

## Vane Damper PTR-N1



### Specification

| Model       | Max. Torque         | Reverse torque       | Direction         |
|-------------|---------------------|----------------------|-------------------|
| PTR-N1-R103 | 1 N·m<br>(10kgf·cm) | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
| PTR-N1-L103 |                     |                      | Counter-clockwise |
| PTR-N1-R203 | 2 N·m<br>(20kgf·cm) | 0.4 N·m<br>(4kgf·cm) | Clockwise         |
| PTR-N1-L203 |                     |                      | Counter-clockwise |
| PTR-N1-R303 | 3 N·m<br>(30kgf·cm) | 0.8 N·m<br>(8kgf·cm) | Clockwise         |
| PTR-N1-L303 |                     |                      | Counter-clockwise |

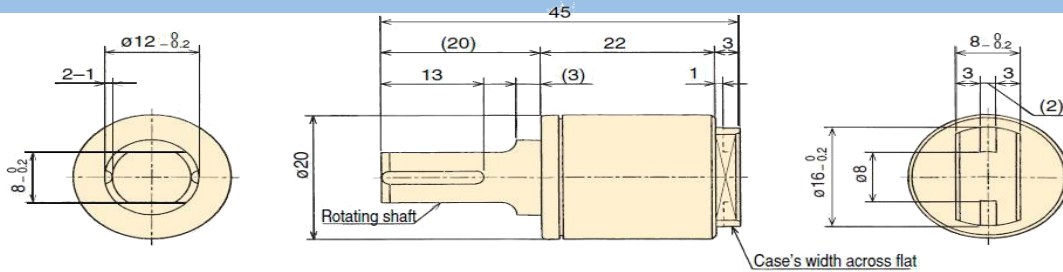
**Note:** Measured at 23°C±2°C

### Features

100% performance test  
Environment test  
Oil leakage test  
Life cycle test: > 50,000 times  
ISO9001:2008  
ROHS directive

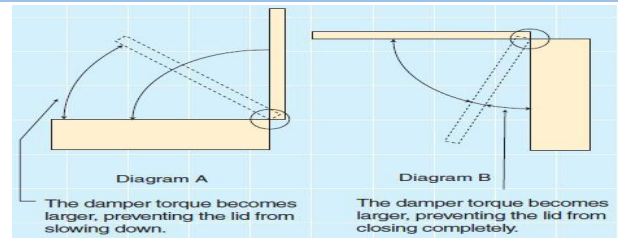
\* Max.Angle: 110°  
\* Working Temperature: -5°C ~ 50°C  
\* Weight: 12±1g  
\* Oil type: Silicone oil  
\* Body and cap material: Polybutylene terephthalate (PBT)  
\* Rotating shaft material: Polyphenylene Sulphide PPS

### Size



### How to use the damper

1. PTR-N1 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.



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.

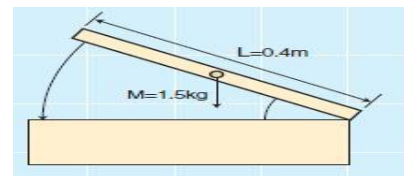
<Specifications>

Example) Lid mass M: 1.5 kg

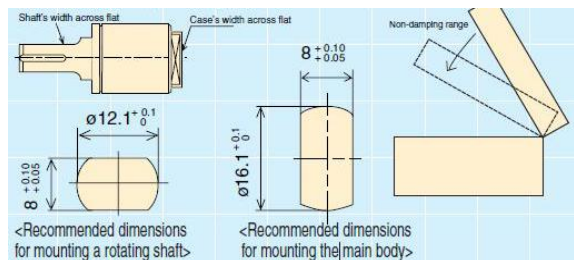
Lid dimensions L: 0.4m

Load torque:  $T = 1.5 \times 0.4 \times 9.8 \div 2 = 2.94 \text{ N}\cdot\text{m}$

Based on the above calculation, PTR-N1-\*303 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 right side.



## Vane Damper PTR-N1-18



### Specification

| Model          | Max. Torque           | Reverse torque       | Direction         |
|----------------|-----------------------|----------------------|-------------------|
| PTR-N1-18-R103 | 1 N·m<br>(10kgf·cm)   | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
| PTR-N1-18-L103 |                       |                      | Counter-clockwise |
| PTR-N1-18-R153 | 1.5N·m<br>(20kgf·cm)  | 0.3 N·m (3kgf·cm)    | Clockwise         |
| PTR-N1-18-L153 |                       |                      | Counter-clockwise |
| PTR-N1-18-R203 | 2 N·m<br>(20kgf·cm)   | 0.4 N·m (4kgf·cm)    | Clockwise         |
| PTR-N1-18-L203 |                       |                      | Counter-clockwise |
| PTR-N1-18-R253 | 2.5 N·m<br>(25kgf·cm) | 0.5N·m<br>(5kgf·cm)  | Clockwise         |
| PTR-N1-18-L253 |                       |                      | Counter-clockwise |

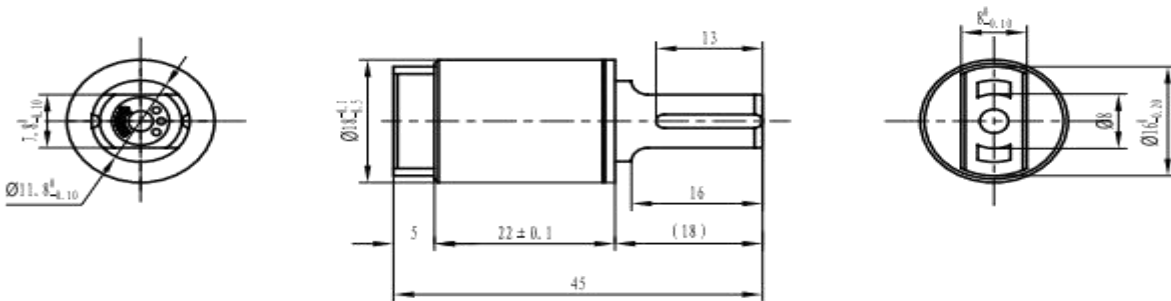
**Note:** Measured at 23°C±2°C

### Features

100% performance test  
 Environment test  
 Oil leakage test  
 Life cycle test: > 50,000 times  
 ISO9001:2008  
 ROHS directive

\* Max.Angle: 110°  
 \* Working Temperature: -5°C ~ 50°C  
 \* Weight: 12±1g  
 \* Oil type: Silicone oil  
 \* Body and cap material: Polybutylene terephthalate (PBT)  
 \* Rotating shaft material: Polyphenylene SulphidePPS

### Size



### How to use the damper

1. PTR-N1-18 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.

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. How to Use the Damper

<Specifications>

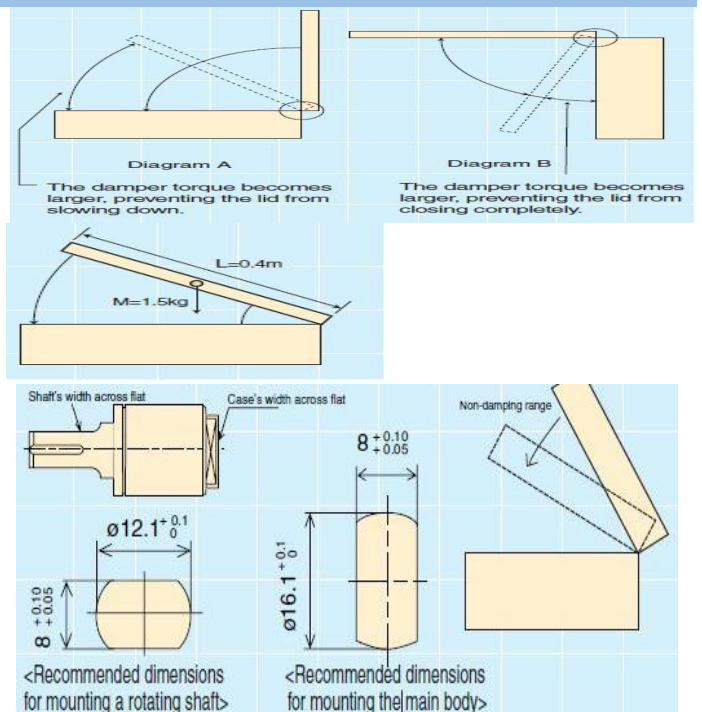
Example) Lid mass M: 1.5 kg

Lid dimensions L: 0.4m

Load torque:  $T=1.5 \times 0.4 \times 9.8 \div 2 = 2.94 \text{ N}\cdot\text{m}$

Based on the above calculation, PTR-N1-\*303 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 right side.



