

# Rotary Damper

## FRT-L1 Series

Fixed Type

Bi-Directional

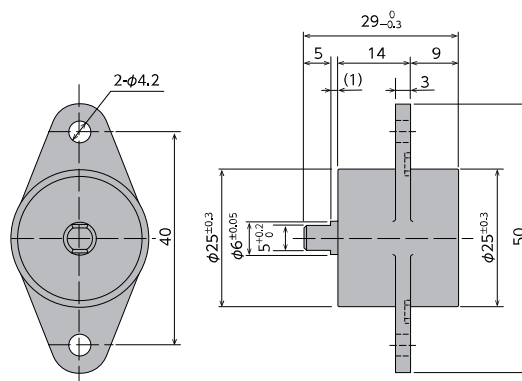
Adjustable type

Uni-Directional

Self-adjusting

RoHS Compliant

●Products specification might be changed without notice.



## Specifications

Model	Rated torque
FRT-L1-202	$(200 \pm 40) \times 10^{-3} \text{ N} \cdot \text{m}$ $2,000 \pm 400 \text{ gf} \cdot \text{cm}$
FRT-L1-302	$(300 \pm 60) \times 10^{-3} \text{ N} \cdot \text{m}$ $3,000 \pm 600 \text{ gf} \cdot \text{cm}$

Note 1) Rated torque measured at a rotational speed of 20 rpm at 23°C

Note 2) Torque can be customized by changing the oil viscosity.  
(See Customizable Torque Chart on page 178.)

*Max. rotational speed	50rpm
*Max. cycle rate	10cycle/min
*Operating temperature	0~50°C
*Weight	14,1g
*Main body material	Polycarbonate (PC)
*Rotating shaft material	Polyacetal (POM)
*Oil type	Silicone oil

## 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.

