Vane Damper PTR-N1

Specification

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

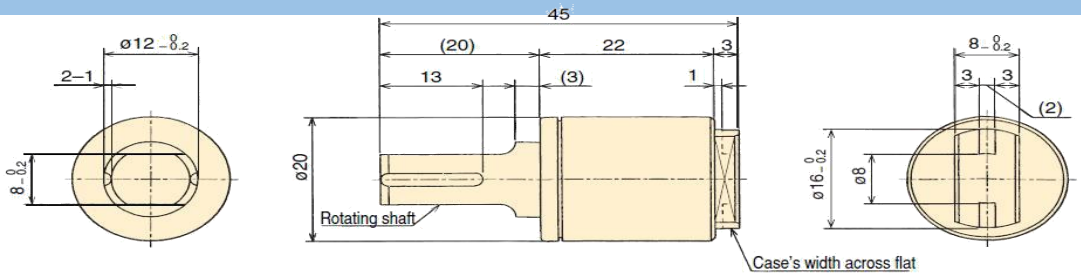
Note： Measured at 23°C±2°C

Features

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

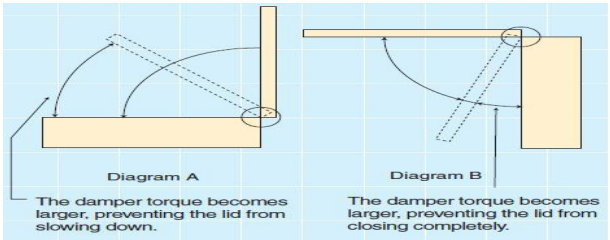
* Max.Angle: 110°
* Working Temperature: –5°C ~ 50°C
* Weight: 12±1g
* Oil type: Silicone oil
* Body and cap material: Polybutylene terephthalate (PBT)
* Rotating shaft material: Polyphenylene SulphidePPS)

Size

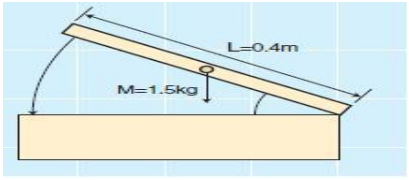


How to use the damper

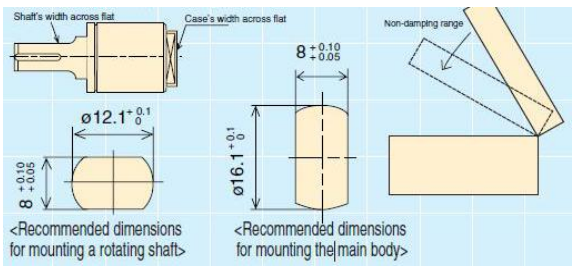
1. PTR-N1 is designed to generate a large torque just before a lid closing from a vertical position,as shown in Diagram A, comes to a full closure. When a lid is closed from a horizontal position,as shown in Diagram B, a strong torque is generated just before the lid is fully closed, causing the lid 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=1.5X0.4X9.8÷2=2.94N·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 (10kgf·cm)	0.2 N·m (2kgf·cm)	Clockwise
PTR-N1-18-L103			Counter-clockwise
PTR-N1-18-R153	1.5N·m (20kgf·cm)	0.3 N·m (3kgf·cm)	Clockwise
PTR-N1-18-L153			Counter-clockwise
PTR-N1-18-R203	2 N·m (20kgf·cm)	0.4 N·m (4kgf·cm)	Clockwise
PTR-N1-18-L203			Counter-clockwise
PTR-N1-18-R253	2.5 N·m (25kgf·cm)	0.5N·m (5kgf·cm)	Clockwise
PTR-N1-18-L253			Counter-clockwise

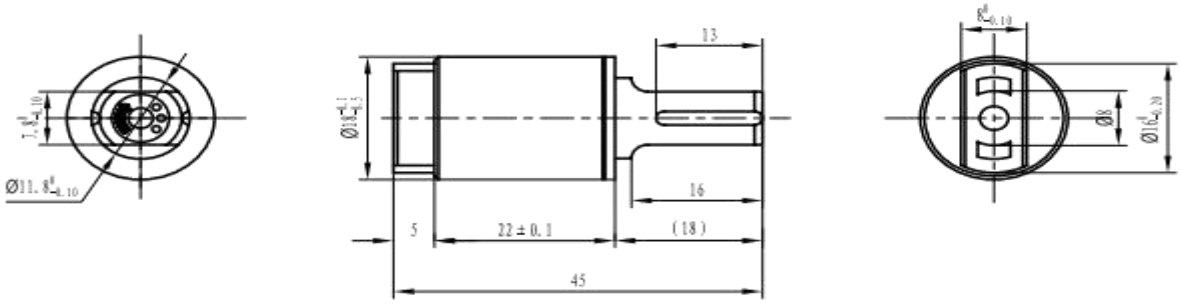
Note： Measured at 23°C±2°C

Features

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

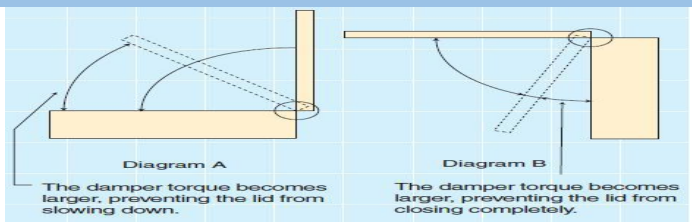
* Max.Angle: 110°
* Working Temperature: –5°C ~ 50°C
* Weight: 12±1g
* Oil type: Silicone oil
* Body and cap material: Polybutylene terephthalate (PBT)
* Rotating shaft material: Polyphenylene SulphidePPS)

Size

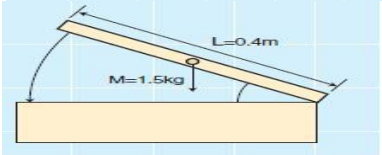


How to use the damper

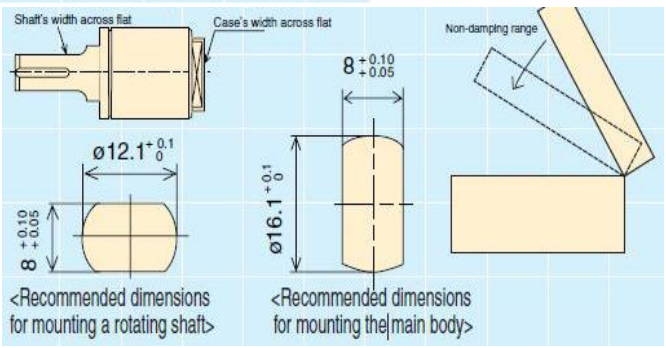
1. PTR-N1-18 is designed to generate a large torque just before a lid closing from a vertical position, as shown in Diagram A, comes to a full closure. When a lid is closed from a horizontal position,as shown in Diagram B, a strong torque is generated just before the lid is fully closed,causing the lid 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=1.5X0.4X9.8÷2=2.94N·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 (35kgf·cm)	1.0 N·m (10kgf·cm)	clockwise
PTR-N1-L353	3.5N·m (35kgf·cm)	1.0 N·m (10kgf·cm)	Counter-clockwise
PTR-N1-R403	4N·m (40kgf·cm)	1.0 N·m (10kgf·cm)	clockwise
PTR-N1-L403	4N·m (40kgf·cm)	1.0 N·m (10kgf·cm)	Counter-clockwise

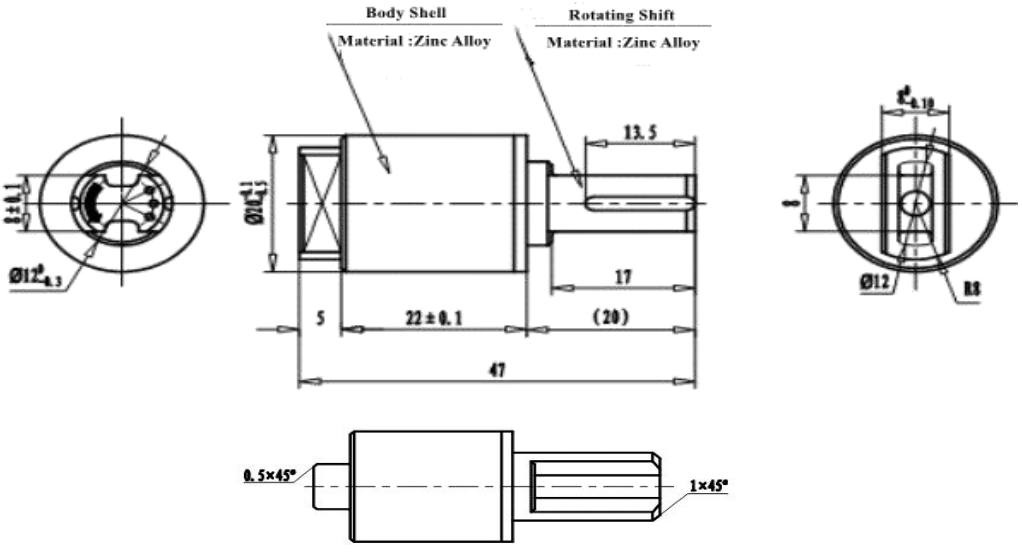
Note： Measured at 23°C±2°C

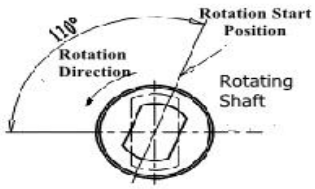
Features

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

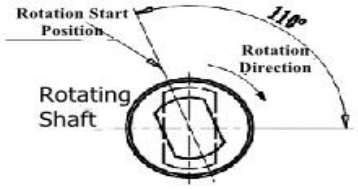
* Max.Angle: 110°
* Working Temperature: –5°C～50°C
* Weight:25g±1g
* Oil type: Silicone oil
* Body and shell material: Polybutylene terephthalate (PBT)
* Rotating shaft material: Zinc alloy

Size





Left



Right

Vane Damper PTR-N20

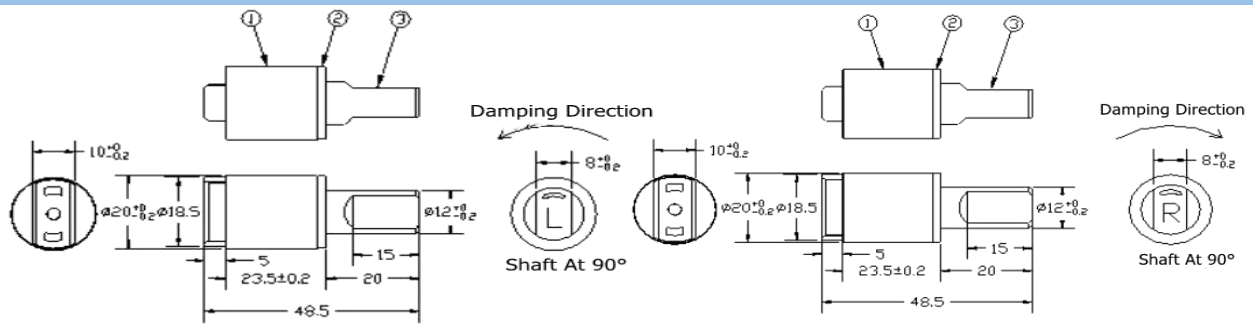
ISO9001:2008

ROHS directive

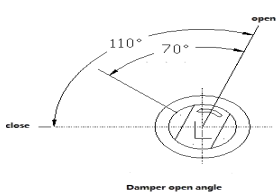
Specification			
Model	Max. Torque	Reverse torque	Direction
PTR-N20-R103	1 N·m (10kgf·cm)	0.2 N·m (2kgf·cm)	Clockwise
PTR-N20-L103			Counter-clockwise
PTR-N20-R153	1.5 N·m (15kgf·cm)	0.3 N·m (3kgf·cm)	Clockwise
PTR-N20-L153			Counter-clockwise
PTR-N20-R203	2N·m (20kgf·cm)	0.4N·m (4kgf·cm)	Clockwise
PTR-N20-R203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

Note： Measured at 23°C±2°C

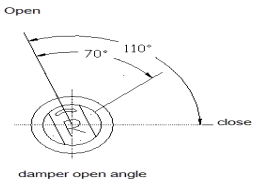
Size



Left



Right



Damper Characteristics

NOTE

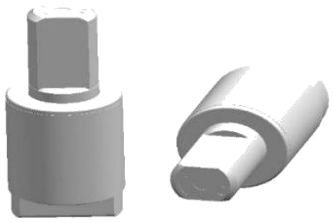
1.It can not over its working angle when use it