## Vane Damper PTR-N1 (Zinc Alloy)



### Specification

| Model       | Max. Torque          | Reverse torque        | Direction         |
|-------------|----------------------|-----------------------|-------------------|
| PTR-N1-R353 | 3.5N·m<br>(35kgf·cm) | 1.0 N·m<br>(10kgf·cm) | clockwise         |
| PTR-N1-L353 | 3.5N·m<br>(35kgf·cm) | 1.0 N·m<br>(10kgf·cm) | Counter-clockwise |
| PTR-N1-R403 | 4N·m<br>(40kgf·cm)   | 1.0 N·m<br>(10kgf·cm) | clockwise         |
| PTR-N1-L403 | 4N·m<br>(40kgf·cm)   | 1.0 N·m<br>(10kgf·cm) | Counter-clockwise |

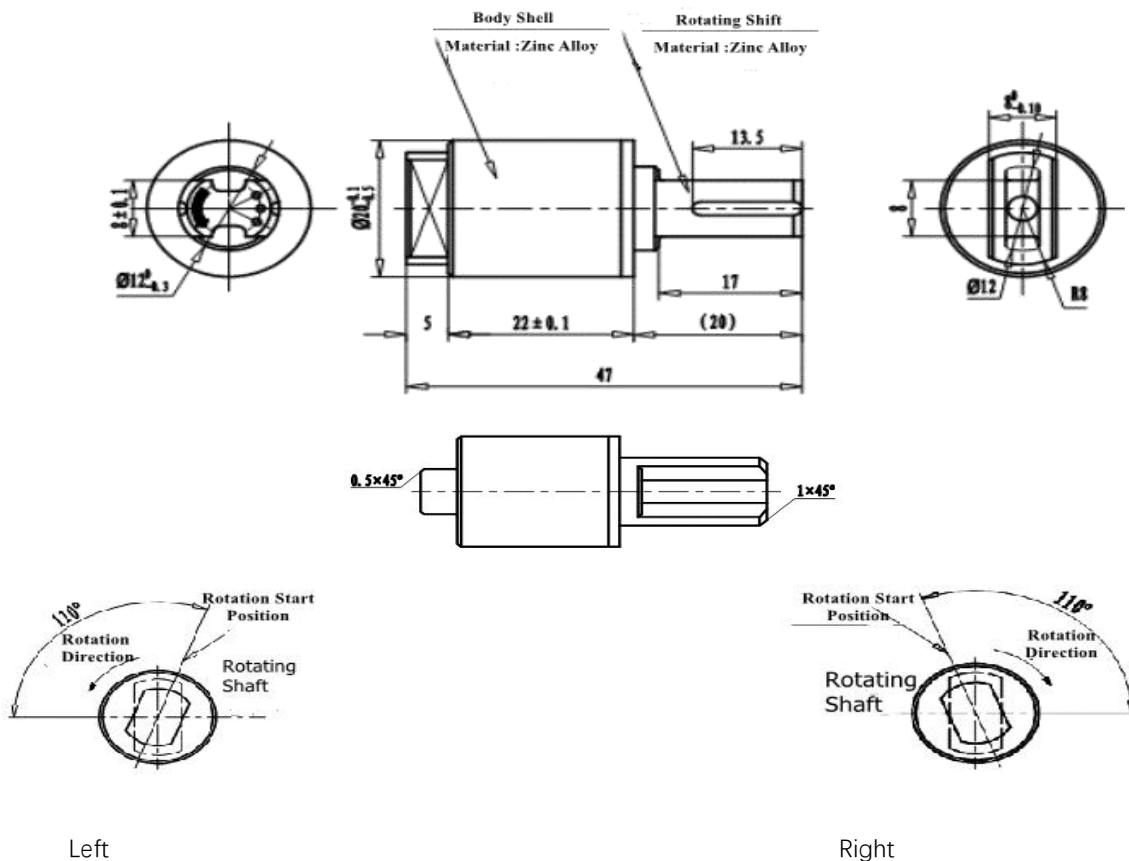
**Note: Measured at 23°C±2°C**

### Features

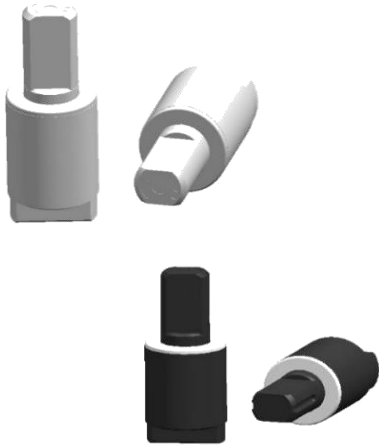
100% performance test  
 Environment test  
 Oil leakage test  
 Life cycle test: > 50,000 times  
 ISO9001:2008  
 ROHS directive

\* Max.Angle: 110°  
 \* Working Temperature: -5°C~50°C  
 \* Weight:25g±1g  
 \* Oil type: Silicone oil  
 \* Body and shell material: Polybutylene terephthalate (PBT)  
 \* Rotating shaft material: Zinc alloy

