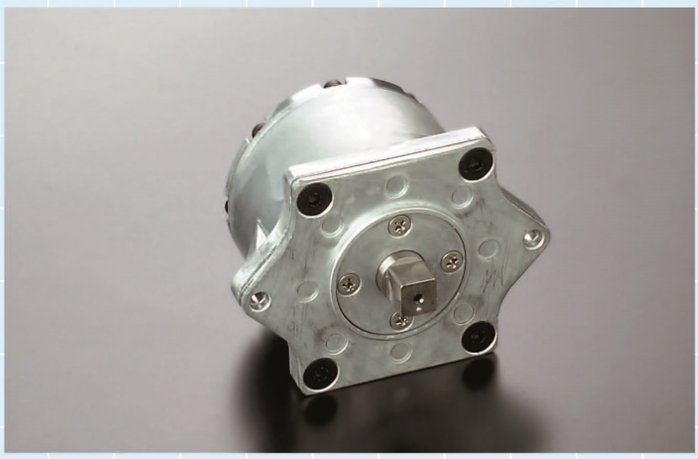
Soft Silent Safety

FYT/FYN-LA3 Series

RoHS Compliant

Vane Damper [Bi-Directional] [Uni-Directional] Adjustable

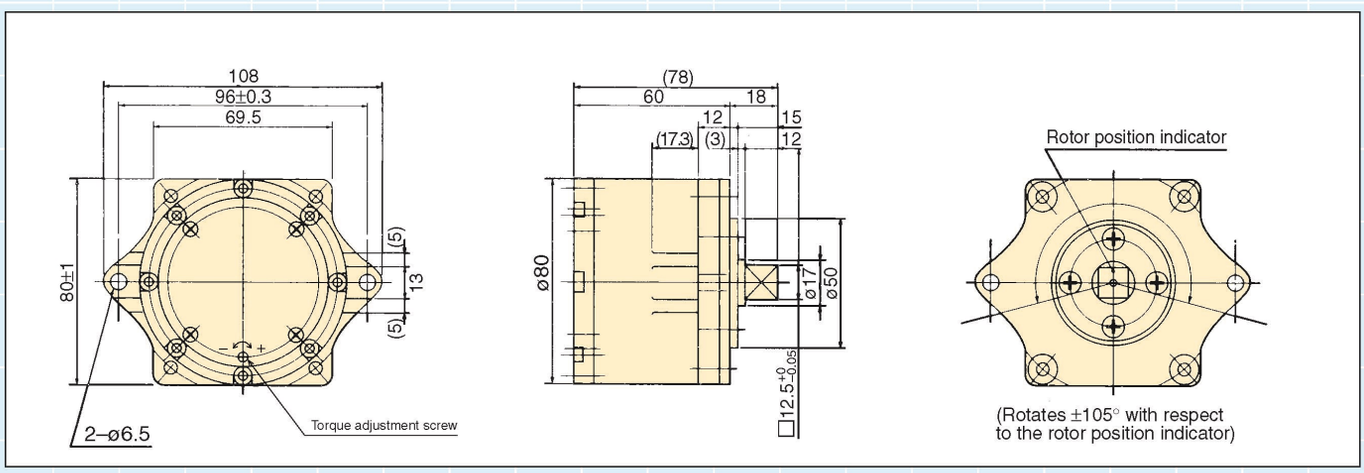


<Specifications>

Model	Max. torque	Damping constant	Damping direction
FYT-LA3	40 N·m (400kgf·cm)	10~60 N·m/(rad/sec)	Both directions
FYN-LA3-R			Clockwise
FYN-LA3-L			Counter-clockwise

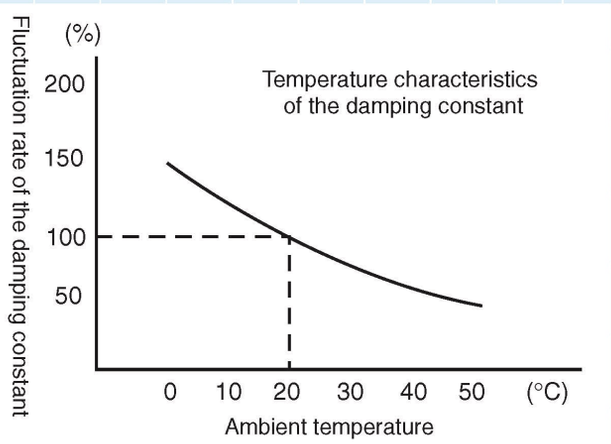
Note) Measured at 23°C±2°C

*Max. angle	210°
*Operating temperature	0~50°C
*Weight	1.75kg
*Body and cap material	Zinc die-cast (ZDC)
*Rotating shaft material	Alloy steel
*Oil type	Silicone oil



