

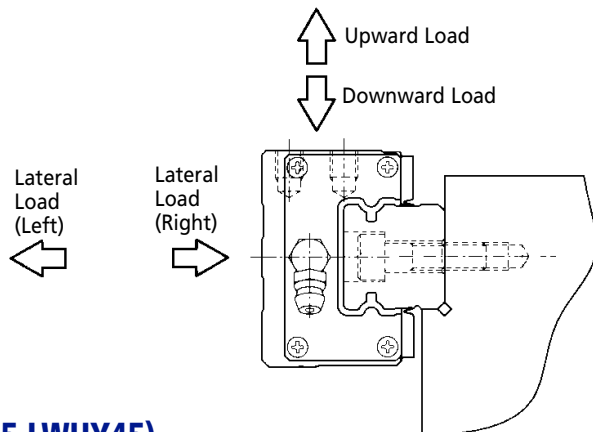
LINEAR MOTION

Precision Linear Slides - Steel

HY-Series (Ball Retained) *Side Mounting* - 2 Row 4 Point Ball

LOAD RATING

The load ratings shown in the dimensions table are downward load ratings. In LWHY15-LWHY30, the load ratings do not change by the load direction (Upward, downward and lateral). But in LWHY35-LWHY45 the load ratings change by the load direction. Lateral load ratings can be obtained by multiplying the load-directional factors shown in the table below.



LOAD DIRECTION FACTOR (LWHY35-LWHY45)

Load Direction	Load Ratings	Basic Dynamic Load Rating	Basic Static Load Rating
Upward Load		C	Co
Downward Load		C	Co
Lateral Load (Right)		1.19C	1.28Co
Lateral Load (Left)		1.05C	1.07Co

MOUNTING

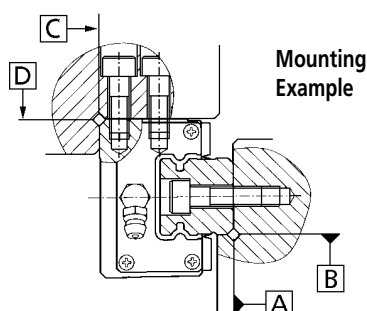
Multiple slide units mounted in close distance

When using multiple slide units in close distance to each other, the actual load may be greater than the calculated load depending on the accuracy of the mounting surface and the reference mounting surface of the machine. It is suggested in such cases to assume a greater actual load into consideration.

Example of mounting in general application

As shown in the mounting example the reference mounting surfaces B and D and the mounting surfaces A and C are precisely finished by grinding. Therefore, a stable linear motion of high accuracy will be obtained by precise finishing of the mating reference mounting surfaces and mounting surfaces of the machine and correct mounting on those surfaces.

It is recommended to make a relieved fillet at the corner of the mating reference mounting surface as shown in the mounting example. However, the corner radius somewhat smaller than R1 and R2 values in the following table can also be used. The recommended shoulder heights of the mating reference mounting surfaces are also given in the table.



Bolt Size	Tightening Torque kgf•cm
M4 x 0.70	40
M5 x 0.80	80
M6 x 1.00	130
M8 x 1.25	320
M10 x 1.50	640
M12 x 1.75	1100

Mounting bolt tightening torque

Table 5 shows the mounting bolt tightening torque for general application. If vibration and/or shocks are present or moment loads are applied, tightening torque 1.5 times the values in the table is recommended.

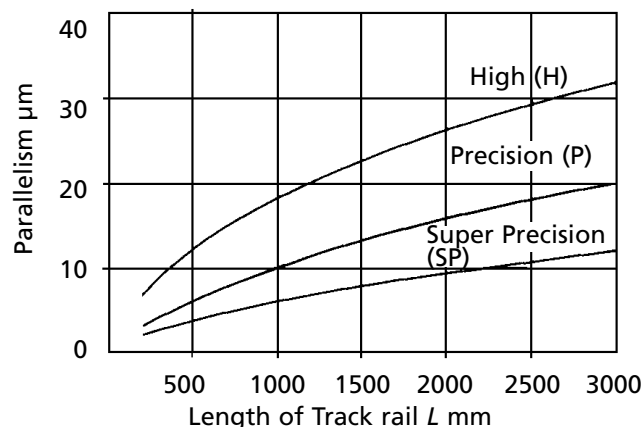
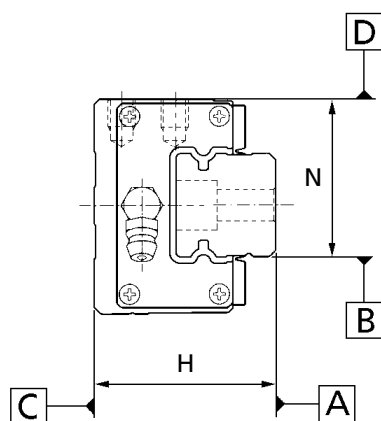
Operating temperature

The maximum operating temperature is 120°C and a continuous operation is possible at temperatures up to 100°C. When the temperature of linear guideways in operation exceeds 100°C, please consult our technical department.

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ACCURACY

Accuracies for Linear Ways HY series are shown in the above graph and the table below.

Item	Classification (Symbol)		
	(Std.) High (H)	Precision (P)	Super Precision (SP)
Dim. H tolerance	±0.140	±0.020	±0.010
Dim. N tolerance	±0.050	±0.125	±0.050
Dim. variation of H (1)	0.015	0.007	0.005
Dim. variation of N (2)	0.020	±0.010	0.007
Parallelism in operation of C to A	See Preload table below		
Parallelism in operation of D to B	See Preload table below		

Note: (1) Dimensional variation of dimension H means the size variation between slide units mounted on the same track rail when the dimension H is measured at the specified position of the track rail.

(2) Dimensional variation of dimension N means the size variation between slide units mounted on the same track rail when the dimension N is measured at the specified position of track rail.

PRELOAD

Average amount of preload for Linear Way HY series are shown below.

Preload Class	Symbol	Preload amount (kgf)	Application
Standard Preload	(no symbol)	0 (1)	• Smooth and precise motion
Light Preload	T1	0.02 Co	• Minimum vibration • Evenly balanced load. • Smooth and precise motion
Medium Preload	T2	0.05 Co	• Medium vibration • Medium overhung load.
Heavy Preload	T3	0.08 Co	• Vibration and/or shocks • Overhung load. • Heavy cutting.

Note: (1) Zero or minimal amount of preload. **Remark:** Co means basic static load rating.

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