Vane Damper

FYN-C1 Series

Specifications

| Model	Max. torque	Reverse torque	Directions
FYN-C1-R203	2N·m	0.3 N·m or lower	Clockwise (CW)
FYN-C1-L203	(20kgf·cm)	(3 kgf·cm or lower)	Counterclockwise (CCW)
FYN-C1-R253	2.5N·m	0.5 N·m or lower	Clockwise (CW)
FYN-C1-L253	(25kgf·cm)	(5 kgf·cm or lower)	Counterclockwise (CCW)
FYN-C1-R303	3N·m	0.7 N·m or lower	Clockwise (CW)
FYN-C1-L303	(30kgf·cm)	(7 kgf·cm or lower)	Counterclockwise (CCW)
FYN-C1-R353	3.5N·m	0.9 N·m or lower	Clockwise (CW)
FYN-C1-L353	(35kgf·cm)	(9 kgf·cm or lower)	Counterclockwise (CCW)
FYN-C1-R403	4N·m	1.1 N·m or lower	Clockwise (CW)
FYN-C1-L403	(40kgf·cm)	(11 kgf·cm or lower)	Counterclockwise (CCW)

Note) Measured at 23°C±2°C

＊ Max. angle   110°
＊ Operating temperature   −5～50℃
＊ Weight   30±2g
＊ Body and cap material   Polybutylene terephthalate (PBT)
＊ Rotating shaft material   Zinc die-cast (ZDC)
＊ Oil type   Silicone oil

Rotating shaft

Case's width across flat
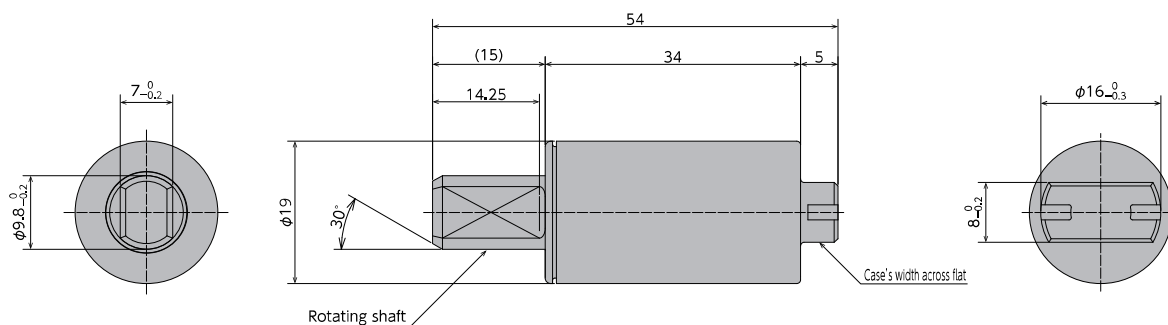
How to Use the Damper

1. The FYN-C1 series has been designed so that when a lid is closing from a vertical position, as shown in Figure A, high torque is generated just before it closes completely.
   For a lid that closes from a horizontal position, as shown in Figure B, the strong torque generated just prior to a complete closure may prevent the lid from becoming fully closed.

Figure A   Figure B
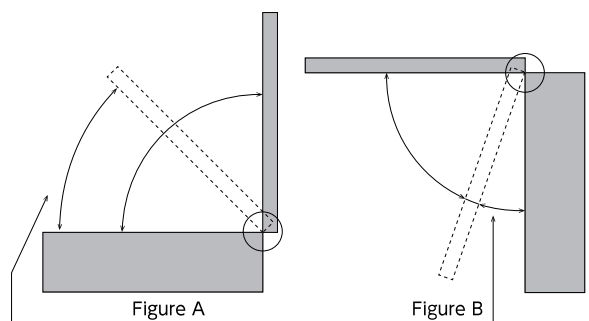
Stronger damper torque allows the lid to close gently until it is fully closed.

Stronger damper torque prevents the lid from being fully closed.

2. When using a damper with a lid shown in the diagram, determine the damper torque based on the following selection calculation.
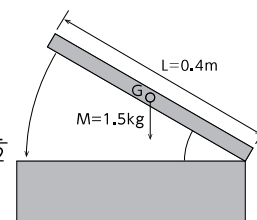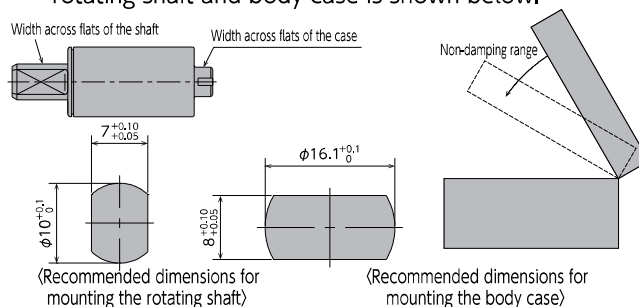
Example)
Lid weight M : 2kg
Lid dimension L : 0.4m
Gravity Center Position G: Assumed as $\frac{L}{2}$
Load torque : T=2×9.8×0.4÷2
         =3.92N·m

Based on the above calculation, select FYN-C1-*403.