2.we can print customer logo and model

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

angle tolerance ±2º	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

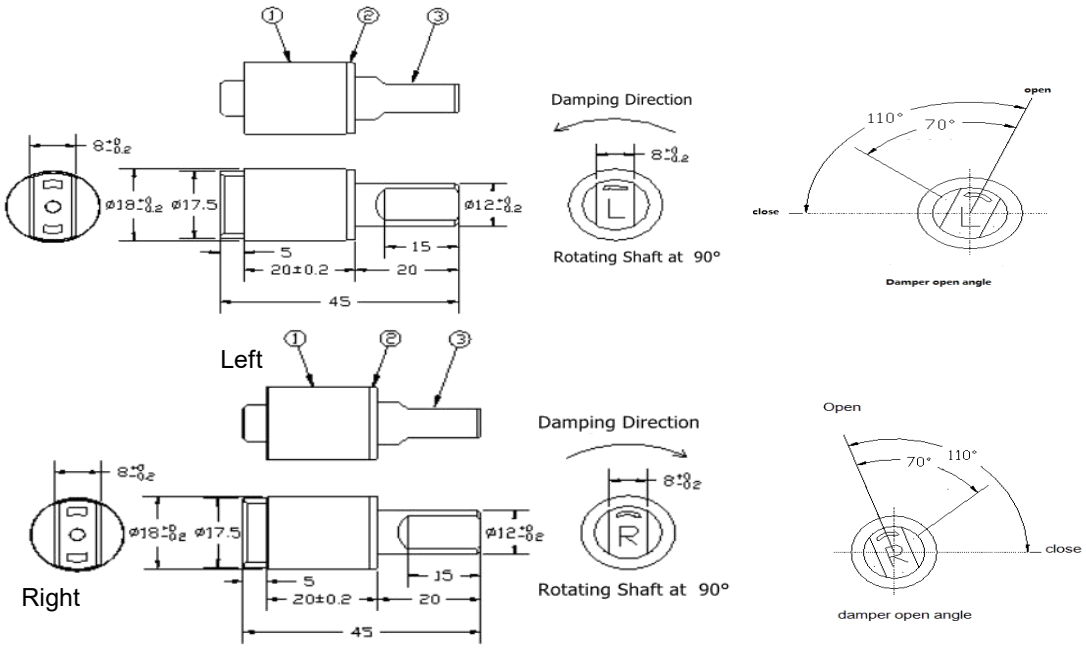
Vane Damper PTR-N18



ISO9001:2008
ROHS directive

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

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

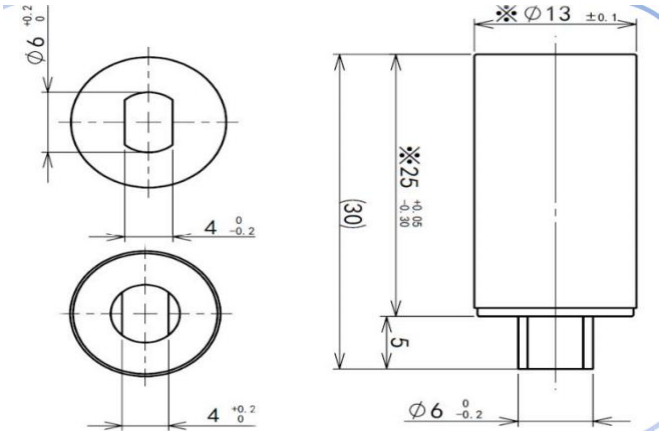
Vane Damper PTR-N13

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

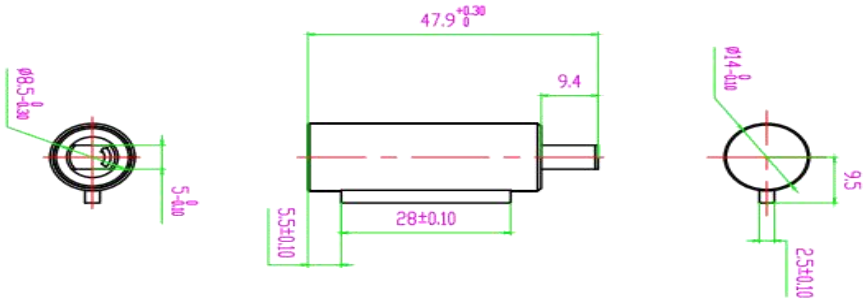
Bill of Material	
Base	POM
Rotor	POM
Caps	POM
O-Ring	NBR
Oil	Silcone

Damper Specification	
Torque	8-41N.cm
Rotation Angle	Free Angle
Size:	φ13*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 (10kgf·cm)	Clockwise
PTR-N14-L103		Counter-clockwise
PTR-N14-R203	2 N·m (20kgf·cm)	Clockwise
PTR-N14-L203		Counter-clockwise
PTR-N14-R303	3 N·m (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±1g

Durability	
Temperature	23℃
One cycle	→1way clockwise, → 1 way anticlockwise （30r/min）
Working temperature	–5～50°C
Lifetime	50000 cycles

Application

This damper can be used in toilet seat, washing machine lid,icecrame 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 (10kgf·cm)	0.2 N·m (2kgf·cm)	Clockwise
PTR-D6-L103			Counter-clockwise
PTR-D6-R203	2 N·m (20kgf·cm)	0.4 N·m (4kgf·cm)	Clockwise
PTR-D6-L203			Counter-clockwise
PTR-D6-R303	3 N·m (30kgf·cm)	0.8 N·m (8kgf·cm)	Clockwise
PTR-D6-L303			Counter-clockwise

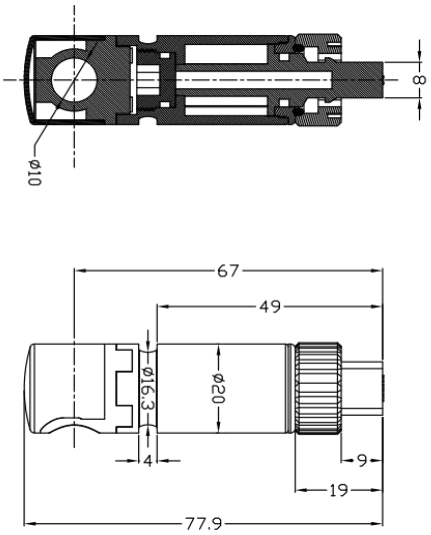
Note) Measured at 23°C±2°C

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 Applcation

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

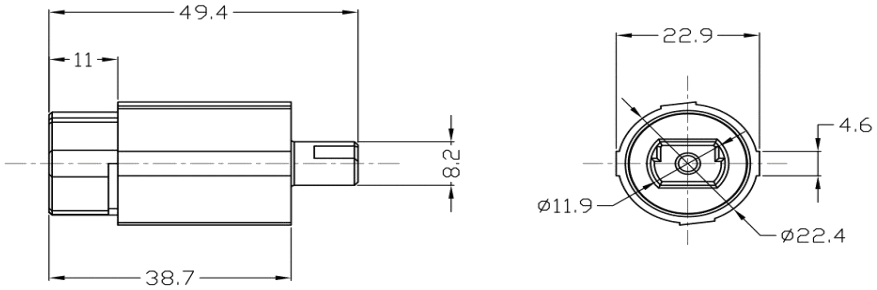
Note: Measured at 23°C±2°C

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

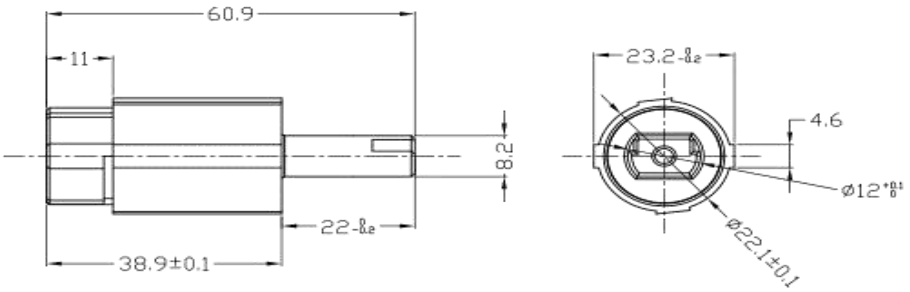
Note) Measured at 23°C±2°C

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 (10kgf·cm)	0.2 N·m (2kgf·cm)	Clockwise
PTR-H6-L103			Counter-clockwise
PTR-H6-R203	2 N·m (20kgf·cm)	0.4 N·m (4kgf·cm)	Clockwise
PTR-H6-L203			Counter-clockwise
PTR-H6-R303	3 N·m (30kgf·cm)	0.8 N·m (8kgf·cm)	Clockwise
PTR-H6-L303			Counter-clockwise

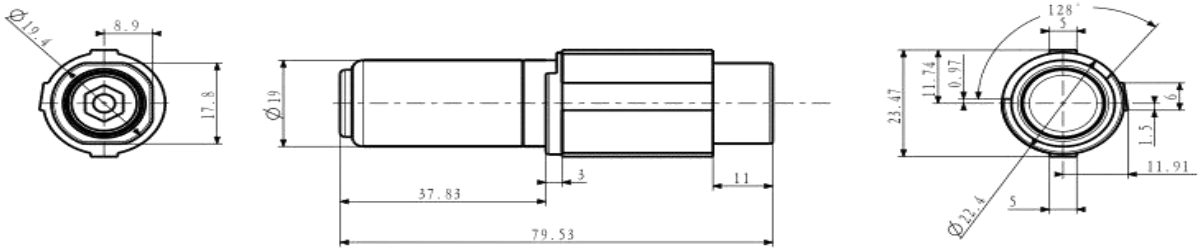
Note) Measured at 23°C±2°C

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

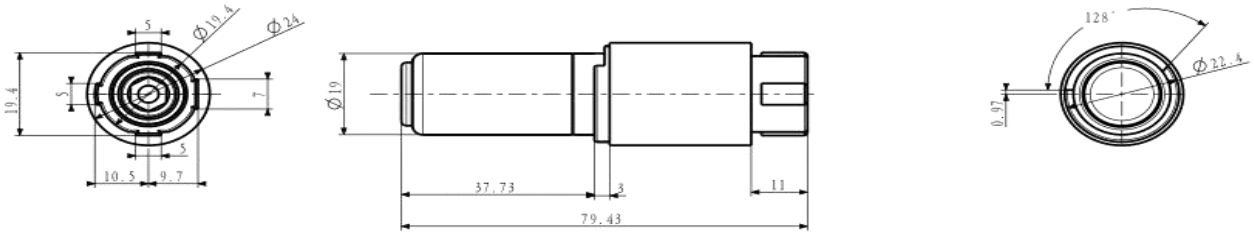
ISO9001:2008
ROHS directive

Size

Left



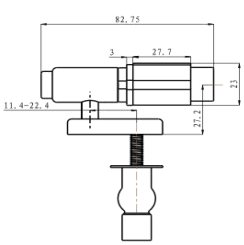
Right

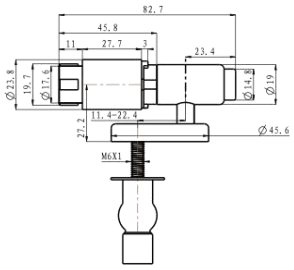


How to use the damper

It is used for toilet seat.

Optional Attachment (Hinge）





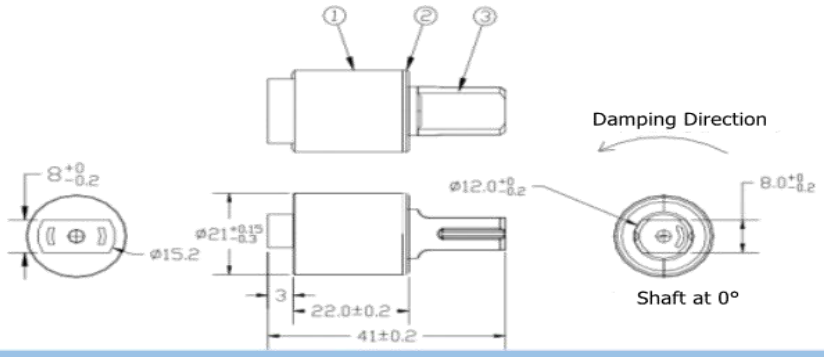
Vane Damper PTR-BNW 21

ISO9001:2008

ROHS directive

Rotor Material	Model	Max. Torque	Reverse torque	Direction
zinc alloy	PTR-BNW21Z-R103	1 N·m (10kgf·cm)	0.2 N·m (2kgf·cm)	Clockwise
	PTR-BNW21Z-L103			Counter-clockwise
	PTR-BNW21Z-R203	2N·m (10kgf·cm)	0.3 N·m (3kgf·cm)	Clockwise
	PTR-BNW21Z-L203			Counter-clockwise
	PTR-BNW21Z-R253	2.5N·m (10kgf·cm)	0.3 N·m (3kgf·cm)	Clockwise
	PTR-BNW21Z-L253			Counter-clockwise
POM	PTR-BNW21P-R103	1 N·m (10kgf·cm)	0.2 N·m (2kgf·cm)	Clockwise
	PTR-BNW21P-L103			Counter-clockwise
	PTR-BNW21P-R203	2N·m (10kgf·cm)	0.3 N·m (3kgf·cm)	Clockwise
	PTR-BNW21P-L203			Counter-clockwise
	PTR-BNW21P-R253	2.5N·m (10kgf·cm)	0.3 N·m (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 ±2°	③	Rotor	POM+G Zinc Alloy	white/Silver	1
	②	cover	POM+G	Black	1
test at 23±2℃	①	body	POM +G	white	1
	No.	part name	material	color	quantity

item	Value	remark
Damping Angle	70°→0°	
Max. Angle	110°	
working temperature	0-40°C	
stock temperature	—10~50°C	
damping direction	left/Right	body fixed
delivery status	Shaft at 0°	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

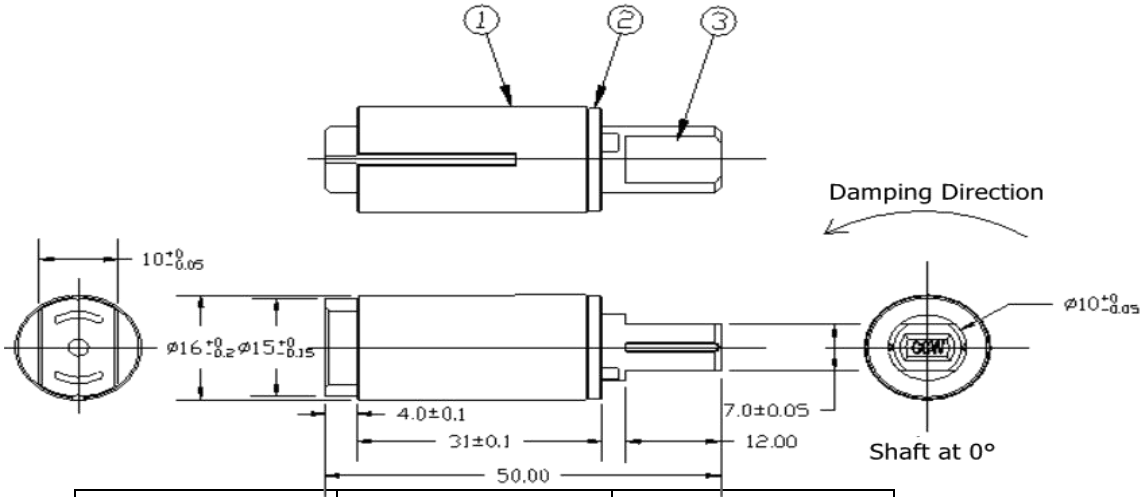
ISO9001:2008

ROHS directive

1. Work angle is no more than 110 °

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

Size



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

Angle tolerance ±2°	③	rotor	zinc	nature color
	②	cover	PBT+G	white
Test temperature 23±2℃	①	body	PBT+G	white
	No.	Part Name	material	color

