New products

1 Soft Absorber

2 Rotary Damper

3 Magnum Series

4 Speed Controller

5 Helical Isolator

6 Model Selection Form

Vane Damper

FYN-B1 Series

Specifications

Model	Max. torque	Reverse torque	Damping direction
FYN-B1-R502	0.5N·m (5kgf·cm)	0.3N·m or lower (3kgf·cm) or lower	Clockwise
FYN-B1-L502			Counter-clockwise
FYN-B1-R103	1N·m (10kgf·cm)	0.4N·m or lower (4kgf·cm) or lower	Clockwise
FYN-B1-L103			Counter-clockwise
FYN-B1-R153	1.5N·m (15kgf·cm)	0.5N·m or lower (5kgf·cm) or lower	Clockwise
FYN-B1-L153			Counter-clockwise

Note) Measured at 23°C±2°C

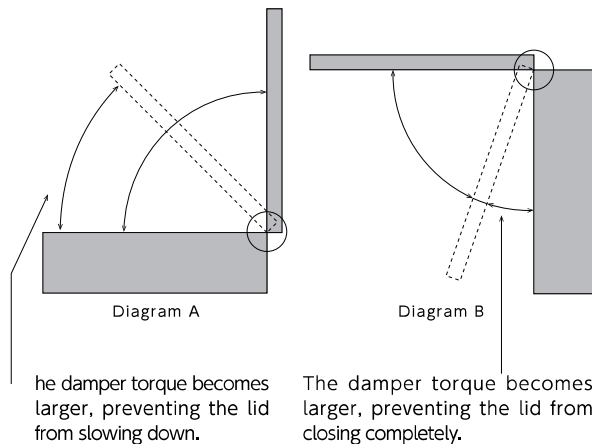＊Max. angle   110°
＊Operating temperature   −5～50℃
＊Weight   9±1g
＊Body and cap material   Polybutylene terephthalate (PBT)

＊Rotating shaft material   Polyphenylene Sulphide (PPS)
＊Oil type   Silicone oil
＊R type has Black shaft / L type has white shaft
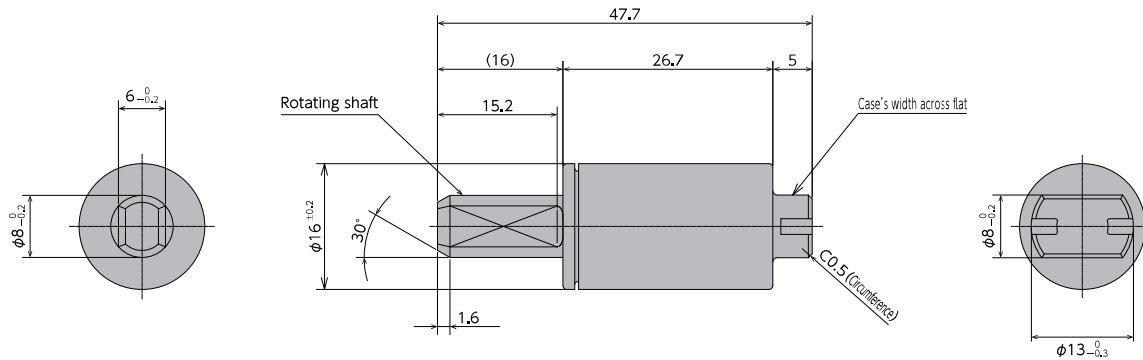
How to Use the Damper

1. FYN-B1 is designed to generate a large torque just before a lid closing from a vertical position, as shown in Diagram A, comes to a full closure. When a lid is closed from a horizontal position, as shown in Diagram B, a strong torque is generated just before the lid is fully closed, causing the lid to not close properly.

Diagram A

Diagram B

he damper torque becomes larger, preventing the lid from slowing down.

The damper torque becomes larger, preventing the lid from closing completely.