L=0.4m
M=1.5kg

3. When connecting parts that are joined to the rotating shaft, ensure a snug fit. The lid will not decelerate as designed when closing if these parts are not connected properly. The dimensional tolerance for fixing the rotating shaft and body case is shown below.

Width across flats of the shaft

Width across flats of the case

Non-damping range

⟨Recommended dimensions for mounting the rotating shaft⟩

⟨Recommended dimensions for mounting the body case⟩

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

New products
1 Soft Absorber
2 Rotary Damper
3 Magnum Series
4 Speed Controller
5 Helical Isolator
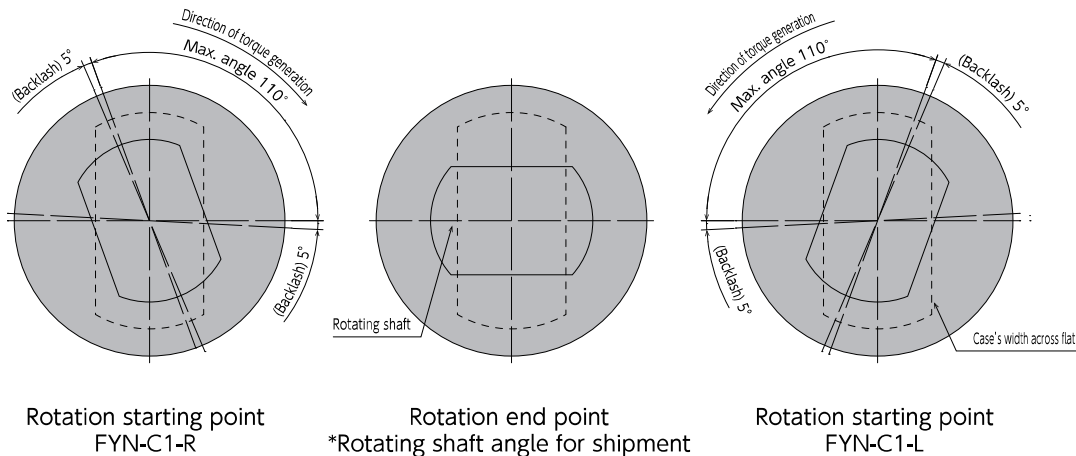6 Model Selection Form

RoHS Compliant

●Products specification might be changed without notice.

4. Damper characteristics vary according to the ambient temperature. In general, damper characteristics weaken as the temperature goes up, and become stronger as the temperature goes down.
This occurs because the viscosity of oil inside the damper is affected by the temperature change. Once the temperature returns to normal, so will the damper characteristics. Please refer to the right diagram for change in the action time for a free-closing lid.

FYN-C1 series
Temperature characteristics

Action time T [sec] vs Ambient temperature[℃]
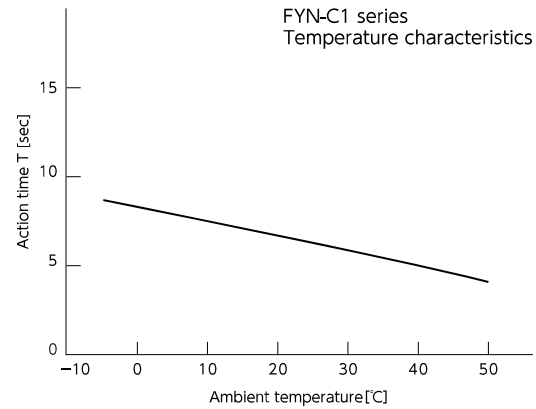
5. The damper action angle is 110° as shown below. Rotating it beyond this angle will cause the damper to break. Ensure that an external stopper is in place. The action angle is based on the width across flats of the case on the back of the body. The rotation end point is at 90° on the basis of the width across flats of the case. (Refer to the figure below.)

Rotation starting point
FYN-C1-R

Rotation end point
*Rotating shaft angle for shipment

Rotation starting point
FYN-C1-L

6. There are dampers that generate torque in either the clockwise or counterclockwise direction when the rotating shaft is seen from the above. Select a model according to use.