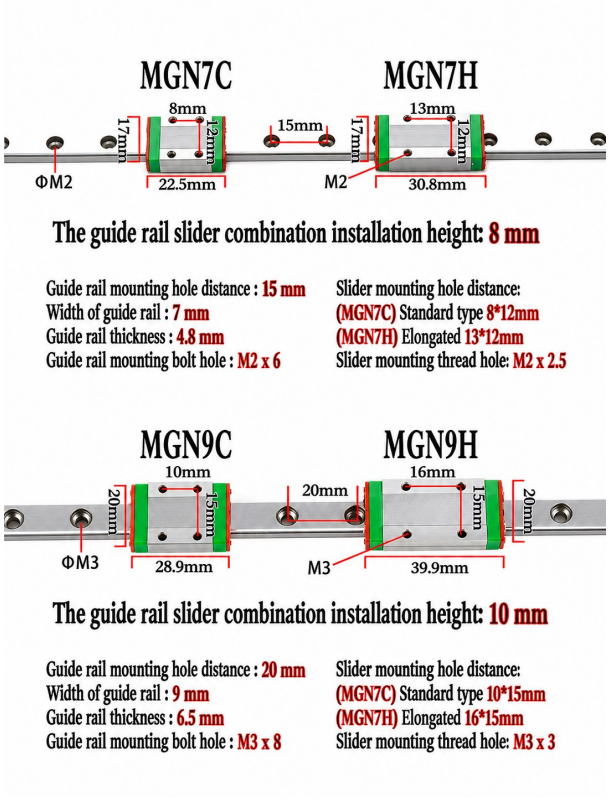
End components are integrated into each block.



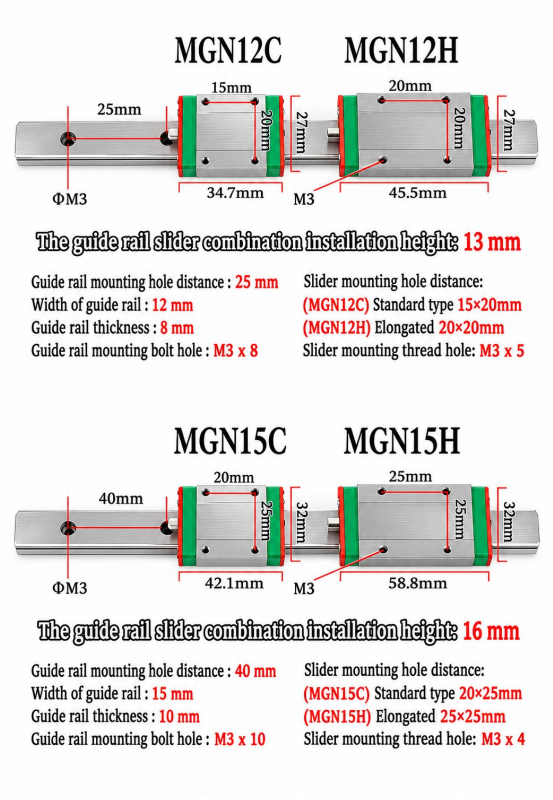

Feature illustrations; refer to the written specifications for selection

## 03 Choose Your Model

**Step 1 — Rail series:** Choose 7, 9, 12 or 15 mm rail width. **Step 2 — Block form:** C = standard block; H = longer block. **Step 3 — Rail length:** Select the offered length between 100 and 600 mm.




MGN7 / MGN9 reference dimensions




MGN12 / MGN15 reference dimensions

## 04 Dimensional Specifications

All dimensions are in millimeters (mm). Block length is the overall carriage length. Mounting hole spacing is shown as longitudinal × transverse.