Stainless Steel Vane Damper PTR-S2

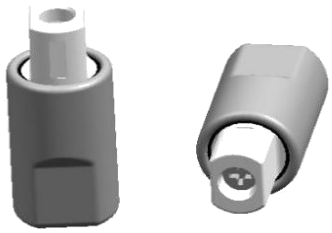
Model	Torque	Direction
PTR-S2-R103	1 N·m (10kgf·cm)	Clockwise
PTR-S2-L103		Counter-clockwise
PTR-S2-R203	2 N·m (20kgf·cm)	Clockwise
PTR-S2-L203		Counter-clockwise
PTR-S2-R303	3 N·m (30kgf·cm)	Clockwise
PTR-S2-L303		Counter-clockwise

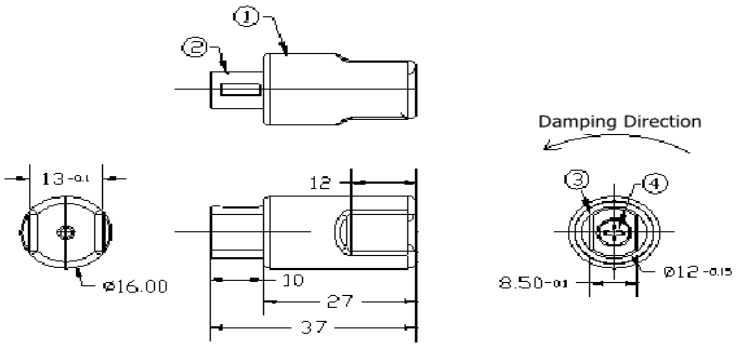
ISO9001:2008
ROHS directive

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

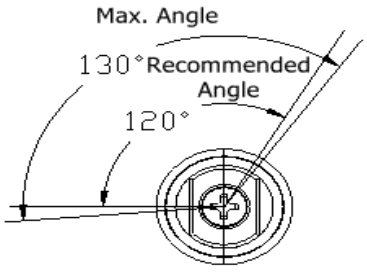




Damper Characteristics

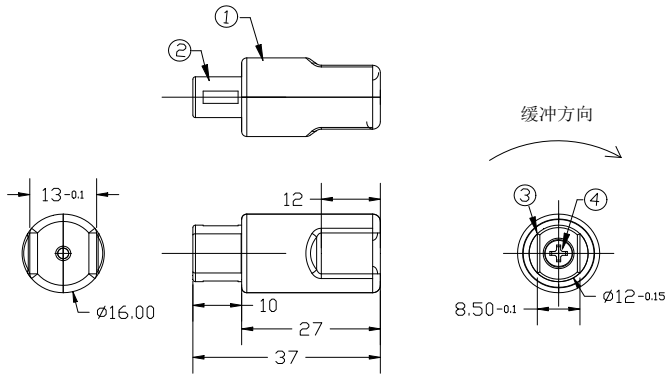
NOTE
1.It can not over its working angle when use it
2.we can print customer logo and model

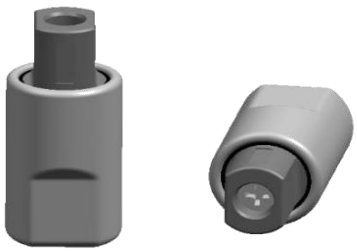
item	value	Remark
Damping Angle	70º→0º	
Max. Angle	120º	
stock temperature	—20~60℃	
damping direction	Left	body fixed
delivery status		Same as the picture



standard tolerance ±0.3	④	Nut	SUS XM7	natural color	1
angle tolerance ±2º	③	Rotor	PBT G15%	natural color	1
	②	cover	PBT G30%	natural color	1
test at 23±2℃	①	body	SUS 304L	natural color	1
	No.	part name	material	color	quantity

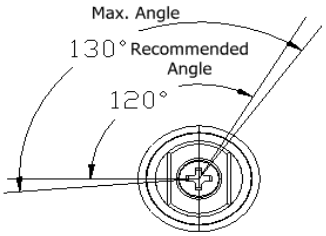
*PTR-S2-R





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	70º→0º	
Max. Angle	120º	
stock temperature	—20~60℃	
damping direction	Right	body fixed
delivery status		Same as the picture

standard tolerance ±0.3	④	Nut	SUS XM7	natural color	1
angle tolerance ±2º	③	Rotor	PBT G15%	natural color	1
	②	cover	PBT G30%	natural color	1
test at 23±2℃	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

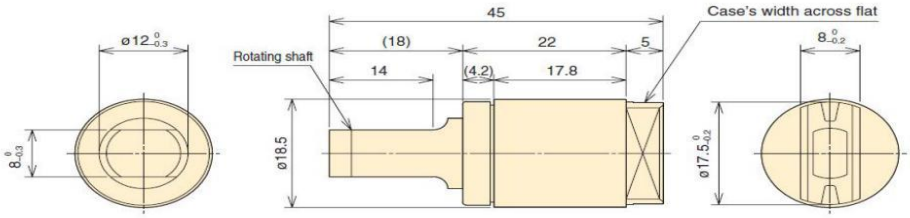
Note： Measured at 23°C±2°C

Features

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

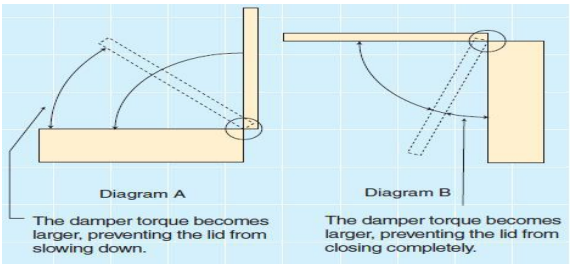
* Max Angle: 110°
* Working Temperature: -5℃~50℃
* Weight: 10.5±1g
* Oil type: Silicone oil
* Body and cap material: Polybutylene terephthalate (PBT)
* Rotating shaft material: Polyphenylene Sulphide (PPS)

Size

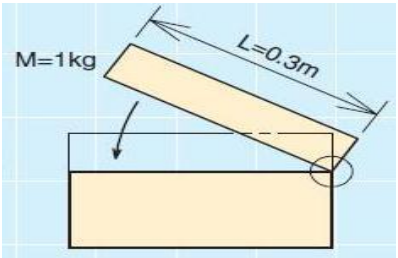


How to use the damper

1.PTR-P1 is designed to generate a large torque just before a lid closing from a vertical position,as shown in Diagram A, comesto 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=1X0.3X9.8÷2=1.47N·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.

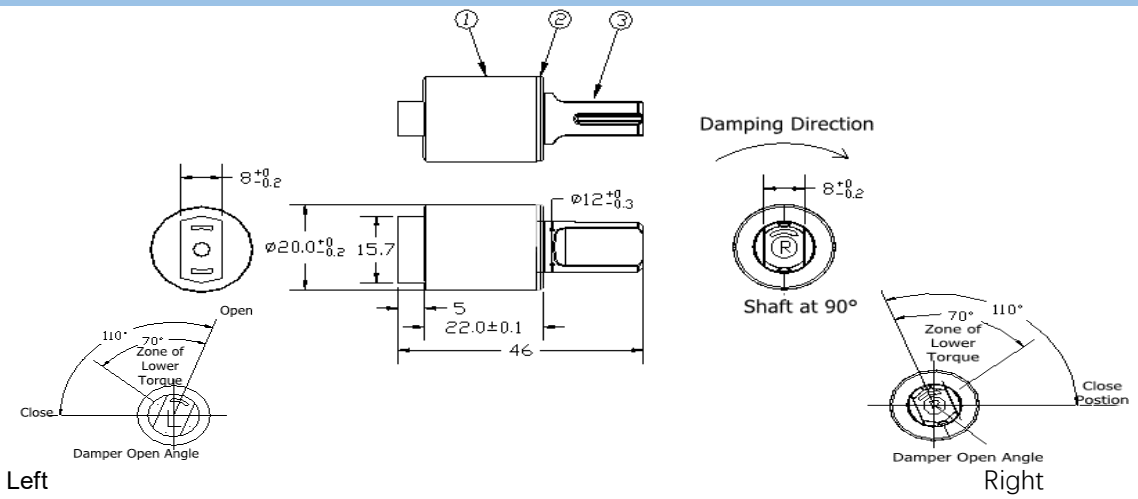
Vane Damper PTR-BN20

ISO9001:2008
ROHS directive

Specification

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

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 diamater	20mm	
Damping angle	70º→0º	
Open angle	110º	
Working Temperature	0-40℃	
Stock temperature	-10~50℃	
Damping direction	Right or Left	Body Fixed
Final state	Shaft at 90º	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.

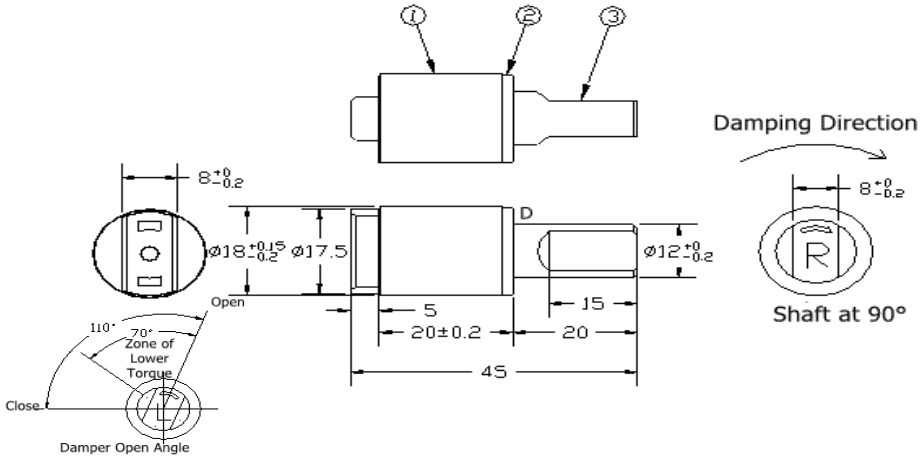
Item Feature
Durability:50000 cycles(23℃±2℃) 1 cycle=[0°→110°→70°→(natural latch)→0°] do continuous action

Vane Damper PTR-BN18

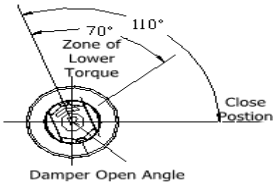
ISO9001:2008
ROHS directive

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

Size



Left



Right

Damper Characteristics

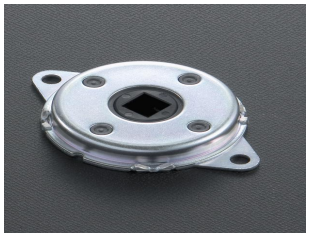
Model
Buffer outer diameter: 20mm
Rotation direction: right or left
Shaft: kirsite
Cover: POM+G
Shell: POM+G

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

Disk Damper PTRD-47A

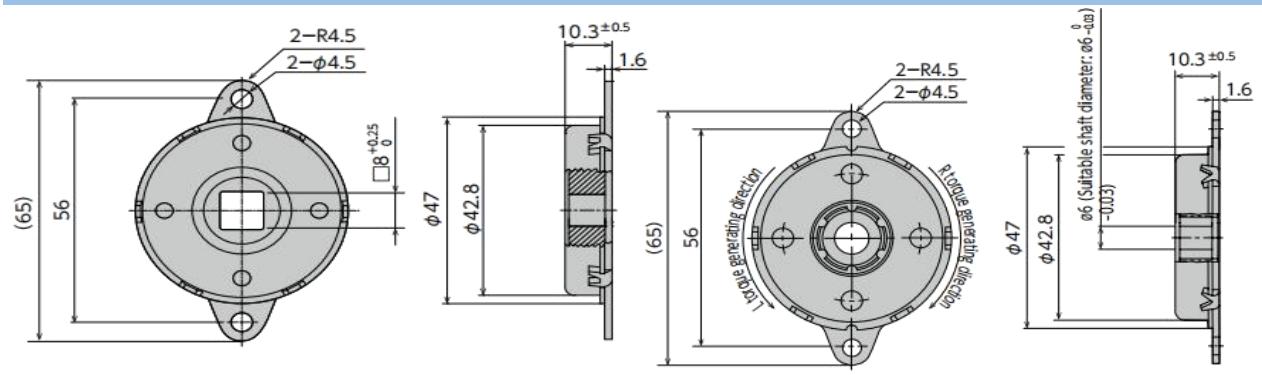


Specification		
Model	Max.torque	Direction
PTRD-47A-103	1±0.2N·m	Both direction
PTRD-47A-203	2.0±0.3N·m	Both direction
PTRD-47A-303	3.0±0.4N·m	Both direction
PTRD-47A-403	4.0±0.5N·m	Both direction
PTRD-47A-R103	1±0.1N·m	Clockwise
PTRD-47A-L103		Counter-clockwise
PTRD-47A-R203	2.0±0.3N·m	Clockwise
PTRD-47A-L203		Counter-clockwise
PTRD-47A-R303	3.0±0.4N·m	Clockwise
PTRD-47A-L303		Counter-clockwise

(Note) Rated torque is measured at a rotation speed of 20rpm at 23°C±3°C

ISO9001:2008
ROHS directive

Size



<PTRD-47A-***>

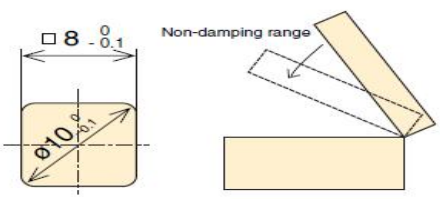
<PTRD-47A-R/L***>

How to use the damper

1. Dampers may generate torque in both directions, clockwise, or counter-clockwise.
2. Please make sure that a shaft attached to a damper has a bearing, as the damper itself is not fitted with one.
3. Please refer to the recommended dimensions below when creating a shaft for PTRD-47A. Not using the recommended shaft dimensions may cause the shaft to slip out.
4. To insert a shaft into PTRD-47A, insert the shaft while spinning it in the idling direction of the one-way clutch. (Do not force the shaft in from the regular direction. This may damage the one way clutch.)

