

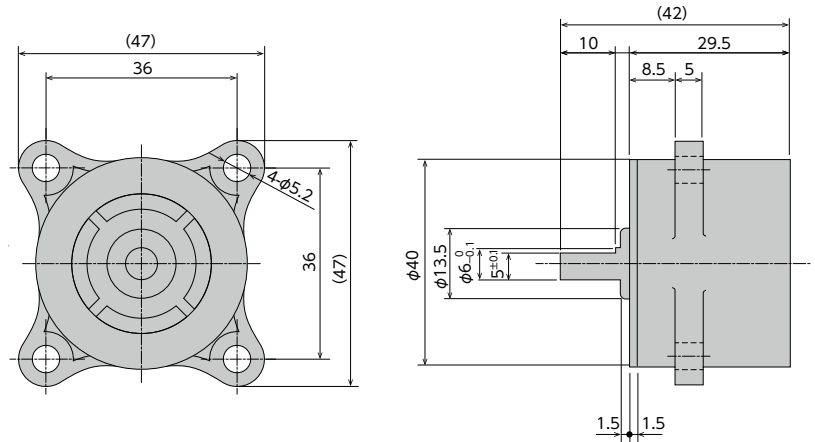
# Rotary Damper

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

## FRT/FRN-K2 Series

RoHS Compliant

● Products specification might be changed without notice.



## Specifications

Model	Rated torque	Damping direction
FRT-K2-103	$1 \pm 0.2 \text{ N}\cdot\text{m}$ ( $10 \pm 2 \text{ kgf}\cdot\text{cm}$ )	Both directions
FRN-K2-R103	$1 \pm 0.2 \text{ N}\cdot\text{m}$	Clockwise
FRN-K2-L103	( $10 \pm 2 \text{ kgf}\cdot\text{cm}$ )	Counter-clockwise

- \* Max. rotational speed 50rpm
- \* Max. cycle rate 10cycle /min
- \* Operating temperature  $0 \sim 50^{\circ}\text{C}$
- \* Weight FRT-K2 : 78.3g  
FRN-K2 : 56.6g
- \* Main body material Polycarbonate + glass fiber
- \* Rotating shaft material Metal (SUS)
- \* Oil type Silicone oil

Note 1) Rated torque measured at a rotation speed of 20rpm at  $23^{\circ}\text{C}$   
 Note 2) Torque can be customized by changing the oil viscosity  
 (see Customizable Torque Chart on page 178)  
 Note 3) Dampers with gear can also be custom ordered.  
 ● An FRT type damper generates torque in both directions and an FRN type that generates one-way torque in the CW direction (R) or CCW direction (L) when the rotating axle is viewed from the top.

## Damper Characteristics

### 1. Speed characteristics

A rotary damper's torque varies according to the rotation speed. In general, as shown in the graph to the right, the torque increases as the rotation speed increases, and the torque decreases as the rotation speed decreases. In addition, please note that the starting torque slightly differs from the rated torque.

### 2. Temperature characteristics

A rotary damper's torque varies according to the ambient temperature. In addition, as shown in the graph to the right, the torque decreases as the ambient temperature increases, and the torque increases as the ambient temperature decreases. This is because the viscosity of the silicone oil inside the damper varies according to the temperature. When the temperature returns to normal, the torque will return to normal as well.