### Size



## Vane Damper PTR-N20



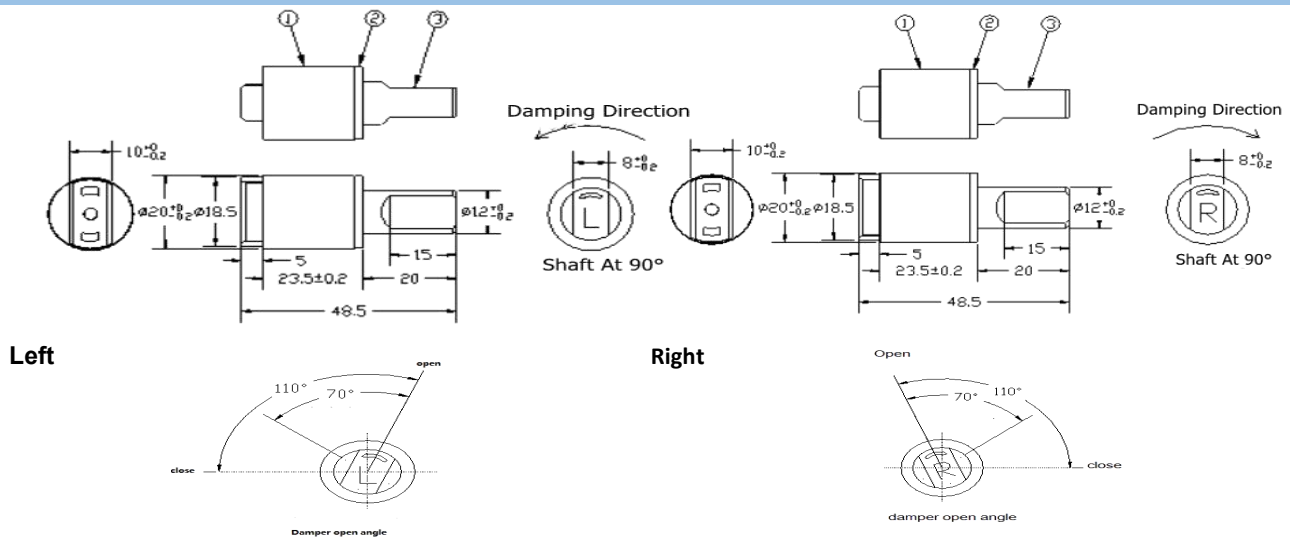
ISO9001:2008  
ROHS directive

### Specification

| Model        | Max. Torque           | Reverse torque       | Direction         |
|--------------|-----------------------|----------------------|-------------------|
| PTR-N20-R103 | 1 N·m<br>(10kgf·cm)   | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
| PTR-N20-L103 |                       |                      | Counter-clockwise |
| PTR-N20-R153 | 1.5 N·m<br>(15kgf·cm) | 0.3 N·m<br>(3kgf·cm) | Clockwise         |
| PTR-N20-L153 |                       |                      | Counter-clockwise |
| PTR-N20-R203 | 2N·m<br>(20kgf·cm)    | 0.4N·m (4kgf·cm)     | Clockwise         |
| PTR-N20-L203 |                       |                      | Counter-clockwise |
| PTR-N20-R253 | 2.5 N·m<br>(25kgf·cm) | 0.5 N·m<br>(5kgf·cm) | Clockwise         |
| PTR-N20-L253 |                       |                      | Counter-clockwise |

**Note: Measured at 23°C±2°C**

### Size



## Damper Characteristics

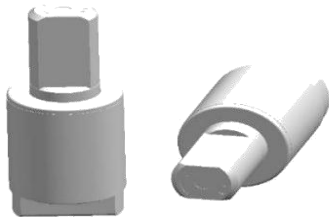
### NOTE

- It can not over its working angle when use it
- we can print customer logo and model

| item                | value         | remark              |
|---------------------|---------------|---------------------|
| Damping Angle       | 70°→0°        |                     |
| Max. Angle          | 110°          |                     |
| working temperature | 0-40°C        |                     |
| stock temperature   | -10~50°C      |                     |
| damping direction   | Left or Right | body fixed          |
| delivery status     | Shaft at 90°  | Same as the picture |

|                        |     |           |          |               |          |
|------------------------|-----|-----------|----------|---------------|----------|
| angle tolerance<br>±2° | ③   | Rotor     | POM+G    | natural color | 1        |
|                        | ②   | cover     | POM+G    | natural color | 1        |
| test at 23±2°C         | ①   | body      | POM+G    | natural color | 1        |
|                        | No. | part name | material | color         | quantity |

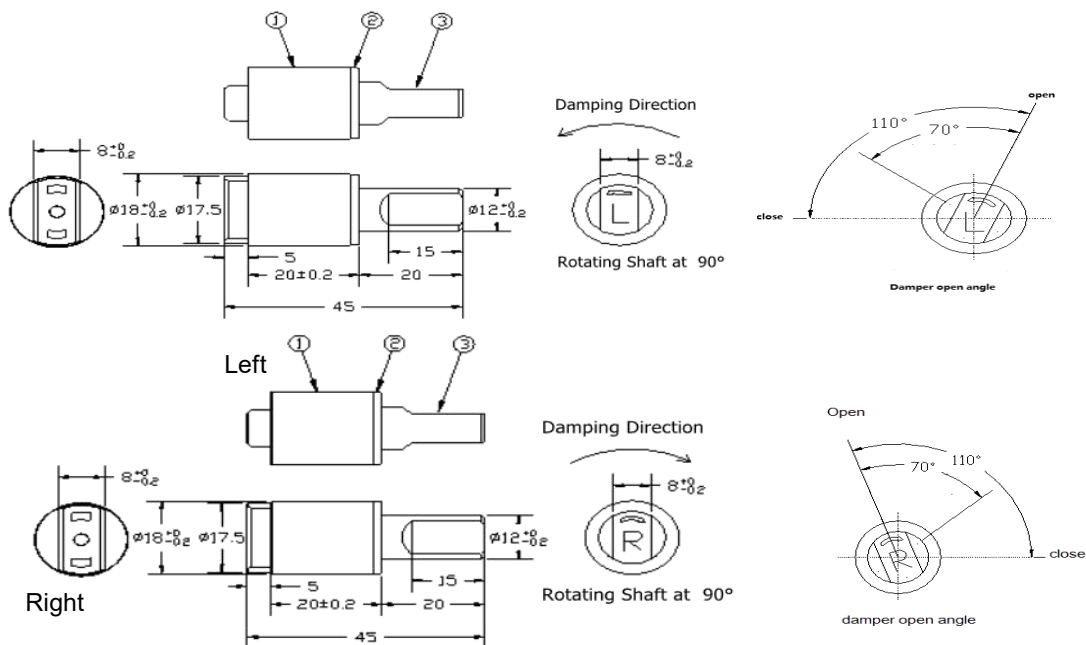
## Vane Damper PTR-N18



| Model         | Max. Torque           | Reverse torque       | Direction         |
|---------------|-----------------------|----------------------|-------------------|
| PTR-N18-R103  | 1.0 N·m<br>(10kgf·cm) | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
| PTR-N18-L103  |                       |                      | Counter-clockwise |
| PTR-N18-R203  | 2.0 N·m<br>(20kgf·cm) | 0.4 N·m<br>(4kgf·cm) | Clockwise         |
| PTR-N18-L203  |                       |                      | Counter-clockwise |
| PTR-N18-R253  | 2.5 N·m<br>(25kgf·cm) | 0.5 N·m<br>(5kgf·cm) | Clockwise         |
| PTR-N18-L1253 |                       |                      | Counter-clockwise |

ISO9001:2008  
ROHS directive

### Size



### Damper Characteristics

**NOTE**

1. It can not over its working angle when use it
2. we can print customer logo and model

| item                | value        | remark              |
|---------------------|--------------|---------------------|
| Damping Angle       | 70°→0°       |                     |
| Max. Angle          | 110°         |                     |
| working temperature | 0-40℃        |                     |
| stock temperature   | -10~50℃      |                     |
| damping direction   | Left/Right   | body fixed          |
| delivery status     | Shaft at 90° | Same as the picture |

|                 |     |     |           |          |               |          |
|-----------------|-----|-----|-----------|----------|---------------|----------|
| angle tolerance | ±2° | ③   | Rotor     | POM+G    | natural color | 1        |
|                 |     | ②   | cover     | POM+G    | natural color | 1        |
| test at 23±2℃   |     | ①   | body      | POM+G    | natural color | 1        |
|                 |     | No. | part name | material | color         | quantity |

## Vane Damper PTR-N13

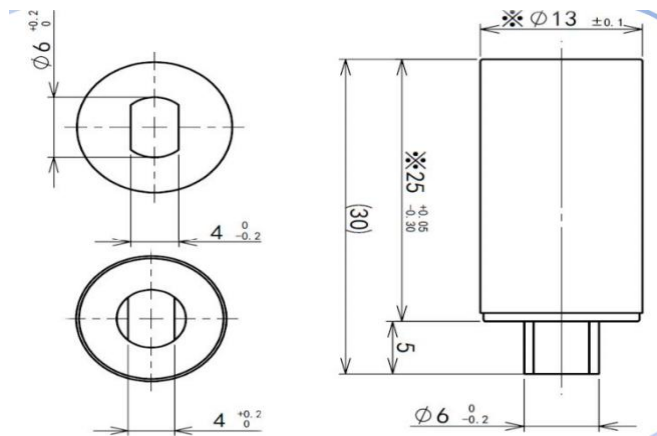


ISO9001:2008  
ROHS directive

| Torque |          |
|--------|----------|
|        | 10±2N·cm |
|        | 15±3N·cm |
|        | 20±4N·cm |
|        | 25±4N·cm |
|        | 30±5N·cm |
|        | 35±6N·cm |

