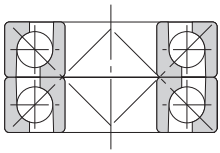
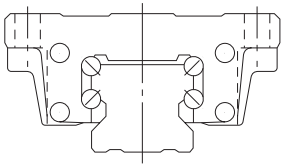
1.2. Superb Error-Absorbing Capability with the DF Structure

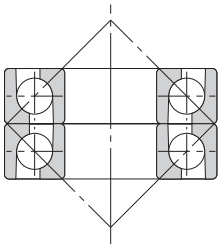
Since the LM Guide has a contact structure similar to the front-to-front mount of angular ball bearings, it has superb self-adjusting capability.



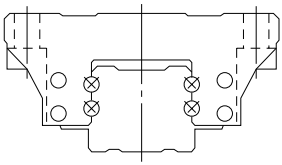
Angular ball bearings mounted front-to-front (DF type)



DF type four-row angular contact (LM Guide)



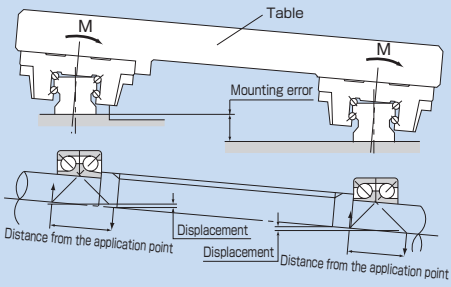
Angular ball bearings mounted back-to-back (DB type)



Four-row Gothic-arch contact

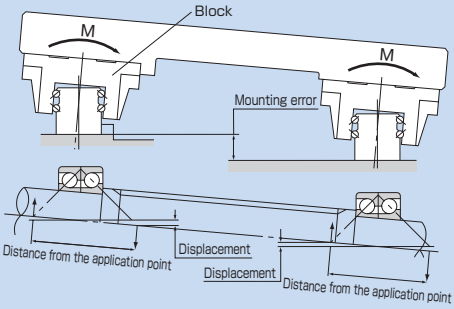
An LM ball guide mounted on a plane receives a moment (M) due to an error in flatness or in level or a deflection of the table. Therefore, it is essential for the guide to have self-adjusting capability.

LM Guide model HSR



Since the distance from the application point of the bearing is small, the internal load generated from a mounting error is small and the self-adjusting capability is large.

Similar product of a competitor



Since the distance from the application point of the bearing is large, the internal load generated from a mounting error is large and the self-adjusting capability is small.

With an LM ball guide having angular ball bearings mounted back-to-back, if there is an error in flatness or a deflection in the table, the internal load applied to the block is approx. 6 times greater than that of the front-to-front mount structure and the service life is much shorter. In addition, the fluctuation in sliding resistance is greater.