



SPECIFICATIONS

| Model | Rated Torque | Damping Direction | Max Rotation Speed | Max Cycle Rate |
|----------------|-------------------------------|-------------------|--------------------|----------------|
| FRN-P2-L202-G2 | 0.20±0.04Nm (2.0±0.4kgfcm) | Counter-clockwise | 50 RPM | 10 cycles/min. |

| Operating Temperature | Weight | Body & Cap Material | Rotating Shaft Material | Gear Material | Oil Type |
|-----------------------|--------|----------------------------------|-------------------------|------------------|--------------|
| 0 ~ 50°C | 64g | Polybutylene terephthalate (PBT) | Metal (SUS) | Polyacetal (POM) | Silicone Oil |

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

Note 2) Gear model number has G1 at the end

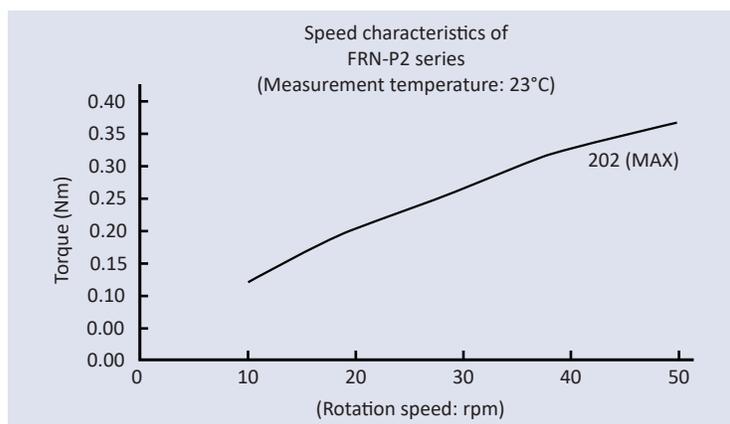
Note 3) Torque can be customized by changing the oil viscosity

■ 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

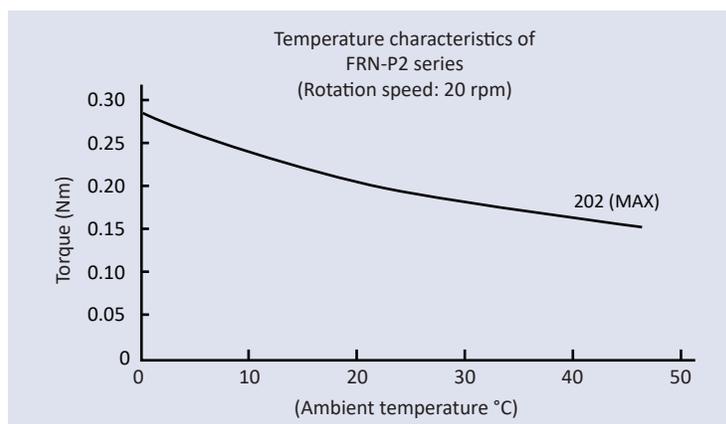
GEAR SPECIFICATIONS

| Model | Type | Tooth Profile | Module | Pressure Angle | Number of Teeth | Pitch Circle Diameter | Addendum Modification Coefficient |
|-------|-------------------|---------------|--------|----------------|-----------------|-----------------------|-----------------------------------|
| G2 | Shifted Spur Gear | Involute | 3.0 | 20° | 13 | ø39 | +0.25 |