**Note: Measured at 20°C, 20RPM**

## Size



## Damper Specification

| Bill of Material |          |
|------------------|----------|
| Base             | POM      |
| Rotor            | POM      |
| Caps             | POM      |
| O-Ring           | NBR      |
| Oil              | Silicone |

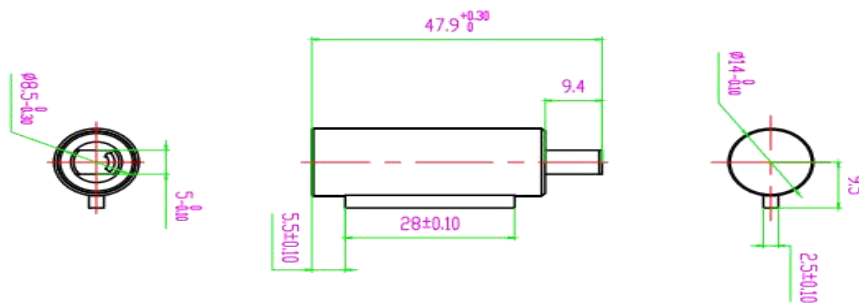
| Damper Specification   |                               |
|------------------------|-------------------------------|
| Torque                 | 8-41N.cm                      |
| Rotation Angle         | Free Angle                    |
| Size:                  | $\varnothing 13 \times 30$ mm |
| Temperature            | -5~50°C                       |
| Durability             | 30000 cycles                  |
| Maximum Rotation Speed | 50r/min                       |

## Heavy Duty Vane Damper PTR-N14



| Model        | Max. Torque         | direction         |
|--------------|---------------------|-------------------|
| PTR-N14-R103 | 1 N·m<br>(10kgf·cm) | Clockwise         |
| PTR-N14-L103 |                     | Counter-clockwise |
| PTR-N14-R203 | 2 N·m<br>(20kgf·cm) | Clockwise         |
| PTR-N14-L203 |                     | Counter-clockwise |
| PTR-N14-R303 | 3 N·m<br>(30kgf·cm) | Clockwise         |
| PTR-N14-L303 |                     | Counter-clockwise |

### Size



### Damper Specification

| Material       |              |
|----------------|--------------|
| Body material  | zinc alloy   |
| Rotating shaft | zinc alloy   |
| Fluid          | Silicon oil  |
| Weight         | $36 \pm 1$ g |

| Durability          |   |
|---------------------|---|
| Temperature         | $23^{\circ}\text{C}$                                  |
| One cycle           | → 1 way clockwise,<br>→ 1 way anticlockwise (30r/min) |
| Working temperature | $-5 \sim 50^{\circ}\text{C}$                          |
| Lifetime            | 50000 cycles  |

### Application

This damper can be used in toilet seat, washing machine lid, ice cream machine lid, any kinds food lids.

Refrigeration appliances: including household refrigerator, cold drink machine, etc.

Air conditioner: including room air conditioner, electric fan, ventilator, hot and cold air conditioner, air dehumidifier, etc.

Cleaning appliances: including washing machine, clothes dryer, electric iron, vacuum cleaner, floor waxing machine, etc.

Kitchen appliances: including electric cooker, microwave oven, electromagnetic cooker, electric oven, electric rice cooker, dish washer, electric water heater, food processor, etc.

Electric heating appliances: including electric blanket, electric heating quilt, electric heating clothing, space heater.

Cosmetic health appliances: including electric shaver, hair dryer, ultrasonic washing machine, electric massage machine, air anion generator.

Audio and video appliances: including television, radio, tape recorder, video recorder, video camera, integrated audio and so on.

Other electrical appliances: such as fireworks alarm, bell, etc.

### Damper Characteristics

- ▲ 100% performance test
- ▲ Environment test
- ▲ Oil leakage test
- ▲ Lifecycle test > 50000 times
- ▲ ISO9001:2008
- ▲ ROHS directive

## Vane Damper PTR-D6



| Model       | Max. torque         | Reverse torque       | Direction         |
|-------------|---------------------|----------------------|-------------------|
| PTR-D6-R103 | 1 N·m<br>(10kgf·cm) | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
| PTR-D6-L103 |                     |                      | Counter-clockwise |
| PTR-D6-R203 | 2 N·m<br>(20kgf·cm) | 0.4 N·m<br>(4kgf·cm) | Clockwise         |
| PTR-D6-L203 |                     |                      | Counter-clockwise |
| PTR-D6-R303 | 3 N·m<br>(30kgf·cm) | 0.8 N·m<br>(8kgf·cm) | Clockwise         |
| PTR-D6-L303 |                     |                      | Counter-clockwise |

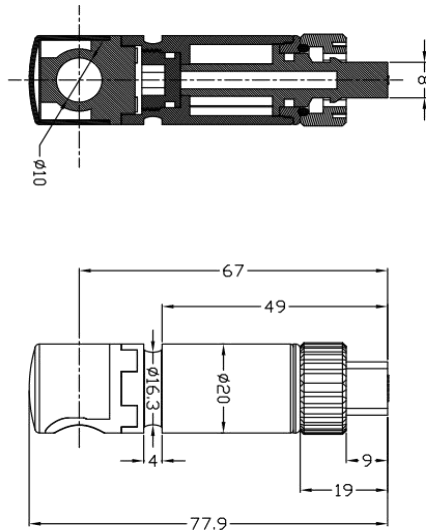
Note) Measured at 23°C±2°C

### Features

100% performance test  
 Environment test  
 Oil leakage test  
 Life cycle test: > 50000 times  
 ISO9001:2008  
 ROHS directive

\* Max.Angle: 110°  
 \* Working Temperature: -5°C~50°C  
 \* Weight: 28±1g  
 \* Oil type: Silicone oil

## Size



## Damper Application

It is a easy take off hinge for toilet seat.

## Optional Attachment (Hinge)





## Vane Damper PTR-D4



| Model       | Max. torque | Reverse torque | Direction         |
|-------------|-------------|----------------|-------------------|
| PTR-D4-R103 | 1 N·m       | 0.2 N·m        | Clockwise         |
| PTR-D4-L103 | (10kgf·cm)  | (2kgf·cm)      | Counter-clockwise |
| PTR-D4-R203 | 2 N·m       | 0.4 N·m        | Clockwise         |
| PTR-D4-L203 | (20kgf·cm)  | (4kgf·cm)      | Counter-clockwise |
| PTR-D4-R303 | 3 N·m       | 0.8 N·m        | Clockwise         |
| PTR-D4-L303 | (30kgf·cm)  | (8kgf·cm)      | Counter-clockwise |

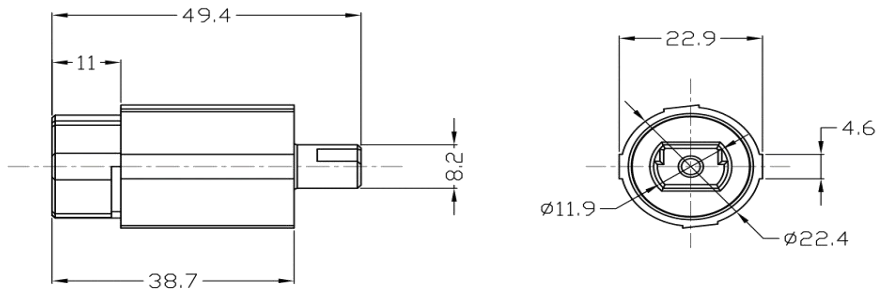
Note: Measured at 23°C±2°C

### Features

100% performance test  
 Environment test  
 Oil leakage test  
 Life cycle test: > 50000 times  
 ISO9001:2008  
 ROHS directive

\* Max.Angle: 110°  
 \* Working Temperature: -5°C~50°C  
 \* Oil type: Silicone oil

## Size



## Damper Application

It is a easy take off hinge for toilet seat.