### Model Dimensions

| Model | Block Length | Hole Spacing | Assembly Height |
|---|---|---|---|
| MGN7C | 22.5 | 8 × 12 | 8 |
| MGN7H | 30.8 | 13 × 12 | 8 |
| MGN9C | 28.9 | 10 × 15 | 10 |
| MGN9H | 39.9 | 16 × 15 | 10 |
| MGN12C | 34.7 | 15 × 20 | 13 |

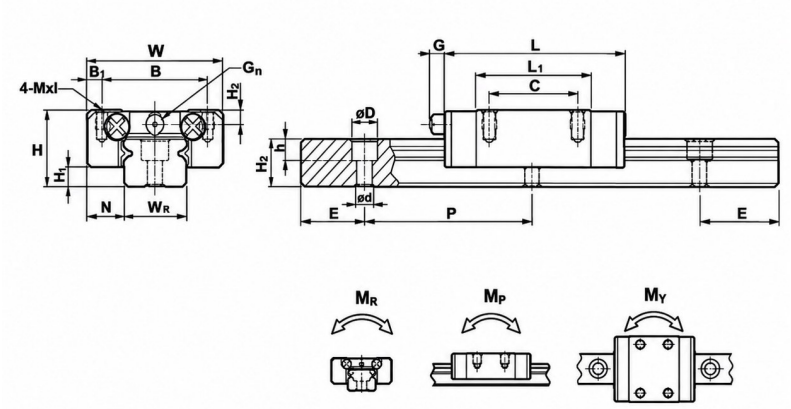
| Model | Block Length | Hole Spacing | Assembly Height |
|---|---|---|---|
| MGN12H | 45.5 | 20 × 20 | 13 |
| MGN15C | 42.1 | 20 × 25 | 16 |
| MGN15H | 58.8 | 25 × 25 | 16 |

## Rail Dimensions

| Series | Rail Width | Rail Height | Hole Pitch | Mounting Screw* |
|---|---|---|---|---|
| MGN7 | 7 | 4.8 | 15 | M2 × 6 |
| MGN9 | 9 | 6.5 | 20 | M3 × 8 |
| MGN12 | 12 | 8 | 25 | M3 × 8 |
| MGN15 | 15 | 10 | 40 | M3 × 10 |

*Mounting screw denotes the size referenced on the source chart, not necessarily screws included in the package.

Size Chart:




| Model number | Slide size (mm) | | | | | | | | | | | | | Guide size (mm) | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H | H1 | N | W | B | B1 | C | L1 | L | G | Gn | MxI | H2 | WR | HR | D | h | d | P | E | (mm) | slide kg | guide kg/m |
| MGN7C | 8 | 1.5 | 5 | 17 | 12 | 2.5 | 8 | 13.5 | 22.5 | - | ø1.2 | M2*2.5 | 1.5 | 7 | 4.8 | 4.2 | 2.3 | 2.4 | 15 | 5 | M2*6 | 0.010 | 0.22 |
| MGN7H | | | | | | | 13 | 21.8 | 30.8 | | | | | | | | | | | | | 0.015 | |
| MGN9C | 10 | 2 | 5.5 | 20 | 15 | 2.5 | 10 | 18.9 | 28.9 | - | ø1.4 | M3*3 | 1.8 | 9 | 6.5 | 6 | 3.5 | 3.5 | 20 | 7.5 | M3*8 | 0.016 | 0.38 |
| MGN9H | | | | | | | 16 | 29.9 | 39.9 | | | | | | | | | | | | | 0.026 | |
| MGN12C | 13 | 3 | 7.5 | 27 | 20 | 3.5 | 15 | 21.7 | 34.7 | - | ø2 | M3*3.5 | 2.5 | 12 | 8 | 6 | 4.5 | 3.5 | 25 | 10 | M3*8 | 0.034 | 0.65 |
| MGN12H | | | | | | | 20 | 32.4 | 45.4 | | | | | | | | | | | | | 0.054 | |
| MGN15C | 16 | 4 | 8.5 | 32 | 25 | 3.5 | 20 | 26.7 | 42.1 | 4.5 | M3 | M3*4 | 3 | 15 | 10 | 6 | 4.5 | 3.5 | 40 | 15 | M3*10 | 0.059 | 1.06 |
| MGN15H | | | | | | | 25 | 43.4 | 58.8 | | | | | | | | | | | | | 0.092 | |

Technical drawing and full parameter reference

## 05 Model Photo Gallery

Photos are grouped by increasing rail size, with standard (C) followed by long (H), so you can compare mounting locations and block shapes quickly.