DAMPING CHARACTERISTICS

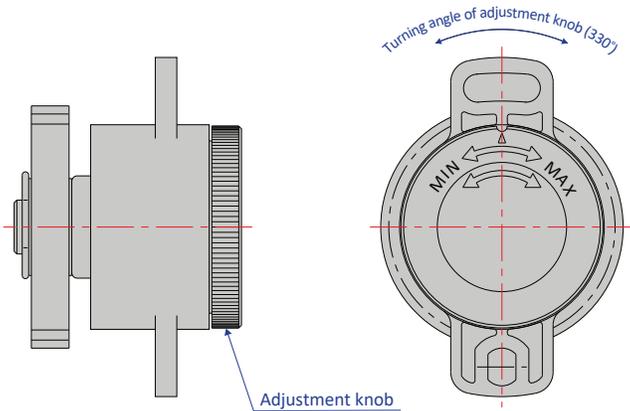


■ **Speed characteristics:** A rotary damper's torque varies according to the rotation speed. In general, as shown in the graph above, the torque increases as the rotation speed increases, and the torque decreases as the rotation speed decreases. In addition, please note that the starting torque slightly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



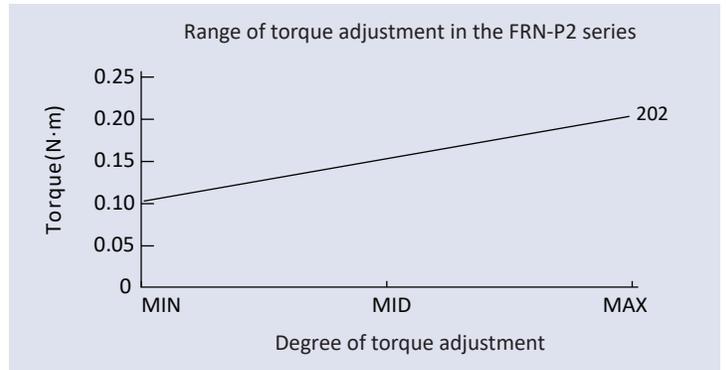
■ **Temperature characteristics:** A rotary damper's torque varies according to the ambient temperature. In addition, as shown in the graph above, the torque decreases as the ambient temperature increases, and the torque increases as the ambient temperature decreases. This is because the viscosity of 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.

HOW TO ADJUST TORQUE



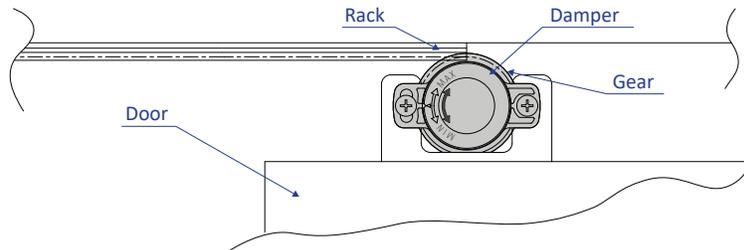
Turn the adjustment knob clockwise to increase damper torque and counterclockwise to decrease it.

RANGE OF TORQUE ADJUSTMENT



EXAMPLE OF USING A DAMPER

Application of the FRN-P2 Series

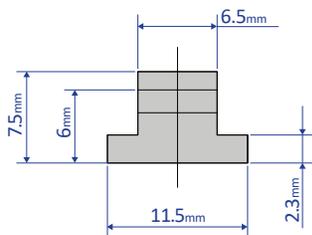


OPTION RACK

G1 Rack : ROP-020P2-1

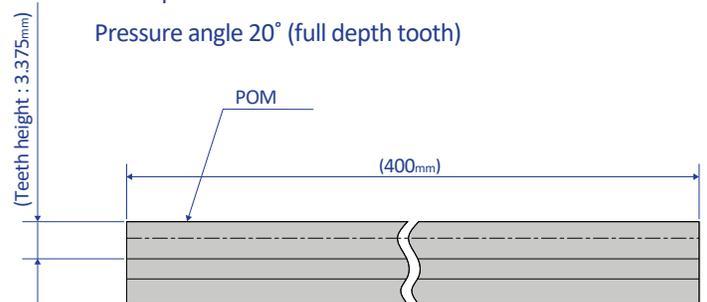
Applicable Models: FRN-P2

*Can be used with
G1 option ONLY



Rack specifications : $m=1.5$ $Z=85$

Pressure angle 20° (full depth tooth)



There is no provision for option racks complying with the gear specification G2 (shifted spur gear) of FRN-P2