## Optional Attachment (Hinge)



## Vane Damper PTR-H2



| Model       | Max. torque      | Reverse torque     | Direction         |
|-------------|------------------|--------------------|-------------------|
| PTR-H2-R103 | 1 N·m (10kgf·cm) | 0.2 N·m (2kgf·cm)  | Clockwise         |
| PTR-H2-L103 |                  |                    | Counter-clockwise |
| PTR-H2-R203 | 2 N·m (20kgf·cm) | 0.4 N·m (4kgf·cm)  | Clockwise         |
| PTR-H2-L203 |                  |                    | Counter-clockwise |
| PTR-H2-R303 | 3 N·m (30kgf·cm) | 0.8 N·m (8kgf·cm)  | Clockwise         |
| PTR-H2-L303 |                  |                    | Counter-clockwise |
| PTR-H2-R403 | 4 N·m (40kgf·cm) | 1.0 N·m (10kgf·cm) | Clockwise         |
| PTR-H2-L403 |                  |                    | Counter-clockwise |

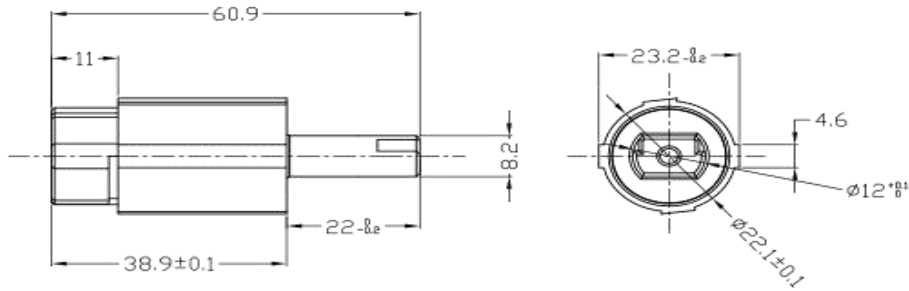
Note) Measured at 23°C±2°C

### Features

100% performance test  
 Environment test  
 Oil leakage test  
 Life cycle test: > 50000 times  
 ISO9001:2008  
 ROHS directive

\* Max.Angle: 110°  
 \* Working Temperature: -5°C~50°C  
 \* Oil type: Silicone oil

## Size



## Damper Application

It is used for toilet seat.

## Vane Damper PTR-H6



| Model       | Max. torque         | Reverse torque       | Direction         |
|-------------|---------------------|----------------------|-------------------|
| PTR-H6-R103 | 1 N·m<br>(10kgf·cm) | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
| PTR-H6-L103 |                     |                      | Counter-clockwise |
| PTR-H6-R203 | 2 N·m<br>(20kgf·cm) | 0.4 N·m<br>(4kgf·cm) | Clockwise         |
| PTR-H6-L203 |                     |                      | Counter-clockwise |
| PTR-H6-R303 | 3 N·m<br>(30kgf·cm) | 0.8 N·m<br>(8kgf·cm) | Clockwise         |
| PTR-H6-L303 |                     |                      | Counter-clockwise |

Note) Measured at 23°C±2°C

\* Max.Angle: 110°

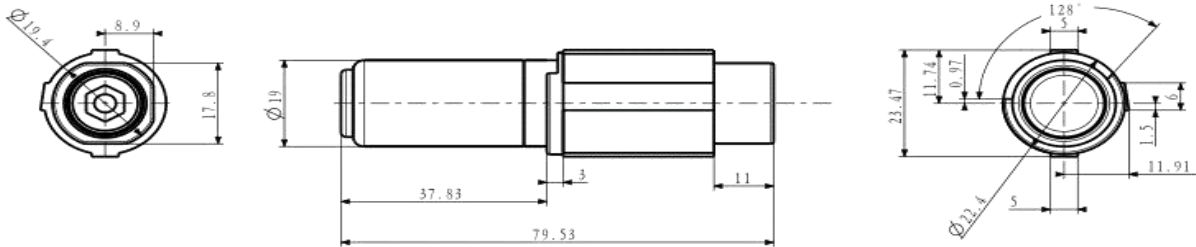
\* Working Temperature: -5°C~50°C

\* Oil type: Silicone oil

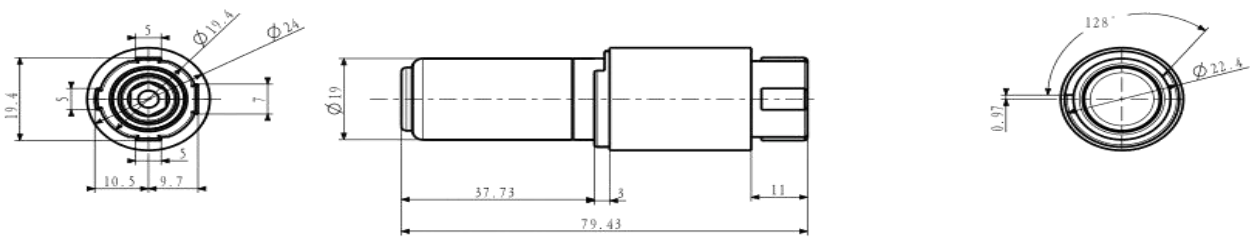
ISO9001:2008  
ROHS directive

### Size

Left



Right



### How to use the damper

It is used for toilet seat.

### Optional Attachment (Hinge)



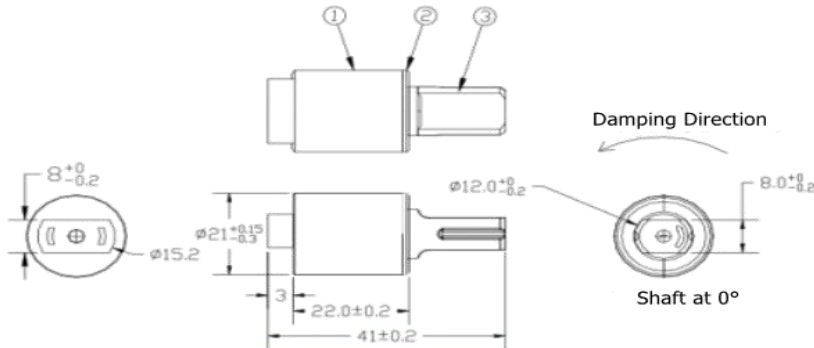
## Vane Damper PTR-BNW 21



ISO9001:2008  
ROHS directive

| Rotor Material | Model           | Max. Torque          | Reverse torque       | Direction         |
|----------------|-----------------|----------------------|----------------------|-------------------|
| zinc alloy     | PTR-BNW21Z-R103 | 1 N·m<br>(10kgf·cm)  | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
|                | PTR-BNW21Z-L103 |                      |                      | Counter-clockwise |
|                | PTR-BNW21Z-R203 | 2N·m<br>(10kgf·cm)   | 0.3 N·m<br>(3kgf·cm) | Clockwise         |
|                | PTR-BNW21Z-L203 |                      |                      | Counter-clockwise |
|                | PTR-BNW21Z-R253 | 2.5N·m<br>(10kgf·cm) | 0.3 N·m<br>(3kgf·cm) | Clockwise         |
|                | PTR-BNW21Z-L253 |                      |                      | Counter-clockwise |
| POM            | PTR-BNW21P-R103 | 1 N·m<br>(10kgf·cm)  | 0.2 N·m<br>(2kgf·cm) | Clockwise         |
|                | PTR-BNW21P-L103 |                      |                      | Counter-clockwise |
|                | PTR-BNW21P-R203 | 2N·m<br>(10kgf·cm)   | 0.3 N·m<br>(3kgf·cm) | Clockwise         |
|                | PTR-BNW21P-L203 |                      |                      | Counter-clockwise |
|                | PTR-BNW21P-R253 | 2.5N·m<br>(10kgf·cm) | 0.3 N·m<br>(3kgf·cm) | Clockwise         |
|                | PTR-BNW21P-L253 |                      |                      | Counter-clockwise |