Shaft's external dimensions	ø6 0 –0.03
Surface hardness	HRC55 or higher
Quenching depth	0.5mm or higher

5. When using PTRD-47A, please ensure that a shaft with specifiedrotation dimensions is inserted in the damper's shaft opening. A wobbling shaft and damper shaft may not allow the lid to slow down properly when closing. Please see the diagrams to the right for the recommended shaft dimensions for a damper.

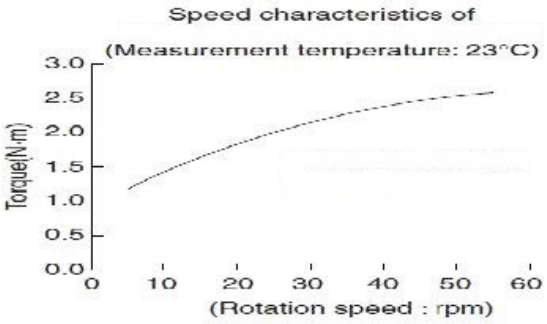


<Recommended dimensions for the corresponding shaft>

Damper Characteristics

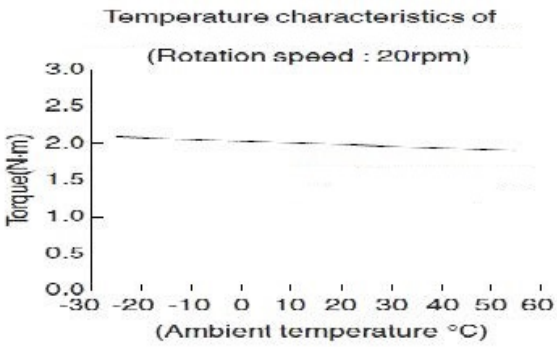
1. Speed characteristics

A disk damper's torque varies according to the rotation speed. In general, as shown in the graph to the right, the torque increases as the angular speed increases, and the torque decreases as the rotation speed decreases. Torque at 20rpm is shown in this diagram . In a closing lid, the rotation speed is slow when the lid begins to close, resulting in the generation of torque that is smaller than the rated torque.

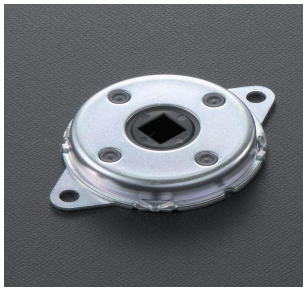


2. Temperature characteristics

Damper torque (rated torque in this diagram) varies according to the ambient temperature. As the temperature increases, the torque decreases, and as the temperature decreases, the torque increases. This is because the viscosity of the silicone oil inside the damper varies according to the temperature. The graph to the right illustrates the temperature characteristics.



Disk Damper PTRD-57A



Specification		
Model	Max.torque	Direction
PTRD-57A-R303	3.0±0.3N·m	Clockwise
PTRD-57A-L303		Counter-clockwise
PTRD-57A-R403	4.0±0.5 N·m	Clockwise
PTRD-57A-L403		Counter-clockwise
PTRD-57A-R503	5.0±0.5 N·m	Clockwise
PTRD-57A-L503		Counter-clockwise
PTRD-57A-R603	6.0±0.5 N·m	Clockwise
PTRD-57A-L603		Counter-clockwise
PTRD-57A-R703	7.0±0.5 N·m	Clockwise
PTRD-57A-L703		Counter-clockwise
PTRD-57A-303	3.0±0.3N·m	Both Direction
PTRD-57A-403	4.0±0.5 N·m	Both Direction
PTRD-57A-503	5.0±0.5 N·m	Both Direction
PTRD-57A-603	6.0±0.5 N·m	Both Direction
PTRD-57A-703	7.0±0.5 N·m	Both Direction
PTRD-57A-803	8.0±0.5 N·m	Both Direction
PTRD-57A-xxx	As per client Request.	

(Note) Rated torque is measured at a rotation speed of 20rpm at 23°C±3°C

ISO9001:2008

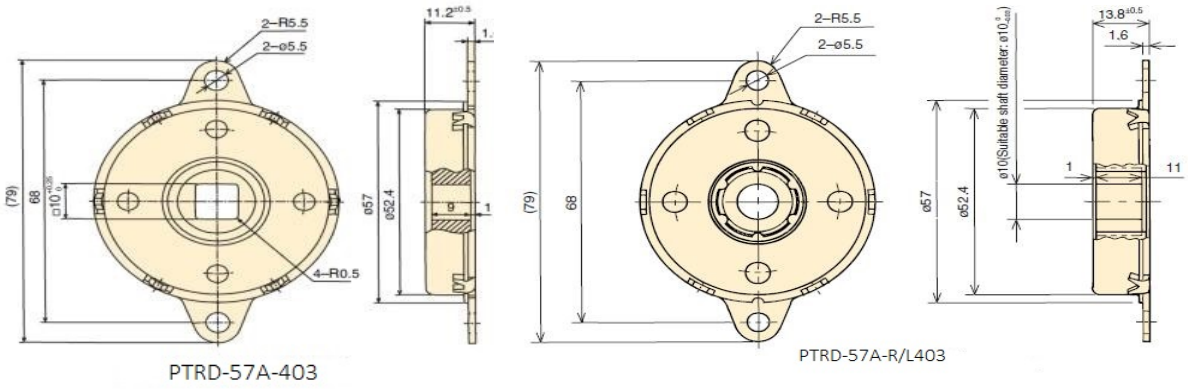
ROHS directive

Features

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

Max.ration speed:50rpm
Max.cycle rate:12 cycle/min
Working Temperature:-10℃~50℃Weight PTRD-57A:75g,PTRD-57A-R/L:94g Main body material iron(9SPFC)
Oil type:silicone oil

Size

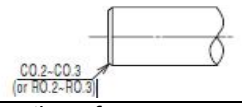


How to use the damper

1. Dampers may generate torque in both directions, clockwise, or counter-clockwise.

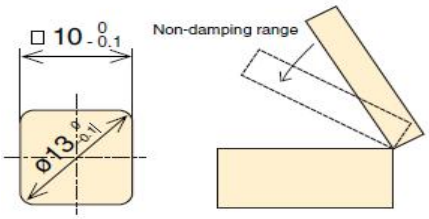
2. Please make sure that a shaft attached to a damper has a bearing, as the damper itself is not fitted with one.

3. Please refer to the recommended dimensions below when creating a shaft for PTRD-57A. Not using the recommended shaft dimensions may cause the shaft to slip out.

Shaft's external dimensions	ø10 –0.03
Surface hardness	HRC55 or higher
Quenching depth	0.5mm or higher
Surface roughness	1.0Z or lower
Chamfer end (Damper insertion side)	

4. To insert a shaft into PTRD-57A, insert the shaft while spinning it in the idling direction of the one-way clutch. (Do not force the shaft in from the regular direction. This may damage the oneway clutch.)

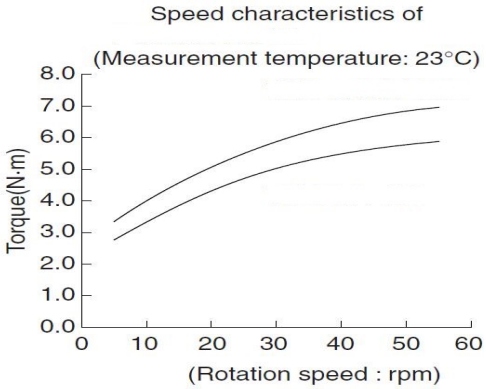
5. When using PTRD-57A, please ensure that a shaft with specified angular dimensions is inserted in the damper's shaft opening. A wobbling shaft and damper shaft may not allow the lid to slow down properly when closing. Please see the diagrams to the right for the recommended shaft dimensions for a damper.



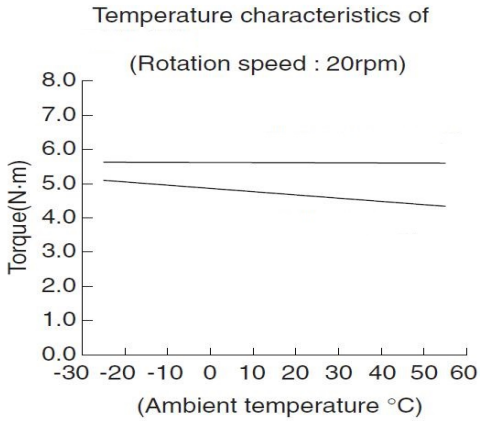
<Recommended dimensions for the corresponding shaft>

Damper Characteristics

1. Speed characteristics
A disk damper's torque varies according to the rotation speed. In general, as shown in the graph to the right, the torque increases as the rotation speed increases, and the torque decreases as the rotation speed decreases. Torque at 20rpm is shown in this catalogue. In a
closing lid, the rotation speed is slow when the lid begins to close, resulting in the generation of torque that is smaller than the rated torque.



2. Temperature characteristics
Damper torque (rated torque in this catalogue) varies according to the ambient temperature. As the temperature increases, the torque decreases, and as the temperature decreases, the torque increases. This is because the viscosity of the silicone oil inside the damper varies according to the temperature. The graph to the right illustrates the temperature characteristics.



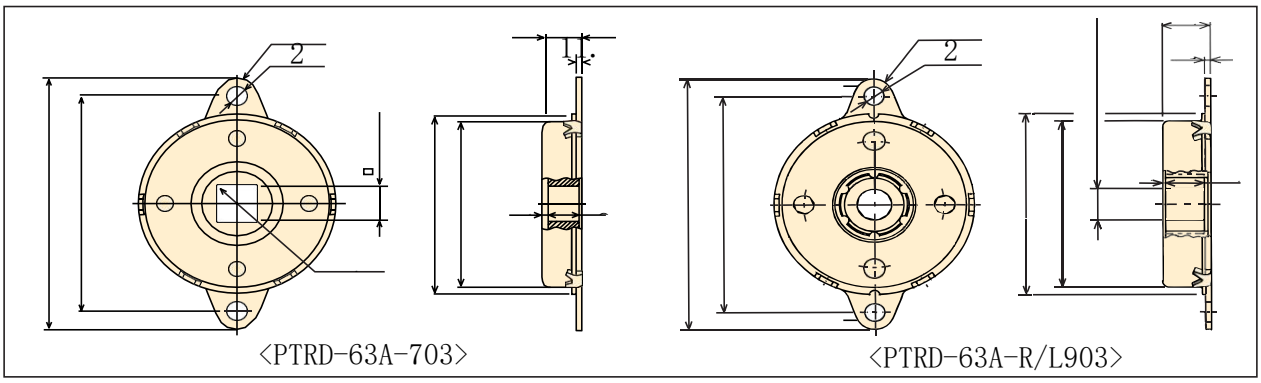
Disk Damper PTRD-63A

Model	Rated torque	Damping direction
PTRD-63A-703	6.7±0.7N·m (67±7.0kgf·cm)	Both directions
PTRD-63A-R903	8.5±0.8N·m (85±8.0kgf·cm)	Clockwise
PTRD-63A-L903		Counter-clockwise

Note)Rated torque is measured at a rotation speed of 20rpm at 23℃±3℃.

*Max. rotation	50rpm
*Max. cycle rate	12 cycle/min
*Working Temperature	-10～50℃
*Weight	PTRD-63A:92g,PTRD-63A-R/L:115g
*Main body material	Iron(SPFC)
*Rotor(shaft) material	Nylon(with glass)
*Oil type	Silicone oil
*ISO9001:2008	
*ROHS directive	

Size

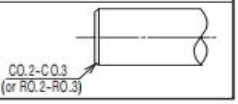


How to use the damper

1.Damper may generate torque in both directions,colckwise,or counter-clockwise.

2.Please make sure that a shaft attached to a damper has a bearing,as the damper itself is not fitted with one.

3.Please refer to recommended dimensions below when creating a shaft for PTRD-63A.Not using the recommended shaft dimensions may cause the shaft to slip out.

Shaft's external dimensions	ø10 $^{0}_{-0.03}$
Surface hardness	HRC55 or higher
Quenching depth	0.5mm or higher
Surface roughness	1.0Z or lower
Chamfer end (Damper insertion side)	 C0.2-C0.3 (or R0.2-R0.3)

4.To insert a shaft into PTRD-63A, insert the shaft while spinning it in the idling direction of the one-way clutch. (Do not force the shaft in from the regular direction. This may damage the one-way clutch.)

5.When using PTRD-63A, please ensure that a shaft with specified angular dimensions is inserted in the damper's shaft opening.A wobbing shaft and damper shaft may not allow the lid to slow down properlywhen closing.Please see the diagrams to the right for the recommended shaft dimensions for a damper.

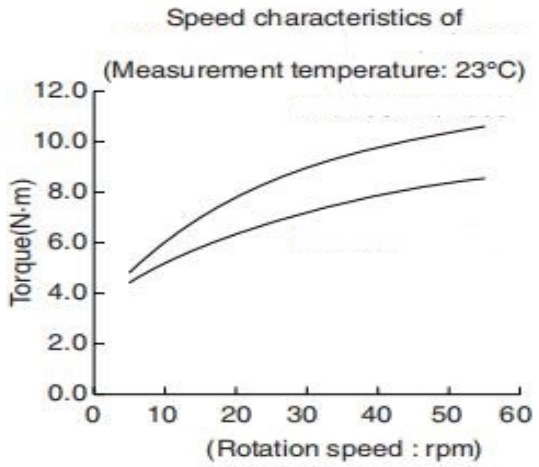
6.A damper shaft connecting to a part with slotted groove is also available.