2. When using a damper on a lid, such as the one shown in the diagram, use the following selection calculation to determine the damper torque.
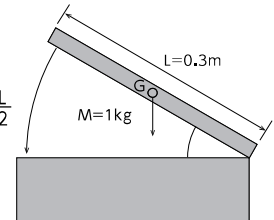
Example)
Lid mass M : 1kg
Lid dimensions L: 0.3m
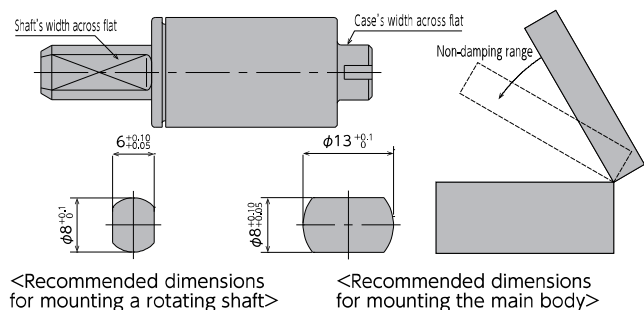Gravity Center Position : Assumed as $\frac{L}{2}$
Load torque : $T = 1.5 \times 0.4 \times 9.8 \div 2$
$= 2.94$N·m
Based on the above calculation,
FYN-B1-*153 is selected.

3. When connecting the rotating shaft to other parts, please ensure a tight fit between them. Without a tight fit, the lid will not slow down properly when closing. The corresponding dimensions for fixing the rotating shaft and the main body are as follows.

<Recommended dimensions for mounting a rotating shaft>

<Recommended dimensions for mounting the main body>

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

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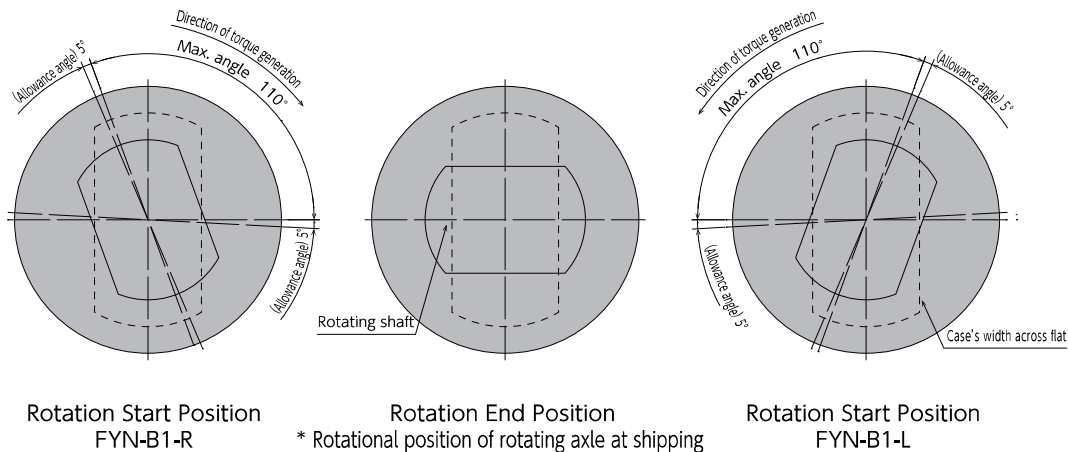6 Model Selection Form

RoHS Compliant

●Products specification might be changed without notice.

4. 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 viscosity of the oil inside the damper varies according to the temperature. When the temperature returns to normal, the damper characteristics will return to normal as well. The changes in the time it takes for the lid to close are shown in the graph to the right.

Temperature characteristics of the FYN-B1 series

Time T [sec] vs (Ambient temperature °C)
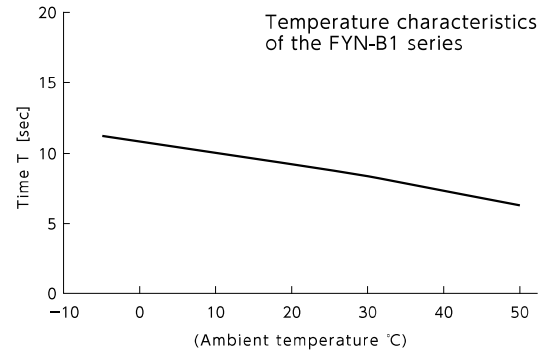
5. The damper's working angle is 110°, as shown below. Rotating the damper beyond this angle will cause damage to the damper. Please ensure that an external stopper is in place. The working angle is based on the width across flat for fixing, located towards the rear end of the main body. The position where the rotation is complete is at 90° with respect to the width across flat.

Rotation Start Position
FYN-B1-R

Rotation End Position
* Rotational position of rotating axle at shipping

Rotation Start Position
FYN-B1-L

6. The direction in which torque is generated varies according to the model. Please select the appropriate model for your purpose.