### Size



### Damper Characteristics

**NOTE**

1. It can not over its working angle when use it
2. we can print customer logo and model

|                                  |     |           |                     |              |          |
|----------------------------------|-----|-----------|---------------------|--------------|----------|
| angle tolerance $\pm 2^\circ$    | ③   | Rotor     | POM+G<br>Zinc Alloy | white/Silver | 1        |
|                                  | ②   | cover     | POM+G               | Black        | 1        |
| test at $23 \pm 2^\circ\text{C}$ | ①   | body      | POM +G              | white        | 1        |
|                                  | No. | part name | material            | color        | quantity |

| item                | Value                          | remark              |
|---------------------|--------------------------------|---------------------|
| Damping Angle       | $70^\circ \rightarrow 0^\circ$ |                     |
| Max. Angle          | $110^\circ$                    |                     |
| working temperature | $0-40^\circ\text{C}$           |                     |
| stock temperature   | $-10 \sim 50^\circ\text{C}$    |                     |
| damping direction   | left/Right                     | body fixed          |
| delivery status     | Shaft at $0^\circ$             | Same as the picture |

## Vane Damper PTR-N16



| Model        | Torque             | Direction         |
|--------------|--------------------|-------------------|
| PTR-N16-R103 | 1 N·m (10kgf·cm)   | Clockwise         |
| PTR-N16-L103 |                    | Counter-clockwise |
| PTR-N16-R153 | 1.5N·m (15kgf·cm)  | Clockwise         |
| PTR-N16-L153 |                    | Counter-clockwise |
| PTR-N16-R203 | 2 N·m (20kgf·cm)   | Clockwise         |
| PTR-N16-L203 |                    | Counter-clockwise |
| PTR-N16-R253 | 2.5 N·m (25kgf·cm) | Clockwise         |
| PTR-N16-L253 |                    | Counter-clockwise |

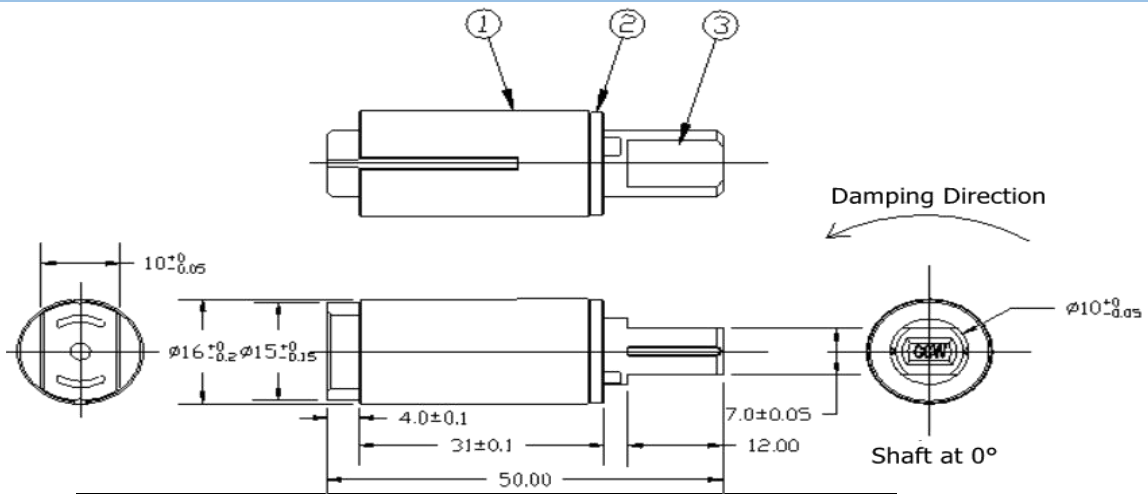
ISO9001:2008

1. Work angle is no more than 110 °

ROHS directive

2. Printing on body can custom according to customer request.

## Size



| Item                | Value       |                     |
|---------------------|-------------|---------------------|
| Damping angle       | 70°→0°      |                     |
| Max.angle           | 110°        |                     |
| Working temperature | 0-40°C      |                     |
| Stock temperature   | -10~50°C    |                     |
| Damping direction   | CW and CCW  | Body fixed          |
| Delivery status     | Rotor at 0° | show as the picture |

|                            |     |           |          |              |
|----------------------------|-----|-----------|----------|--------------|
| Angle tolerance<br>±2°     | ③   | rotor     | zinc     | nature color |
|                            | ②   | cover     | PBT+G    | white        |
| Test temperature<br>23±2°C | ①   | body      | PBT+G    | white        |
|                            | No. | Part Name | material | color        |

## Stainless Steel Vane Damper PTR-S2



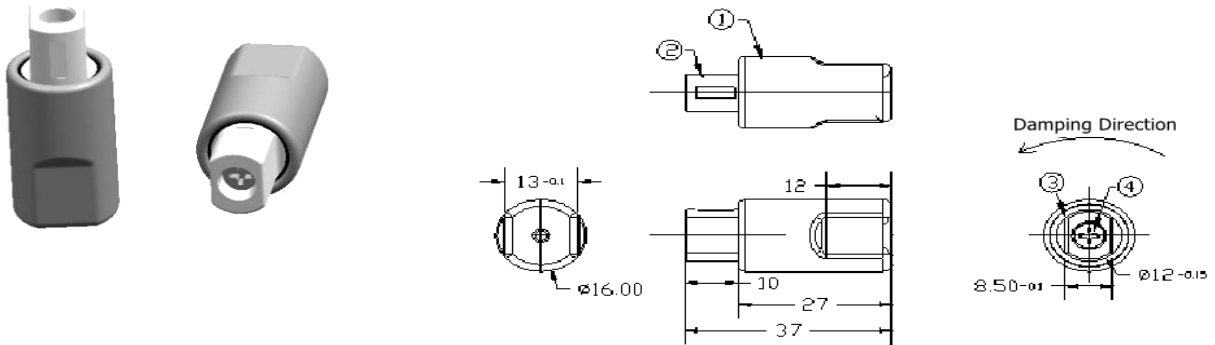
| Model       | Torque           | Direction         |
|-------------|------------------|-------------------|
| PTR-S2-R103 | 1 N·m (10kgf·cm) | Clockwise         |
| PTR-S2-L103 |                  | Counter-clockwise |
| PTR-S2-R203 | 2 N·m (20kgf·cm) | Clockwise         |
| PTR-S2-L203 |                  | Counter-clockwise |
| PTR-S2-R303 | 3 N·m (30kgf·cm) | Clockwise         |
| PTR-S2-L303 |                  | Counter-clockwise |

ISO9001:2008  
ROHS directive

Torque range is from 1.0-3.0N·m  
Note: Measured at 23°C±2°C

|                          |                 |
|--------------------------|-----------------|
| *Max. angle              | 110°            |
| *Working Temperature     | -5 ~ 50°C       |
| *Weight                  | 14±1g           |
| *Body material           | Stainless steel |
| *Rotating shaft material | POM             |
| *Oil type                | Silicone oil    |