The slotted groove type is excellent for usage with spiral springs.

Damper Characteristics

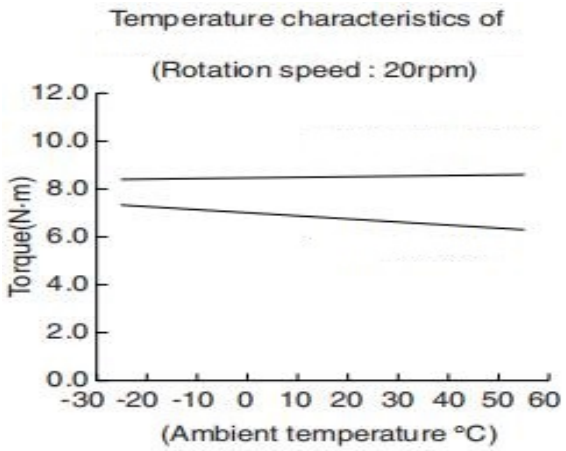
Speed characteristics

A disk damper's torque varies according to the rotation speed.In general,as shown in the graph to the right,the torque increases as the rotation speed increases,and the torque decreases as the rotation speed decreases.Torque at 20rpm is shown in this catalogue.In a closing lid,the rotation speed is slow when the lid begins to close,resulting in the generation of torque that is smaller than the rated torque.



Temperature characteristics

Damper torque (rated torque in this catalogue) varies according to the ambient temperature. As the temperature increases,the torque decreases,and as the temperature decreases,the torque increases.This is because the viscosity of the silicone oil inside the damper varies according to the temperature.The graph to the right illustrates the temperature characteristics.



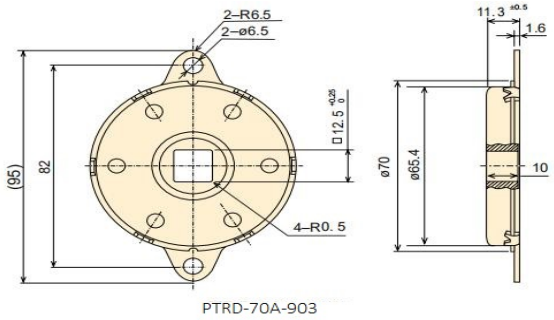
Disk Damper PTRD-70A

Model	Rated torque	Damping direction
PTRD-70A-903	8.7±0.8N·m (87±8.0kgf·cm)	Both directions
PTRD-70A-R114	11±1.1N·m (110±11kgf·cm)	Clockwise
PTRD-70A-L114		Counter-clockwise

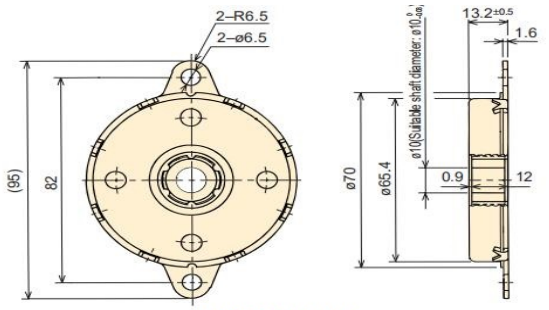
(Noted) Rated torque is measured at a rotation speed of 20rpm at 23℃ ±3℃

*Max. rotation	50rpm
*Max. cycle rate	12 cycle/min
*Working Temperature	-10 ~ 50℃
*Weight	PTRD-70A:112g,PTRD-70A-R/L:136g Iron(SPFC)
*Main body material	Nylon(with glass)
*Rotor(shaft) material	Silicone oil
*Oil type	
*ISO9001:2008	
*ROHS directive	

Size



PTRD-70A-903



PTRD-70A-R/L114

How To Use The Damper

1.Dampers may generate torque in both directions,clockwise,or counter-clockwise.

2.Please make sure that a shaft attached to a damper has a bearing, as the damper itself is not fitted with one.

3.Please refer to the recommended dimensions below when creating a shaft for PTRD-70A. Not using the recommended shaft dimensions may cause the shaft to slip out.

Shaft's external dimensions	ø10 $^{-8}_{-8.03}$
Surface hardness	HRC55 or higher
Quenching depth	0.5mm or higher
Surface roughness	1.0Z or lower
Chamfer end (Damper insertion side)	C0.2~C0.3 (or R0.2~R0.3)

4.To insert a shaft into PTRD-70A, insert the shaft while spinning it in the idling direction of the one-way clutch. (Do not force the shaft in from the regular direction. This may damage the one-way clutch.)

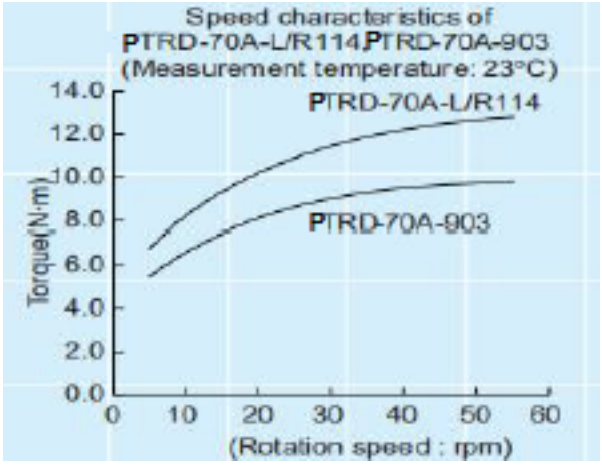
5.When using PTRD-70A, please ensure that a shaft with specified angular dimensions is inserted in the damper's shaft opening.A wobbling shaft and damper shaft may not allow the lid to slow down properly when closing. Please see the diagrams to the right for the recommended shaft dimensions for a damper.

6.A damper shaft connecting to a part with slotted groove is also available.
The slotted groove type is excellent for usage with spiral springs.

Damper Characteristics

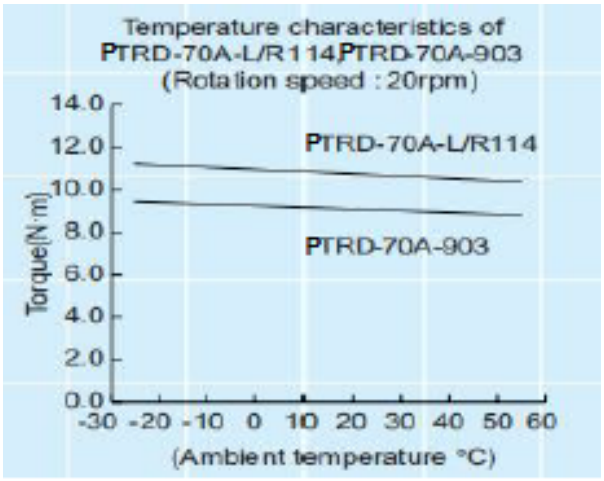
1.Speed characteristics

A disk damper's torque varies according to the rotation speed. In general, as shown in the graph to the right, the torque increases as the rotation speed increases, and the torque decreases as the rotation speed decreases. Torque at 20rpm is shown in this catalogue. In a closing lid, the rotation speed is slow when the lid begins to close, resulting in the generation of torque that is smaller than the rated torque.



2.Temperature characteristics

Damper torque (rated torque in this catalogue) varies according to the ambient temperature. As the temperature increases, the torque decreases, and as the temperature decreases, the torque increases. This is because the viscosity of the silicone oil inside the damper varies according to the temperature. The graph to the right illustrates the temperature characteristics.



Disk Damper PTR-34A

Specification

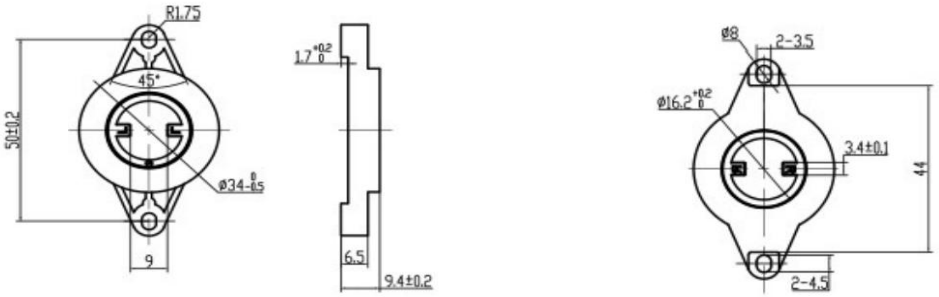
Rated Torque	10-18kgf.cm
Work angle	110º
Operating temperature	-5-+50℃
Damping direction	Right / Left
Life Time	50,000 times

(Noted) Rated torque is measured at 23℃±2℃.

ISO9001:2008
ROHS directive

*Weight	8.5g±1g
*Main body material	POM
*Rotor(shaft) material	POM
*Oil type	Silicone oil

Size



Gear Damper PTR-C2

Specification

Model	Rated torque	Direction
PTR-C2-201	(2 0 ± 6) X 1 0 $^{-3}$ N · m	Both directions
PTR-C2-301	(3 0 ± 8) X 1 0 $^{-3}$ N · m	Both directions
PTR-C2-R301	(3 0 ± 8) X 1 0 $^{-3}$ N · m	Clockwise
PTR-C2-L301	(3 0 ± 8) X 1 0 $^{-3}$ N · m	Counter-clockwise

Features

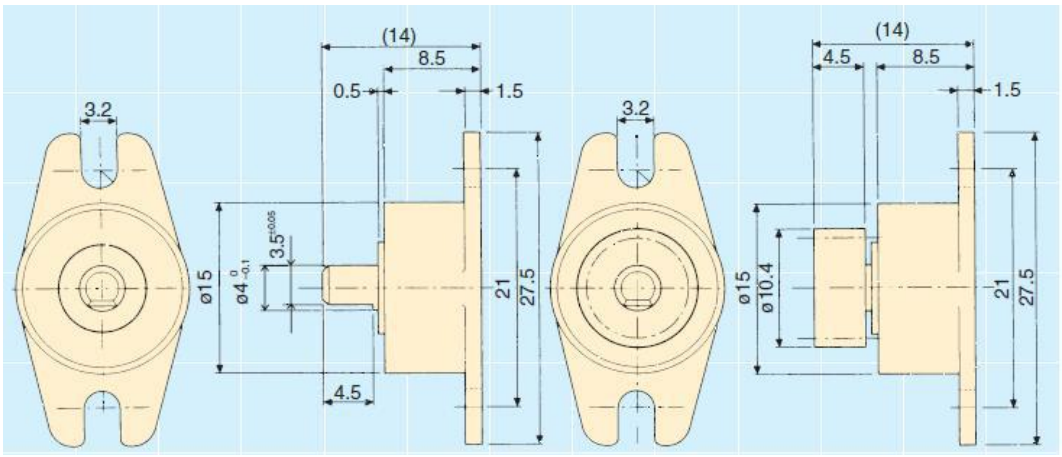
100% performance test
Environment test
Oil leakage test
Life cycle test: ＞5000times
ISO9001:2008

ROHS directive

* Max.rotation speed： 50rpm
* Max.cycle rate: 10 cycle/min
* Working Temperature: 0℃~50℃
* Weight: PTR-C2:2.1g,PTR-C2-R/L:3.2g(with gear:+0.3g)
* Body and cap material: Polycarbonate(PC)
* Rotating shaft material: Polyacetal(POM),metal(only in PTR-C2-*301)
* Oil type: Silicone oil

Note 1:Rated torque measured at a rotation speed of 20rpm at 23℃
Note 2:Gear model number has G1 at the end
Note 3:Torque ca n be customized by changing the oil viscosity

Size

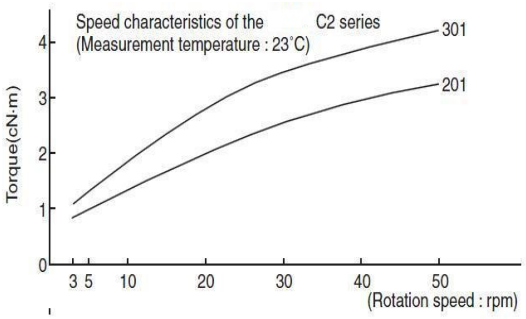


Gear Specification

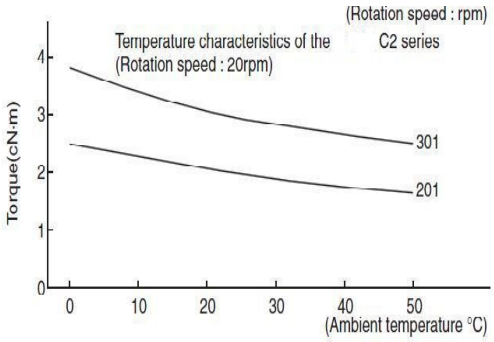
Type	Standard spur gear
Tooth profile	Involute
Module	0.8
Pressure angle	20°
Number of teeth	11
Pitch circle diameter	⌀ 8.8

Damper Characteristics

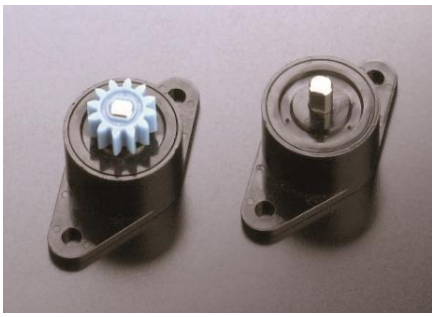
1.Speed characteristics
A rotary damper's torque varies according to the rotation speed.In general,as shown in the graph to the right,the torque increases as the rotation speed increases,and the torque decreases as the
rotation speed decreases. In addition,please note that the starting torque slightly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



2.Temperature characteristics
A rotary damper's torque varies according to the ambient temperature. In addition,as shown in the graph to the right,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.