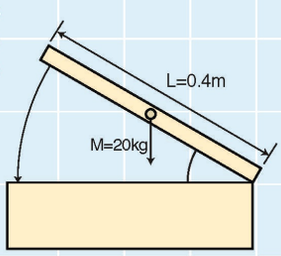
How to Use the Damper

1. Damper characteristics vary according to the ambient temperature. In general, the damping constant decreases as the temperature increases, and the damping constant increases as the temperature decreases. This is because the viscosity of the oil inside the damper changes according to the temperature. When the temperature returns to normal, the damping constant will return to normal as well.

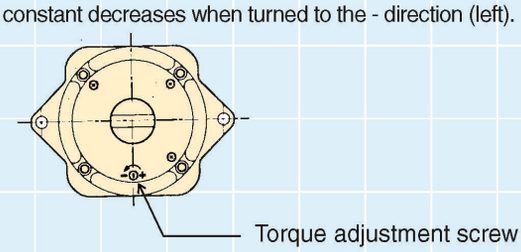


2. When using a damper on a lid, such as the one shown in the diagram, use the following selection calculation to determine the damper torque.

Example) Lid mass M : 20 kg
Lid dimensions L : 0.4m
Load torque : T=0.4X20X9.8÷2
=39.2N·m



3. FYT, FYN-LA3 series are torque-adjustable types. Turn the damping adjustment screw located on the back of the main body by inserting a slotted screwdriver.
The damping constant increases when turned to the + direction (right).
The damping constant decreases when turned to the - direction (left).



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<Instruction for Damper Attachment>

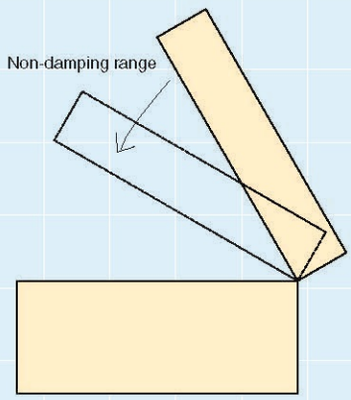
1. When attaching a rotating shaft to its corresponding part, ensure that they are firmly attached together by making the gap between them as small as possible. A large gap may affect the damper's non-damping range, preventing the lid from slowing down properly.

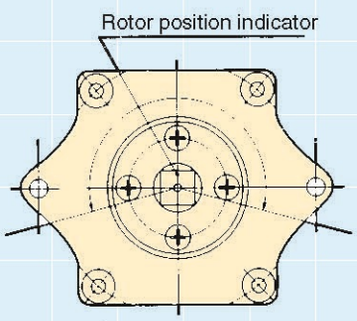
2. The damper's working angle is ±105°, as shown on the right (second diagram). Please determine where to attach it according to your needs.

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

4. Do not use the damper as a stopper. An external stopper must be attached at the stopping position.

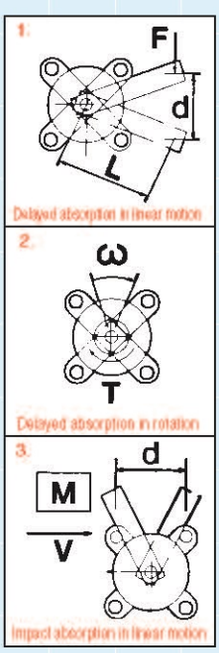
5. In FYN-LA3-L and FYN-LA3-R, the angular velocity in the reverse direction (opposite to the direction of torque generation) should be 1 rad/sec or less.





(Rotates ±105° with respect to the rotor position indicator)

<How to Calculate the Damping Constant for Vane Dampers>



1. Delayed absorption in linear motion

Formula (N·m/(rad/sec))= $\frac{FL^2t}{d}$

F = Force or mass applied to the lever tip (N)
L = Distance between the centre of the damper shaft and the lever's point of application (m)
d = Distance travelled by lever (m)
t = Travelling time of the lever (sec)

2. Delayed absorption in rotation

Formula (N·m/(rad/sec))= $\frac{T}{\omega}$

T = Torque applied to shaft (N·m)
ω = Angular velocity(rad/sec)

3. Impact absorption in linear motion

Formula (N·m/(rad/sec))= $\frac{MVL^2}{d}$

M = Mass(kg)
V = Velocity(m/sec)
L = Distance between the centre of the damper shaft and the lever's point of application (m)
d = Distance travelled by lever (m)