### \*PTR-S2-L

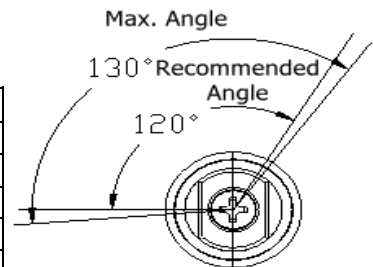


### Damper Characteristics

**NOTE**

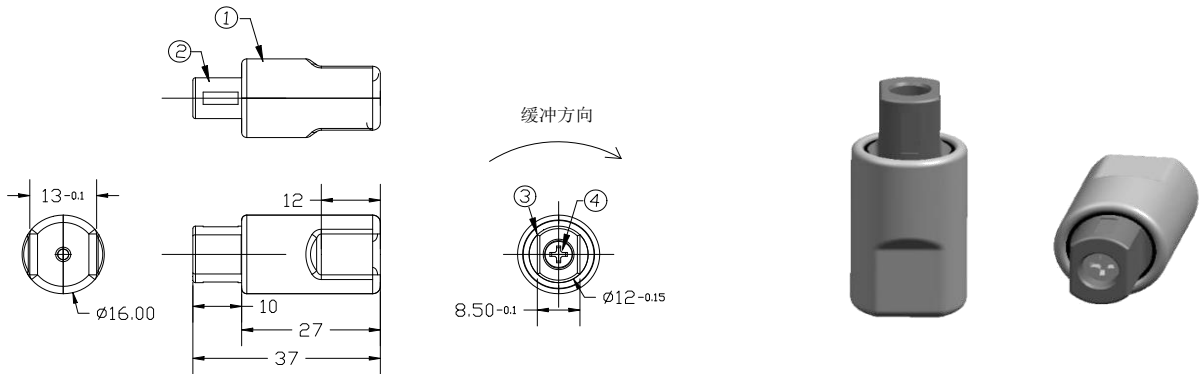
1. It can not over its working angle when use it
2. we can print customer logo and model

| item              | value    | Remark              |
|-------------------|----------|---------------------|
| Damping Angle     | 70°→0°   |                     |
| Max. Angle        | 120°     |                     |
| stock temperature | -20~60°C |                     |
| damping direction | Left     | body fixed          |
| delivery status   |          | Same as the picture |



|                                  |     |           |          |               |          |
|----------------------------------|-----|-----------|----------|---------------|----------|
| standard tolerance<br>$\pm 0.3$  | ④   | Nut       | SUS XM7  | natural color | 1        |
| angle tolerance<br>$\pm 2^\circ$ | ③   | Rotor     | PBT G15% | natural color | 1        |
|                                  | ②   | cover     | PBT G30% | natural color | 1        |
| test at $23 \pm 2^\circ\text{C}$ | ①   | body      | SUS 304L | natural color | 1        |
|                                  | No. | part name | material | color         | quantity |

**\*PTR-S2-R**

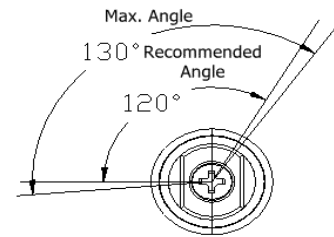


**Damper Characteristics**

**NOTE**

1. It can not over its working angle when use it
2. we can print customer logo and model

| item              | value                          | Remark              |
|-------------------|--------------------------------|---------------------|
| Damping Angle     | $70^\circ \rightarrow 0^\circ$ |                     |
| Max. Angle        | $120^\circ$                    |                     |
| stock temperature | $-20 \sim 60^\circ\text{C}$    |                     |
| damping direction | Right                          | body fixed          |
| delivery status   |                                | Same as the picture |



|                                  |     |           |          |               |          |
|----------------------------------|-----|-----------|----------|---------------|----------|
| standard tolerance<br>$\pm 0.3$  | ④   | Nut       | SUS XM7  | natural color | 1        |
| angle tolerance<br>$\pm 2^\circ$ | ③   | Rotor     | PBT G15% | natural color | 1        |
|                                  | ②   | cover     | PBT G30% | natural color | 1        |
| test at $23 \pm 2^\circ\text{C}$ | ①   | body      | SUS 304L | natural color | 1        |
|                                  | No. | part name | material | color         | quantity |

## Vane Damper PTR-P1



| Specification |            |                |                   |
|---------------|------------|----------------|-------------------|
| Model         | Max.torque | Reverse torque | Direction         |
| PTR-P1-R103   | 1 N·m      | 0.2 N·m        | Clockwise         |
| PTR-P1-L103   | (10kgf·cm) | (2kgf·cm)      | Counter-clockwise |
| PTR-P1-R153   | 1.5N·m     | 0.3 N·m        | Clockwise         |
| PTR-P1-L153   | (15kgf·cm) | (5kgf·cm)      | Counter-clockwise |
| PTR-P1-R183   | 1.8 N·m    | 0.8 N·m        | Clockwise         |
| PTR-P1-L183   | (18kgf·cm) | (8kgf·cm)      | Counter-clockwise |

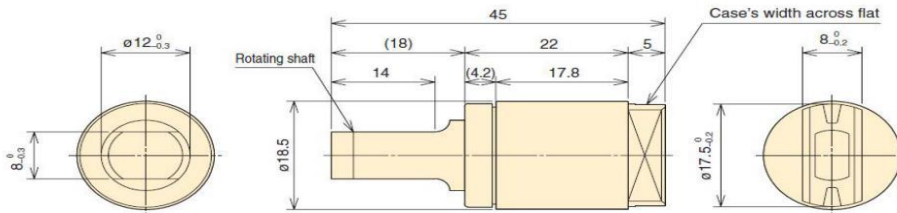
Note: Measured at 23°C±2°C

### Features

100% performance test  
 Environment test  
 Oil leakage test  
 Life cycle test: >50000 times  
 ISO9001:2008  
 ROHS directive

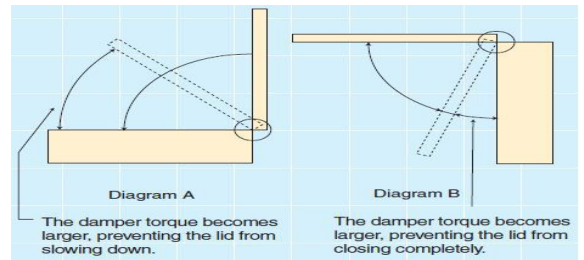
\* Max Angle: 110°  
 \* Working Temperature: -5°C~50°C  
 \* Weight: 10.5±1g  
 \* Oil type: Silicone oil  
 \* Body and cap material: Polybutylene terephthalate (PBT)  
 \* Rotating shaft material: Polyphenylene Sulphide (PPS)

### Size



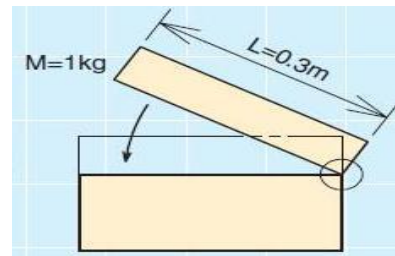
### How to use the damper

1.PTR-P1 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.



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: 1 kg ,Lid dimensions L: 0.3m Load torque:  $T=1 \times 0.3 \times 9.8 \div 2 = 1.47 \text{ N}\cdot\text{m}$   
 Based on the above calculation PTR-P1-\*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.



