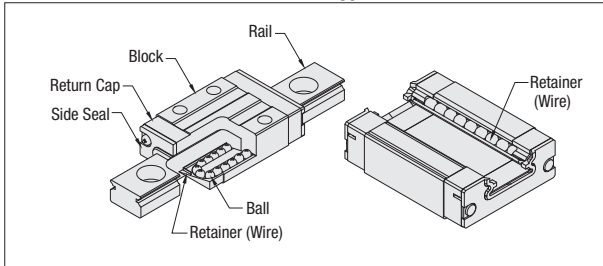


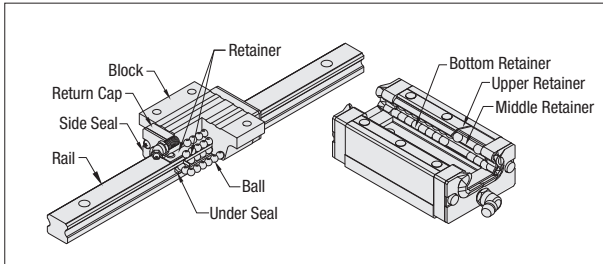
Structure and Precision of Linear Guides

Linear Guide - Structure and Features

Miniature Type



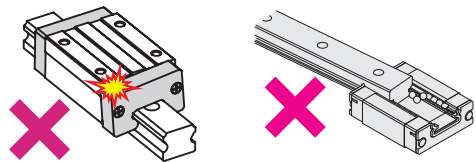
Medium/Heavy Load Type



- Linear guides utilize steel balls rolling on precisely ground raceways, and the balls are recirculated by plastic return caps.
- End seals prevent foreign substances from intruding into the blocks.
- Miniature Type has two rows of contacting steel balls in a 4-point raceway contact design.
- Medium/Heavy Load Types have four rows of contacting steel balls in a 2-point raceway contact design.
- Load ratings are the same for all four directions (radial, reverse-radial, and lateral directions). Can be used in any orientation.
- Cautions

Do not apply a shock to the return cap. Doing so will affect the ball circulation and may cause sliding defects.

Balls do not fall out of MISUMI linear guides when removed from rails as the blocks are equipped with ball-retainers. However, the balls may fall out by rapidly removing blocks from the rail or inserting the rail into the block at a slant. Remove and install the blocks with caution.



Precision

Dimensional Accuracy

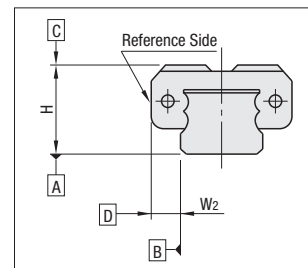
Type	Accuracy Standards	Existing Products			C-VALUE Products	
		Precision Grade	High Grade	Standard Grade	Standard Grade	
Miniature Type	Height H Tolerance	±10	±20	±20	±40	
	Pair Variation of Height H	7	15	40	30	
	Width W ₂ Tolerance	±15	±25	±25	±40	
	Pair Variation of Width W ₂	10	20	40	30	
Medium/Heavy Load Type	Accuracy Standards	High Grade	Interchangeable	Standard Grade	Standard Grade	
	Height H Tolerance	±40	±20	±100	±120	
	Pair Variation of Height H	15	15	20	40	
	Width W ₂ Tolerance	±20	±30	±100	±100	
	Pair Variation of Width W ₂	24, 28	15	25	20	40
		33, 42	15	25	30	40
30, 36, 40, 42		-	25	-	40	

[Pair Variation of Height H]

Difference between the min./max. values of Height (H) Dimension for a number of blocks combined on one rail.

[Pair Variation of Width W₂]

Difference between the min./max. values of Width (W) Dimension for a number of blocks combined on one rail.



Running Parallelism

Unit: μm

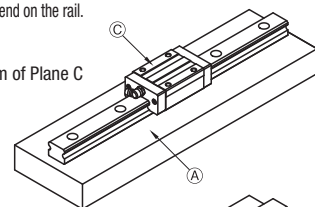
Rail Length (mm)		Miniature				Medium/Heavy Load			
over	or Less	Existing Products		C-VALUE	C-VALUE	Existing Products		C-VALUE	C-VALUE
		Precision Grade	High Grade	Standard Grade		High Grade	Interchangeable	Standard Grade	
50	50	2	3	13	13	7	6	7	10
50	80	2	3	13	13	7	6	7	10
80	125	3	7	15	15	7	6.5	7	10
125	200	3	7	15	15	7	7	7	10
200	250	3.5	9	17	17	7	8	7	10
250	315	4	11	18	18	8	9	12	10
315	400	5	11	18	18	8	11	12	12
400	500	5	12	19	19	9	12	14	13
500	630	6	13.5	21	21	11	14	18	15
630	800	6	14	21.5	21.5	13	16	21	17
800	1000	-	-	-	-	14.5	18	23	19
1000	1250	-	-	-	-	16	20	25	22
1250	1600	-	-	-	-	-	23	27	23
1600	2000	-	-	-	-	-	26	28.5	24

[Running Parallelism]

Measured while the rail is bolted firmly to a standard datum surface base.

A relative variation of block's top surface C against the rail's bottom surface A, and a relative variation of block's datum surface D against the rail's datum surface B are measured, as the block is run from end to end on the rail.

- Running Parallelism of Plane C against Plane A



- Running Parallelism of Plane D against Plane B