Gear Damper PTR-D2



Specification		
PTR-D2-501(G2)	(50±10) X 10^{-3} N·m (500 ± 100 g f·c m)	Both directions
PTR-D2-102(G2)	(100± 20) X 10^{-3} N·m (1000± 200 g f·c m)	Both directions
PTR-D2-152(G2)	(150 ± 30) X 10^{-3} N·m (1500 ± 300g f·c m)	Both directions
PTR-D2-R02(G2)	(50 ± 10) X 10^{-3} N·m (500 ± 100 g f·c m)	Clockwise
PTR-D2-L02(G2)		Counter-clockwise
PTR-D2-R102(G2)	(100 ± 20) X 10^{-3} N. m (1000 ± 200 g f · c m)	Clockwise
PTR-D2-L102(G2)		Counter-clockwise
PTR-D2-R152(G2)	(150 ± 30) X 10^{-3} N ·m (1500 ± 300 g f · c m)	Clockwise
PTR-D2-L152(G2)		Counter-clockwise
PTR-D2-R252(G2)	(250 ± 30) X 10^{-3} N ·m (2500 ± 300 g f · c m)	Clockwise
PTR-D2-L252(G2)		Counter-clockwise

Note1: Rated torque measured at a rotation speed of 20rpm at 23°C.

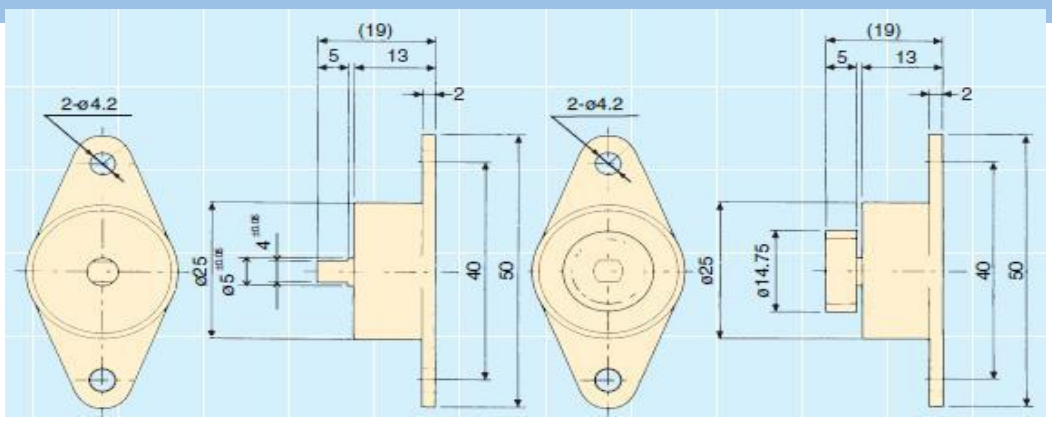
Note 2: Gear model number has G2 at the end.

Note 3: Torque can be customized

*ISO9001:2008
*ROHS directive

*Max.rotation speed	50rpm
*Max.cycle rate	10 cycle/min
*Working temperature	0 ~ 50°C
*Weigth	PTR-D2:8.3g,PTR-D2-R/L:11.8g(with gear:+0.6g)
*Body and cap material	Polycarbonate (PC)
*Rotating shaft material	Polyacetal,metal (Both Directions: POM, Clockwise/Counter-clockwise:SUS)
*Gear material	Polyacetal (POM)
*Oil type	Silicone oil

Size



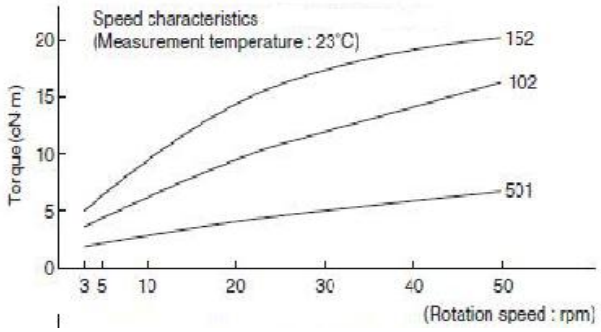
Damper Specification

Type	Standard spur gear
Tooth profile	Involute
Module	1
Pressure angle	20°
Number of teeth	12
Pitch circle diameter	⌀ 12
Addendum modification coefficient	0.375

Damper Characteristics

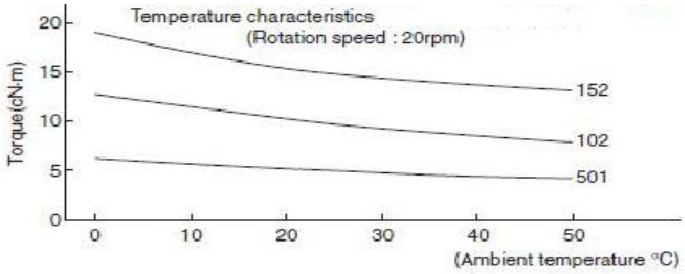
1.Speed characteristics

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

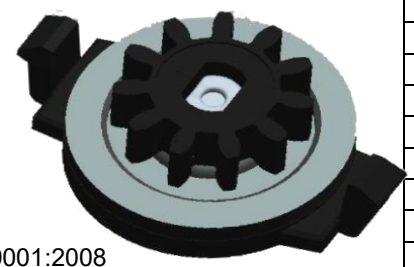


2.Temperature characteristics

A rotary damper's torque varies according to the ambient temperature. In addition, as shown in the graph to the right,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.



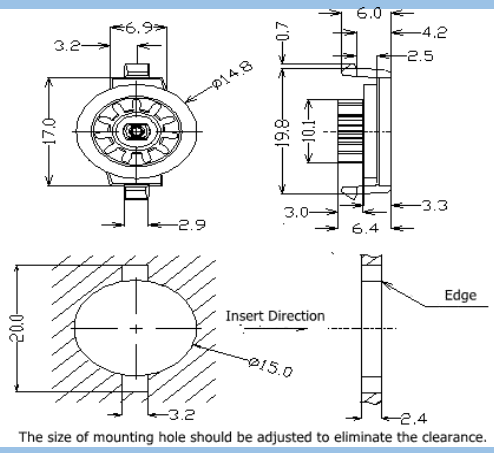
Gear Damper PTR-TA8



*ISO9001:2008
*ROHS directive

Torque	
0.2	0.2±0.05 N·cm
0.3	0.3±0.05 N·cm
0.4	0.4±0.06 N·cm
0.55	0.55±0.07 N·cm
0.7	0.7±0.08 N·cm
0.85	0.85±0.09 N·cm
1	1.0±0.1 N·cm
1.4	1.4±0.13 N·cm
1.8	1.8±0.18 N·cm
X	Customized

Size



The size of mounting hole should be adjusted to eliminate the clearance.

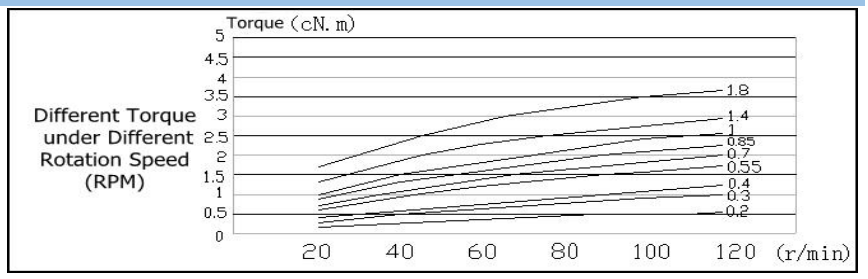
Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

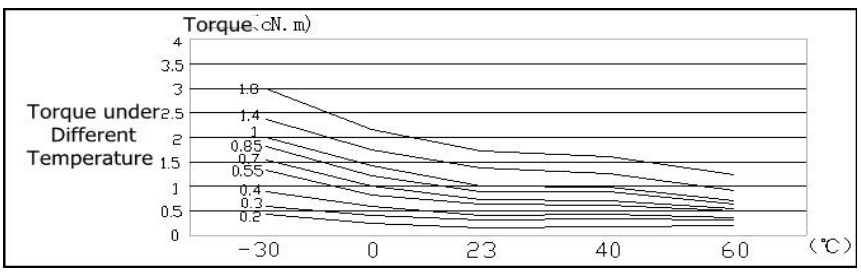
Lifetime	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 way anticlockwise,（90r/min）
Lifetime	50000 cycles

Damper Characteristics

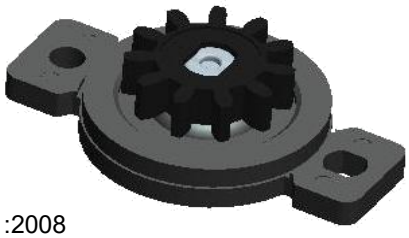
1.Torque vs rotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature, generally,Torque is increasing when temperature reduction and decreasing when temperature increment.



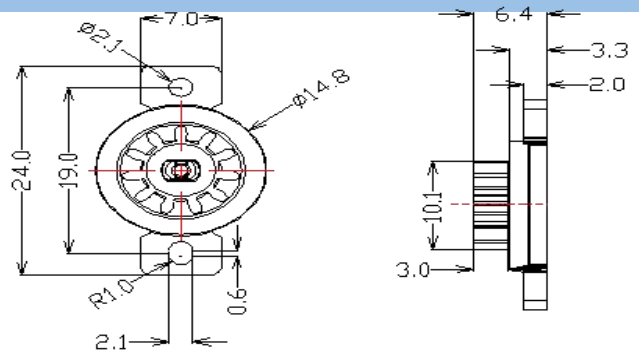
Gear Damper PTR-TB8



*ISO9001:2008
*ROHS directive

Torque	
A	0.24±0.1 N·cm
B	0.29±0.1 N·cm
C	0.39±0.15 N·cm
D	0.68±0.2 N·cm
E	0.88±0.2 N·cm
F	1.27±0.25 N·cm
X	Customized

Size



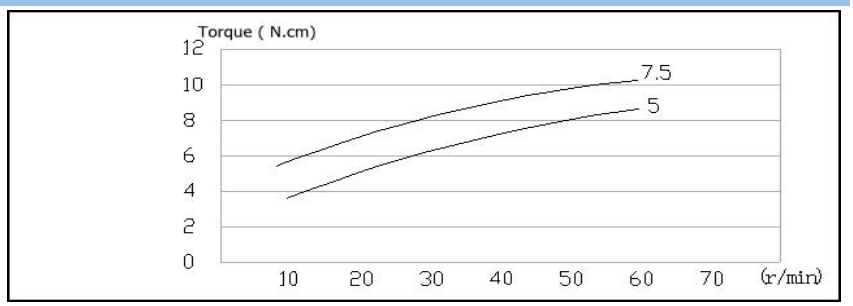
Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
Fluid	Silicon oil
O-Ring	Silicon rubber

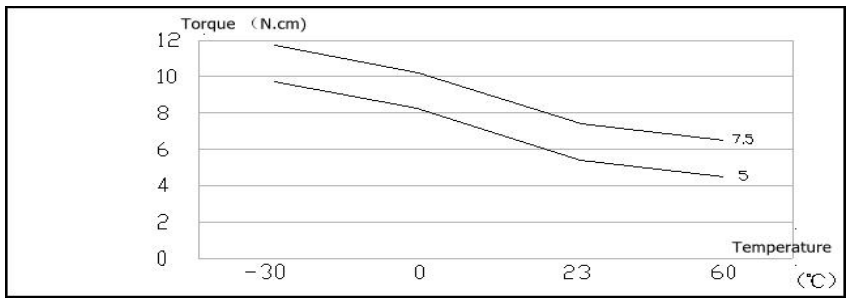
Durability	
Temperature	23℃
One cycle	→1.5way clockwise, （90r/min） → 1 way anticlockwise （90r/min）
Lifetime	50000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature. Generally, torque is increasing when temperature reduction and decreasing when temperature increment.

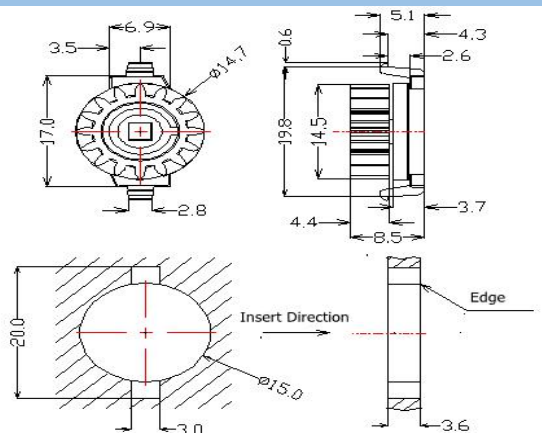


Gear Damper PTR-TC8

*ISO9001:2008
*ROHS directive

Torque	
0.2	0.2±0.05 N·cm
0.3	0.3±0.05 N·cm
0.4	0.4±0.06 N·cm
0.55	0.55±0.07 N·cm
0.7	0.7±0.08 N·cm
0.85	0.85±0.09 N·cm
1	1.0±0.1 N·cm
1.4	1.4±0.13 N·cm
1.8	1.8±0.18 N·cm
X	Customized

Size



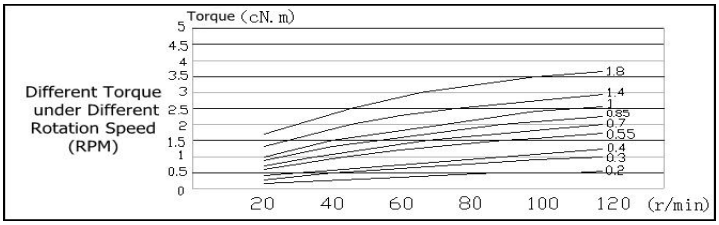
Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

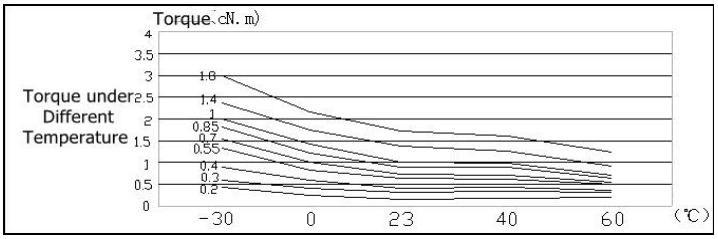
Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, (90r/min) → 1 way anticlockwise (90r/min)
Lifetime	50000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature. Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