## Vane Damper PTR-BN20

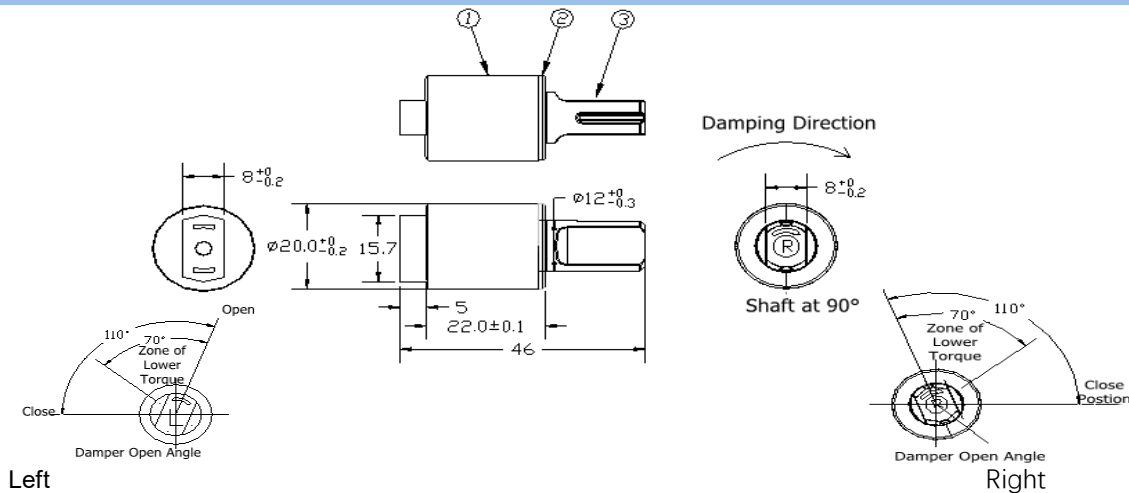


### Specification

| Model          | Max. torque | Reverse torque | Direction |
|----------------|-------------|----------------|-----------|
| PTR- BN20-R153 | 1.5 N·m     | 0.3N·m         | CW        |
| PTR- BN20-L153 | (15kgf·cm)  | (3kgf·cm)      | CCW       |
| PTR- BN20-R183 | 1.8N·m      | 0.36N·m        | CW        |
| PTR- BN20-L183 | (18kgf·cm)  | (3.6kgf·cm)    | CCW       |
| PTR- BN20-R203 | 2N·m        | 0.4N·m         | CW        |
| PTR- BN20-L203 | (20kgf·cm)  | (4kgf·cm)      | CCW       |
| PTR- BN20-R253 | 2.5 N·m     | 0.5N·m         | CW        |
| PTR- BN20-L253 | (25kgf·cm)  | (5kgf·cm)      | CCW       |
| PTR- BN20-L303 | 3 N·m       | 0.6N·m         | CW        |
| PTR- BN20-L303 | (3kgf·cm)   | (6kgf·cm)      | CCW       |

ISO9001:2008  
ROHS directive

### Size



### Damper Characteristics

| Model                             |
|-----------------------------------|
| Buffer outer diameter: 20mm       |
| Rotation direction: right or left |
| Shaft: kirsite                    |
| Cover: POM+G                      |
| Shell: POM+G                      |

| Item                | Specification | Remark     |
|---------------------|---------------|------------|
| Outer diameter      | 20mm          |            |
| Damping angle       | 70°→0°        |            |
| Open angle          | 110°          |            |
| Working Temperature | 0-40℃         |            |
| Stock temperature   | -10~50℃       |            |
| Damping direction   | Right or Left | Body Fixed |
| Final state         | Shaft at 90°  | As drawing |

Temperature environment characteristics

1. Working Temperature environment: Buffer open and close possible temperature range: 0℃~40℃. The closing time will be longer at low temperature and shorter at high temperature.

2. Storage temperature environment: After 72 hours of storage t -10℃~50℃, it will be removed and stored at room temperature for 24 hours. The rate of change is within ±30% of the initial value.

| Item Feature   |
|--|
| Durability: 50000 cycles (23℃±2℃)<br>1 cycle = [0°→110°→70°→(natural latch)→0°] do continuous action |

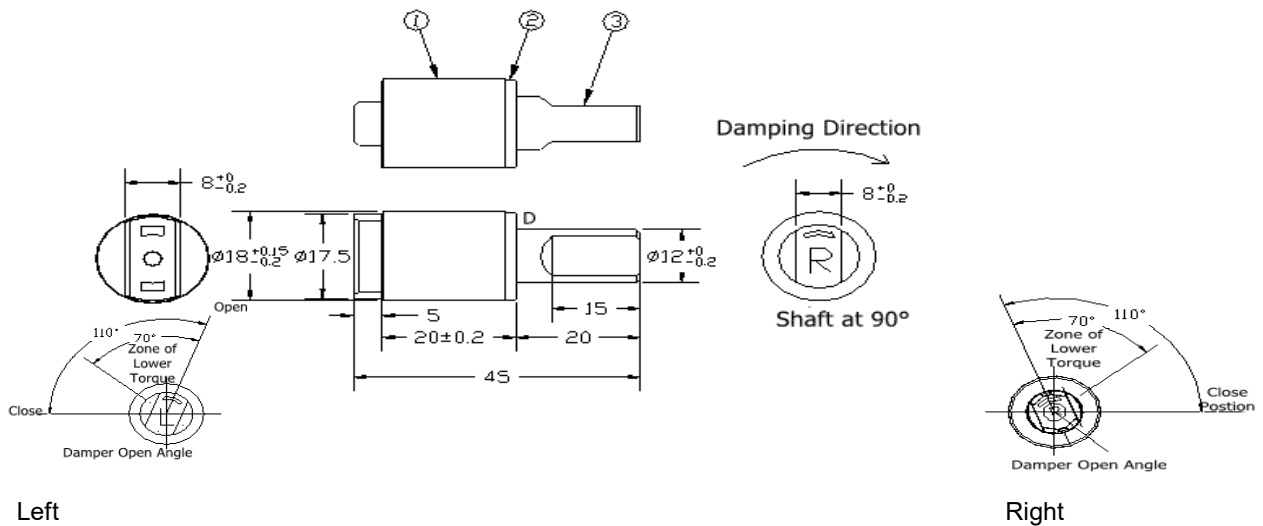
## Vane Damper PTR-BN18



ISO9001:2008  
ROHS directive

| Specification  |                       |                       |                   |
|----------------|-----------------------|-----------------------|-------------------|
| Model          | Max.torque            | Reverse torque        | Direction         |
| PTR- BN18-R153 | 1.5 N·m<br>(15kgf·cm) | 0.3N·m<br>(3kgf·cm)   | Clockwise         |
| PTR- BN18-L153 |                       |                       | Counter-clockwise |
| PTR- BN18-R183 | 1.8N·m<br>(18kgf·cm)  | 0.36N·m<br>(36kgf·cm) | Clockwise         |
| PTR- BN18-L183 |                       |                       | Counter-clockwise |
| PTR- BN18-R203 | 2N·m<br>(20kgf·cm)    | 0.4N·m<br>(4kgf·cm)   | Clockwise         |
| PTR- BN18-L203 |                       |                       | Counter-clockwise |

### Size



### Damper Characteristics

| Model                             |
|-----------------------------------|
| Buffer outer diameter: 20mm       |
| Rotation direction: right or left |
| Shaft: kirsite                    |
| Cover: POM+G                      |
| Shell: POM+G                      |

| Item                | Specification | Remark     |
|---------------------|---------------|------------|
| Outer diameter      | 20mm          |            |
| Damping angle       | 70°→0°        |            |
| Open angle          | 110°          |            |
| Working temperature | 0-40℃         |            |
| Stock temperature   | -10~50℃       |            |
| Damping direction   | Right or Left | Body Fixed |
| Final state         | Shaft at 90°  | As drawing |

Temperature environment characteristics

1.Working Temperature environment:Buffer open and close possible temperature range:0℃~40℃.The closing time will be longer at low temperature and shorter at high temperature.

2.Storage temperature environment:After 72 hours of storage t -10℃~50℃,it will be removed and stored at room temperature for 24 hours.The rate of change is within ±30% of the initial value.

Durability:50000 cycles(23℃±2℃)  
1 cycle=[0°→110°→70°→(natural latch)→0°] do continuous action