Friction Type Hinge Damper

Fixed Type | Bi-Directional | Uni-Directional | Adjustable type | Self-adjusting

FHD-B1/B2 Series

RoHS Compliant

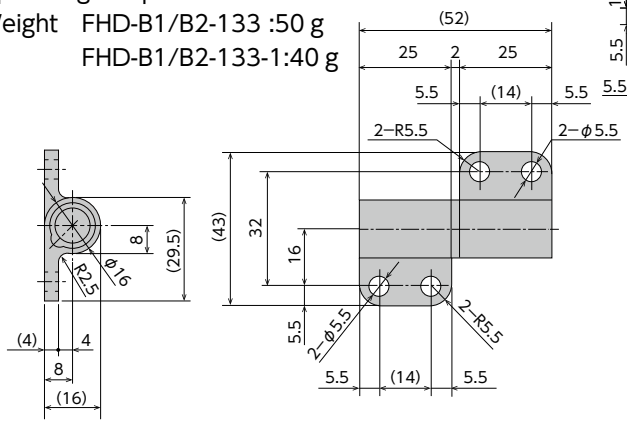
●Products specification might be changed without notice.

Specifications

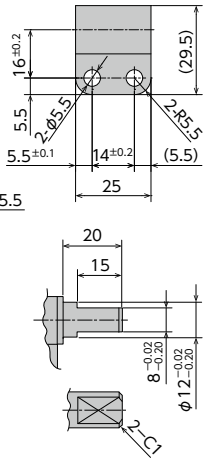
Model	Max. torque
FHD-B1-133-K FHD-B2-133-K	1.35±0.34 N·m (13.5±3.4 kgf·cm)
FHD-B1-133-1-K FHD-B2-133-1-K	1.35±0.34 N·m (13.5±3.4 kgf·cm)
FHD-B1-133-2-K FHD-B2-133-2-K	

Note) Damper torque was measured at 25°C±2C° at 2rpm

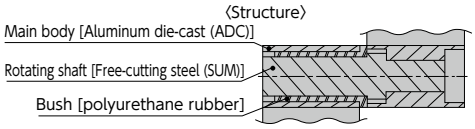
∗ Max. rotation speed 15rpm
∗ Max. cycle rate 5cycle / min
∗ Operating temperature 0℃~60℃
∗ Weight FHD-B1/B2-133 :50 g
FHD-B1/B2-133-1:40 g



〈FHD-B1/2-133-2-K〉

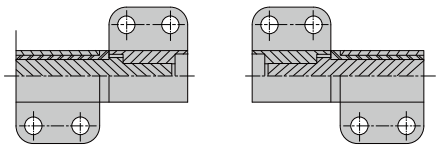


〈Structure〉



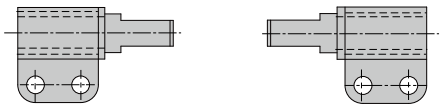
(when used as a hinge)

〈FHD-B1-133-K〉 〈FHD-B2-133-K〉



(when used as a single damper other than hinge)

〈FHD-B1-133-1-K〉 〈FHD-B2-133-1-K〉



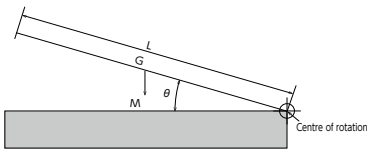
How to Use the Damper

1. The damper generates torque in both clockwise and counter-clockwise directions.
2. A friction-type hinge damper can be used as a bearing.
3. Friction-type hinge dampers have a long product life and do not require lubrication.
4. Torque down will result if the damper part gets wet with water or oil.
5. It cannot be used for continuous rotation. Please use it in a vane motion.
6. Depending on the operating conditions, it can be used as a free-stop hinge. Please calculate the retention torque based on the following equation.

$$\text{Retention torque } o = \frac{M \times 9.8 \times \frac{L}{2} \times \cos\theta}{0.65 \times \alpha \times N} \text{ (N·m)}$$

Retention temperature	α
Room temperature(25±5℃)	1.0
MAX40℃	0.75
MAX60℃	0.50

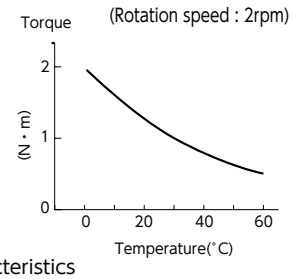
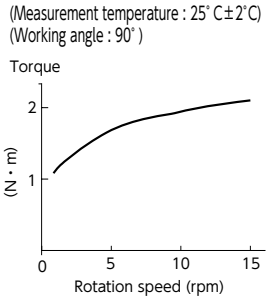
M : Mass of the retaining part
L : Distance between the tip of retaining part and the centre of rotation
θ : Retention angle from the retaining part's horizontal position
α : Temperature coefficient of the max. temperature
N : Number of dampers used



7. This damper is only for horizontal application. Please do not use this damper for vertical application.

Damper Characteristics

1. Temperature characteristics
Damper characteristics vary according to the ambient temperature. In general, the damper characteristics become weaker as the temperature increases, and become stronger as the temperature decreases. This is because the temperature of the shaft bush inside the damper varies according to the temperature. When the temperature returns to normal, the damper characteristics will return to normal as well.



2. Speed characteristics
The speed characteristics of a friction-type hinge damper are shown in the graph below. The damper torque is determined based on the speed characteristics at 2rpm.