**MGN7C**




**MGN7H**




**MGN9C**




**MGN9H**




**MGN12C**




**MGN12H**







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## 06 Installation Guide

1. **Check parts and size**
   Confirm rail series, rail length, block type, mounting hole pitch and the receiving surface before installation.

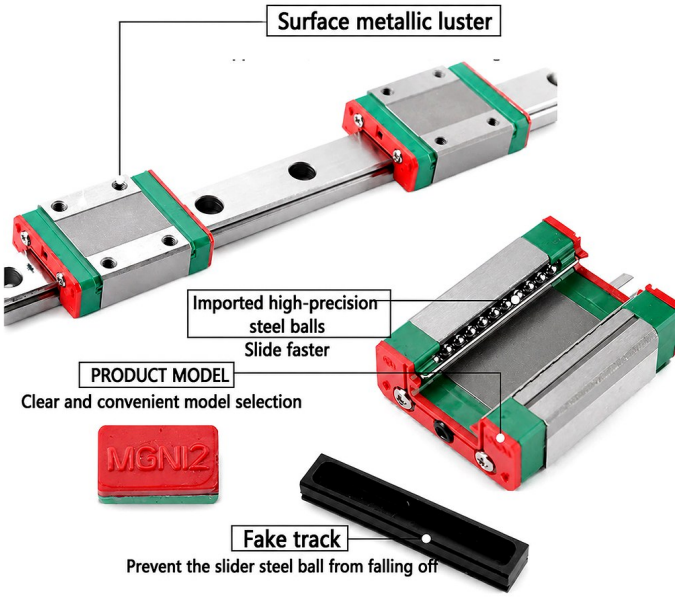
2. **Prepare the mounting surface**
   Remove debris and check that the mounting surface is clean and reasonably flat. Keep chips and dust away from the carriage.

3. **Position and fasten the rail**
   Align the guide rail with the intended travel path. Install suitable screws through the rail mounting holes and tighten evenly using the fastening hardware's recommended torque.

4. **Move the sliding blocks**
   Gently move each carriage along the rail by hand to check for interference. Light-preload blocks may initially feel firmer to move.

5. **Lubricate when needed**
   Use a lubricant suitable for linear guides, applied sparingly according to the lubricant manufacturer's instructions.

6. **Final check**
   Confirm fasteners are secure and the full travel is unobstructed before operating the assembly under load.




Carriage and retaining insert reference

## 07 Use & Maintenance

### Initial movement

Because the blocks use light preload, movement may feel somewhat firm at first. Check rail alignment, move the blocks gently several times and lubricate as appropriate. Do not force a block if it binds or jams.

### Cleaning and storage

Keep the rail and carriage free from dust, metal chips and moisture. Wipe exposed surfaces with a suitable clean cloth. Store unused parts in a clean, dry location.

### Before ordering replacements

Record your MGN series, C/H block form, rail length and mounting dimensions. Do not assume parts from different brands or production batches are interchangeable without checking compatibility.

## 08 Package Contents & Quick Reference

### Included with the specified set

1 × MGN Linear Guide Rail
2 × Matching MGN Sliding Blocks

### Common applications

3D printers
Linear positioning assemblies
Compact motion mechanisms

### Rail length

100–600 mm, depending on the selected option.

### Preload

Light preload

> Before purchasing or installing, check the product variation, length and block configuration shown in your order.