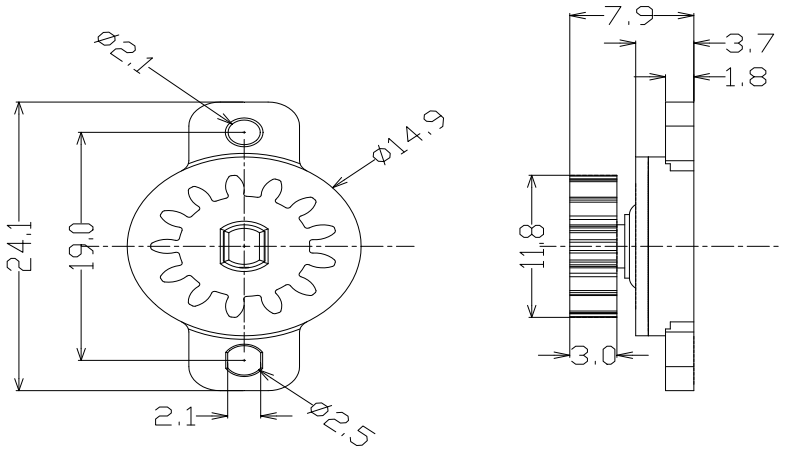


Gear Damper PTR-TC8

*ISO9001:2008
*ROHS directive

Torque	
0.4	0.4±0.2 N·cm
0.8	0.8±0.2 N·cm
X	Customized

Size



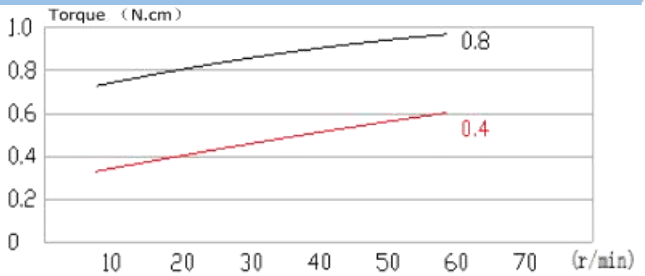
Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

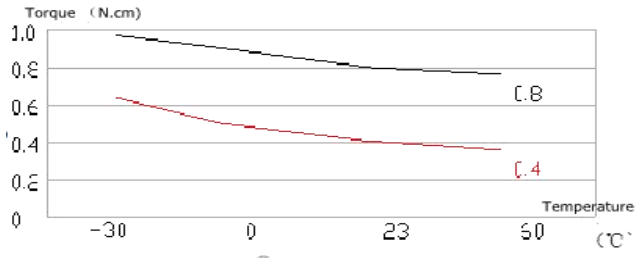
Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 way anticlockwise（90r/min）
Lifetime	50000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown in the right drawing.
Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min)
Torque of the oil damper torque changing by temperature. Generally,torque is increasing when temperature reduction and decreasing when temperature increment.



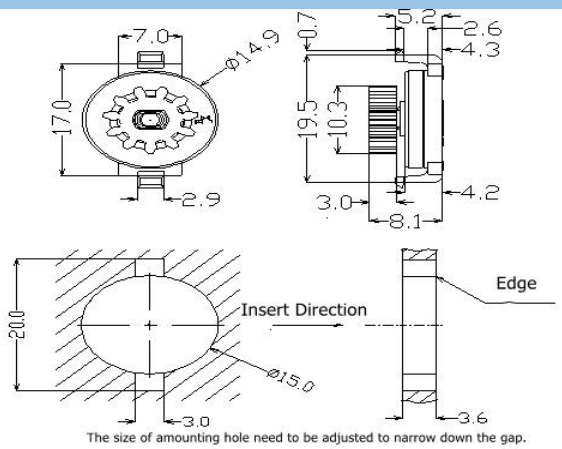
Gear Damper PTR-TE8

*ISO9001:2008

*ROHS directive

Torque	
0.2	0.2±0.05 N·cm
0.3	0.3±0.05 N·cm
0.4	0.4±0.06 N·cm
0.55	0.55±0.07 N·cm
0.7	0.7±0.08 N·cm
0.85	0.85±0.09 N·cm
1	1.0±0.1 N·cm
1.4	1.4±0.13 N·cm
1.8	1.8±0.18 N·cm
X	Customized

Size



The size of amounting hole need to be adjusted to narrow down the gap.

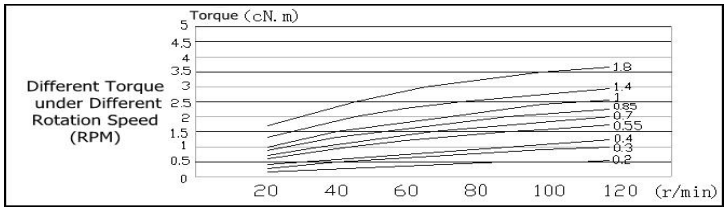
Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

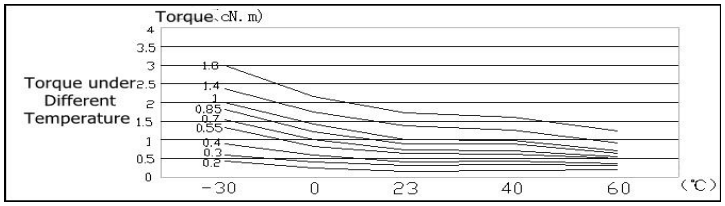
Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 way anticlockwise,(90r/min）
Lifetime	50000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature.
Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

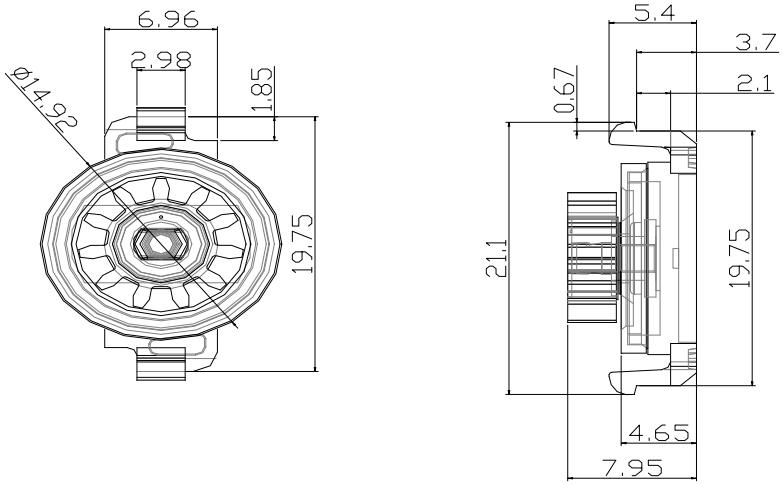


Gear Damper PTR-TF8

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃		
A	Red	0.3±0.1N·cm
X		Customized

Size



Damper Specification

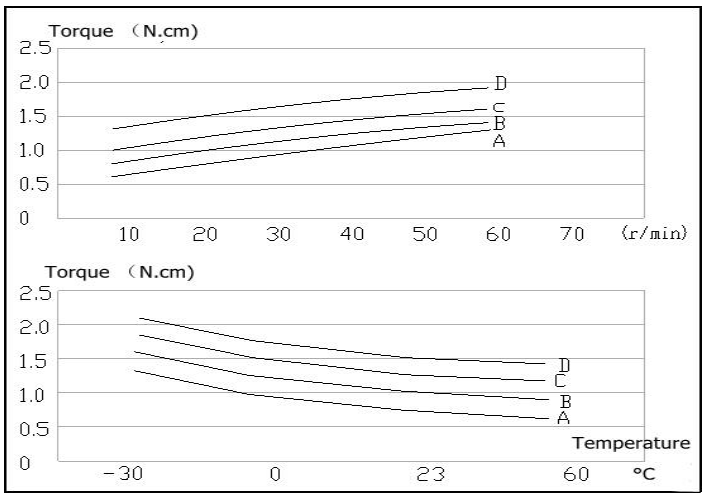
Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 way anticlockwise（90r/min）
Lifetime	50000 cycles

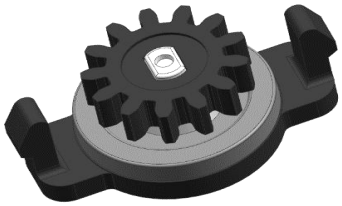
Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.

2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature. Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

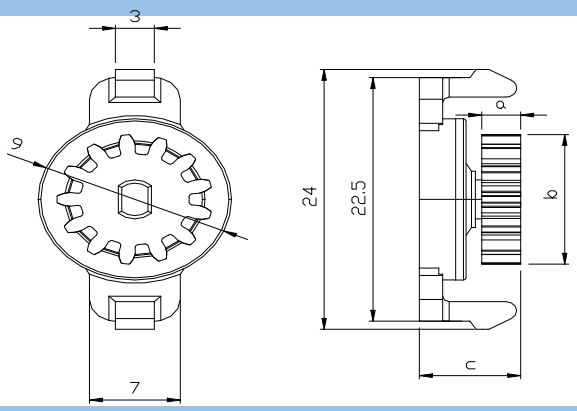


Gear Damper PTR-TG8



Torque at 20rpm,20℃		
A	Red	0.3±0.1N·cm
X		As per customer request

Size



Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

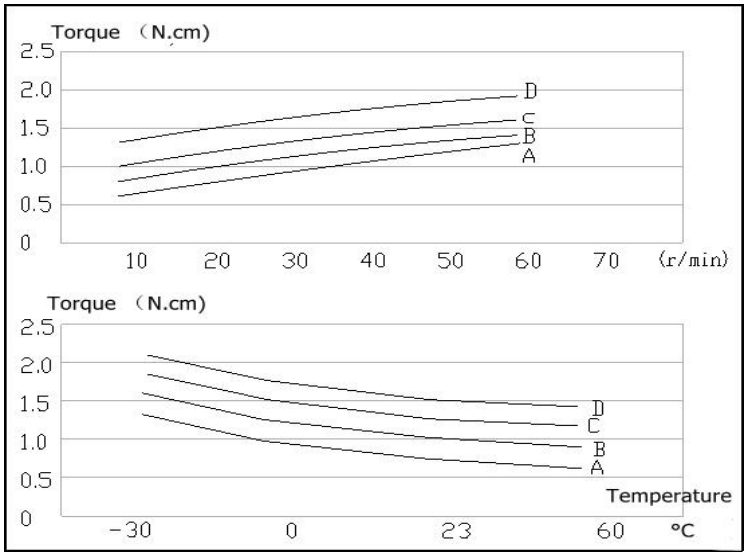
Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 way anticlockwise ， （90r/min）
Lifetime	50000 cycles

*ISO9001:2008
*ROHS directive

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.

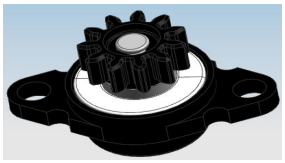
2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature.
Generally,torque is increasing when temperature reduction and decreasing when temperature increment.



Gear Damper PTR-TI

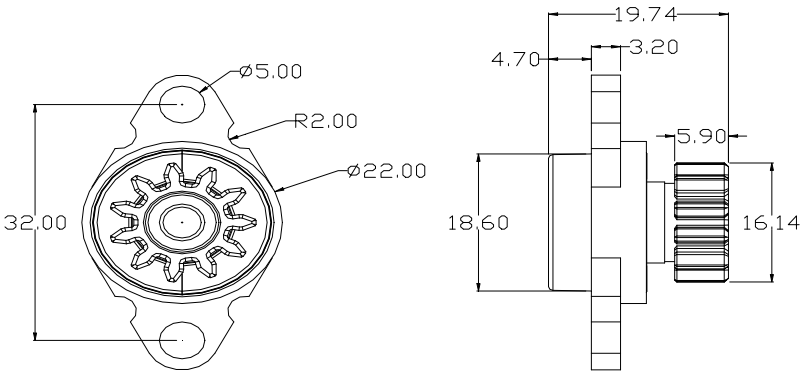
*ISO9001:2008

*ROHS directive



Torque at 20rpm,20℃	
A	Red
X	As per client request

Size



Damper Specification

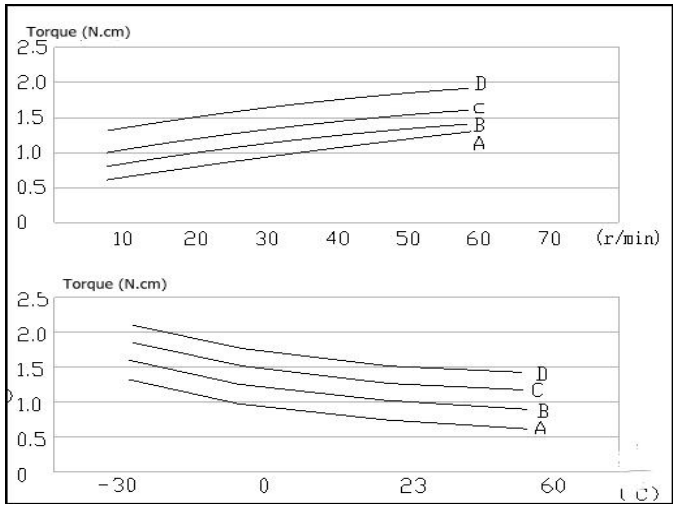
Material	
Base	PA
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1.5 way anticlockwise（90r/min）
Lifetime	50000 cycles

Damper Characteristics

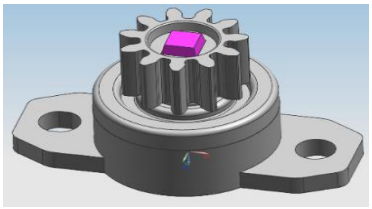
1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing.
Torque increase by rotate speed increasing.

2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature.
Generally,torque is increasing when temperature reduction and decreasing when temperature increment.



