



### SPECIFICATIONS

Model	Rated Torque	Damping Direction	Max Rotation Speed
FRN-D3-R102	$(100 \pm 20) \times 10^{-3} \text{Nm}$ (1000 $\pm$ 200gfc <sub>m</sub> )	Clockwise	50 RPM

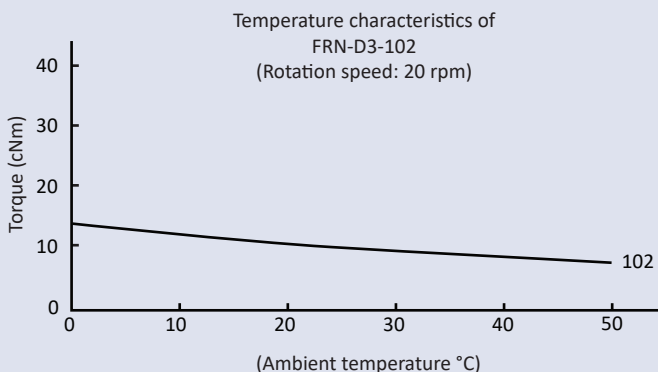
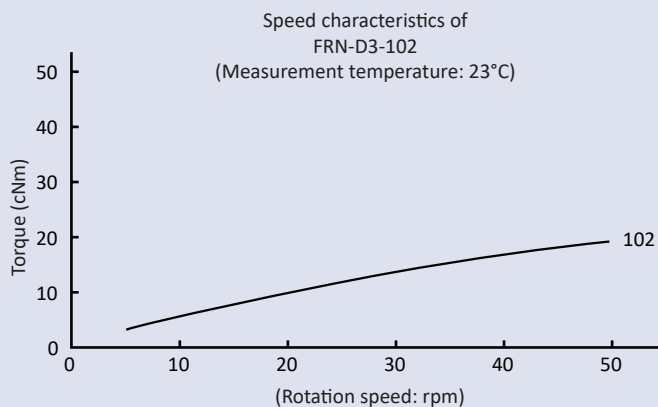
Max Cycle Rate	Operating Temperature	Weight	Body & Cap Material	Rotating Shaft Material	Oil Type	Cap Color
10 cycles/min.	0 ~ 50°C	12.3g	Polyacetal (POM)	Metal (SUS)	Silicone Oil	Black

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

Note 2) Torque can be customized by changing the oil viscosity

- There are dampers that generate torque in both directions and one-way torque in the clockwise direction or counter clockwise direction when the rotating axle is viewed from the top

### DAMPING CHARACTERISTICS



- Speed characteristics:** A rotary damper's torque varies according to the rotation speed. In general, as shown in the graph to the left, 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.
- Temperature characteristics:** A rotary damper's torque varies according to the ambient temperature. In addition, as shown in the graph to the left, 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.