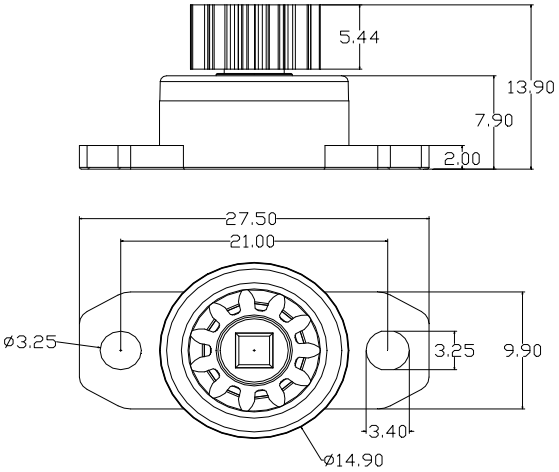
Gear Damper PTR-TJ

*ISO9001:2008
*ROHS directive



Torque at 20rpm,20℃		
A	Red	2.5±0.5N·cm
X	As per client request	

Size



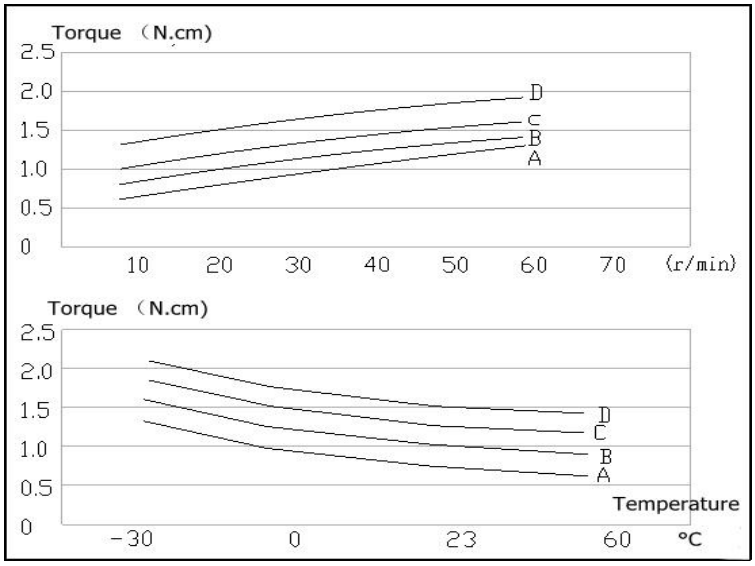
Damper Specification

Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 .5way anticlockwise（90r/min）
Lifetime	50000 cycles

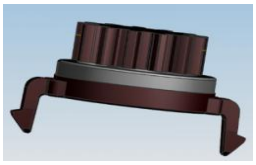
Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature.
Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

Gear Damper PTR-TK

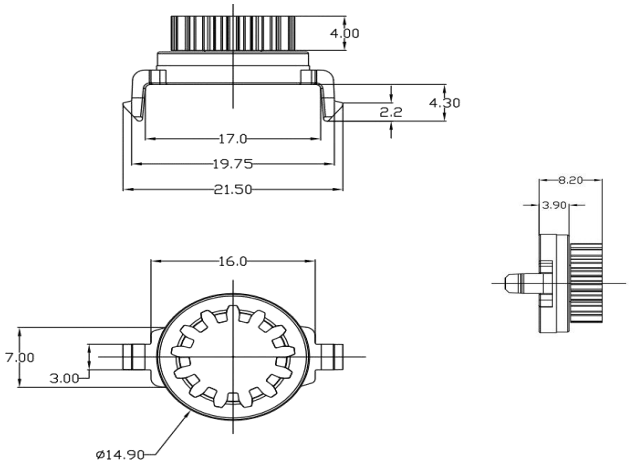


Torque at 20rpm,20℃		
A	Red	2.5±0.5N·cm
X	As per client request	

*ISO9001:2008

*ROHS directive

Size



Damper Specification

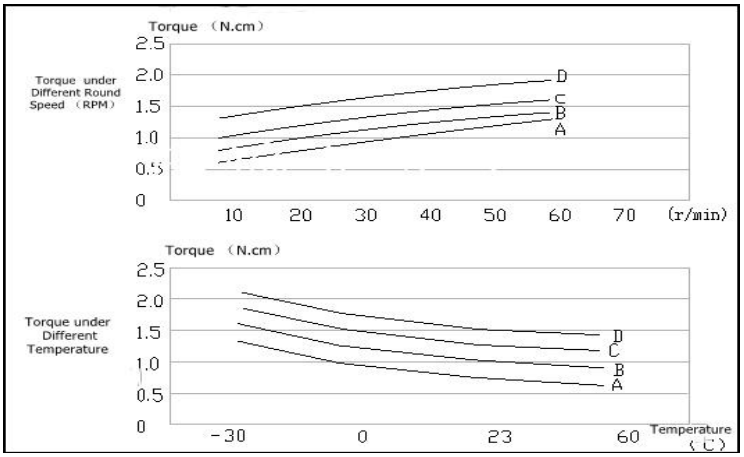
Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 .5way anticlockwise（90r/min）
Lifetime	50000 cycles

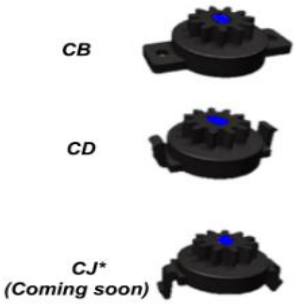
Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.

2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature. Generally,torque is increasing when temperature reduction and decreasing when temperature increment.



Gear Damper PTR-C One-way



Torque at 20rpm,20℃
1 N·cm ± 0.3 N·cm
1.5N·cm ±0.45 N·cm
2 N·cm ±0.6 N·cm
3 N·cm ±0.9 N·cm
4 N·cm± 1.2 N·cm

*ISO9001:2008
*ROHS directive

Damper Specification

Bulk Materials	
Gear wheel	POM
Rotor	POM
Base	PA66/PC
Cap	PA66/PC
O-Ring	Silicone
Fluid	Silicone oil

Gear wheel Type	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]									14.5°		
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	16
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	3

Damper Characteristics

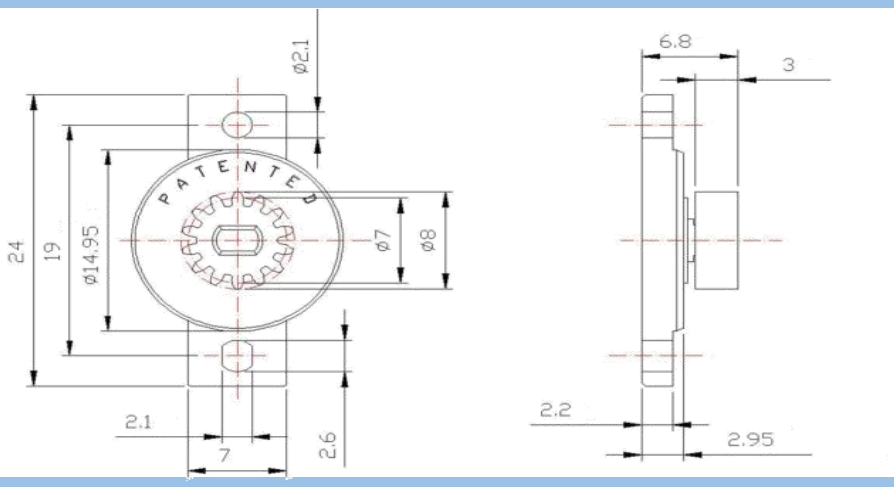
•Diameter of 15 mm
• Torque up to 4,00 N·cm at 20 rpm
• Free Spinning in non-damping direction
• Functions in any orientation
• Very limited engagement angle for dampening.
• Up to 20,000 cycles @200rpm and RT

Gear Damper PTR-CA

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange
100% Inspection		

Size

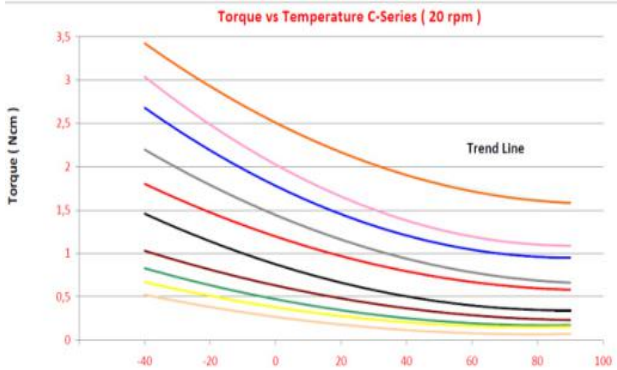


Damper Specification

Bulk Materials	
Gear wheel	POM(5S gear in TPE）
Rotor	POM
Base	PA66/PC
Cap	PA66/PC
O-Ring	Silicone
Fluid	Silicone oil

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	100,000 cycles 1 cycle=0°+360°+0°）
100% tested	

Damper Characteristics



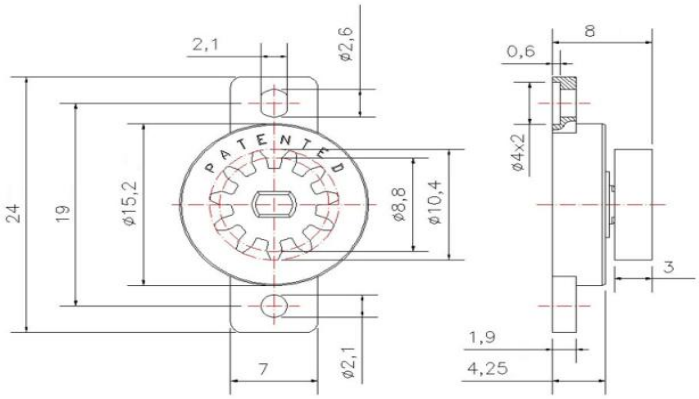
Gear Damper PTR-CB

*ISO9001:2008

*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm± 0.35 N·cm		Orange
100% Inspection		

Size



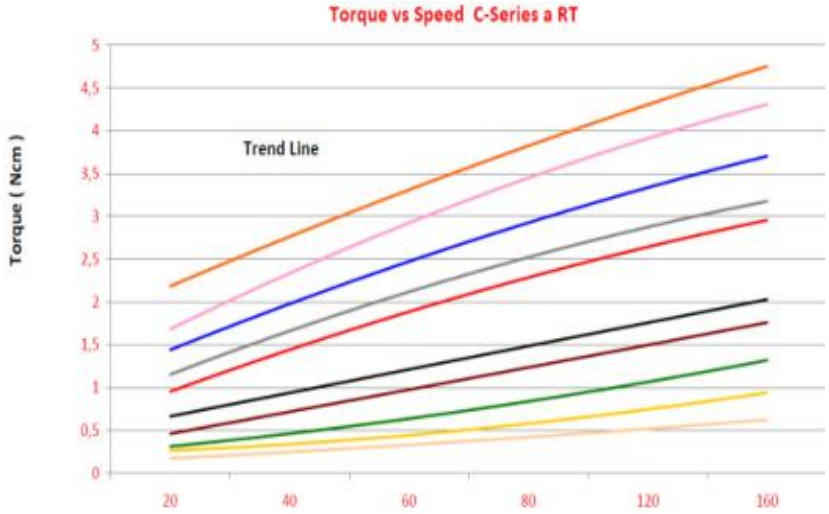
Damper Specification

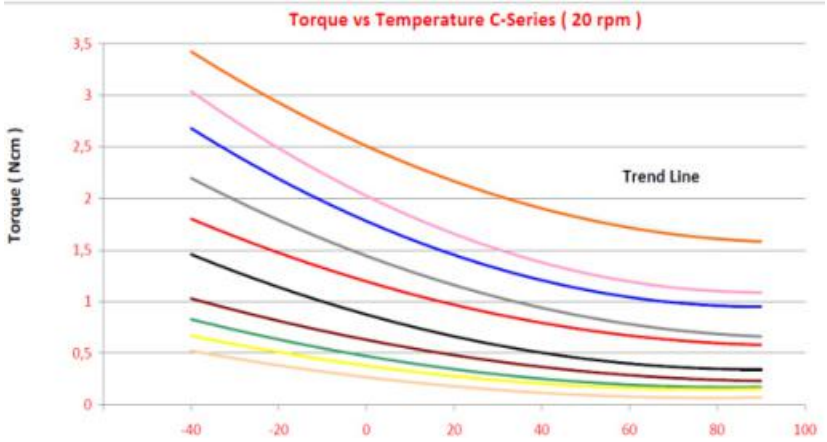
Bulk Materials	
Gear wheel	POM(5S gear in TPE）
Rotor	POM
Base	PA66GF13
Cap	PA66
Big O-Ring	Silicone
Small O-Ring	Silicone

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	100,000 cycles at 200RPM

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø [mm]	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	

Damper Characteristics



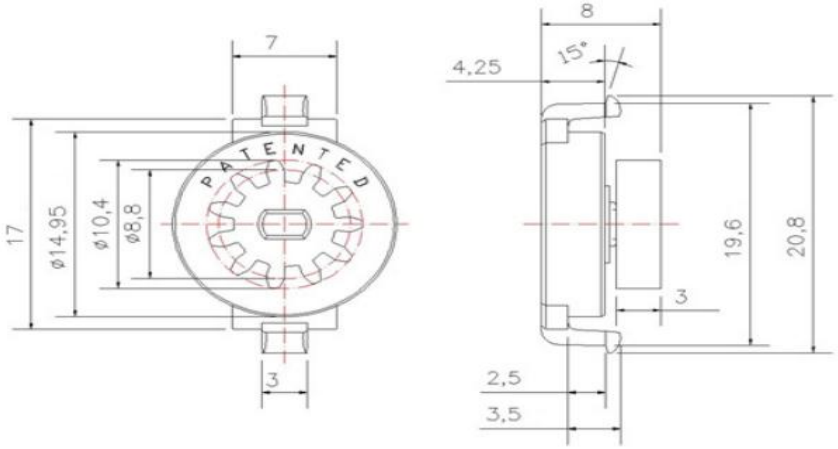


Gear Damper PTR-CD

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	120	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm		Black
0.95 N·cm ±0.18 N·cm		Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange

Size



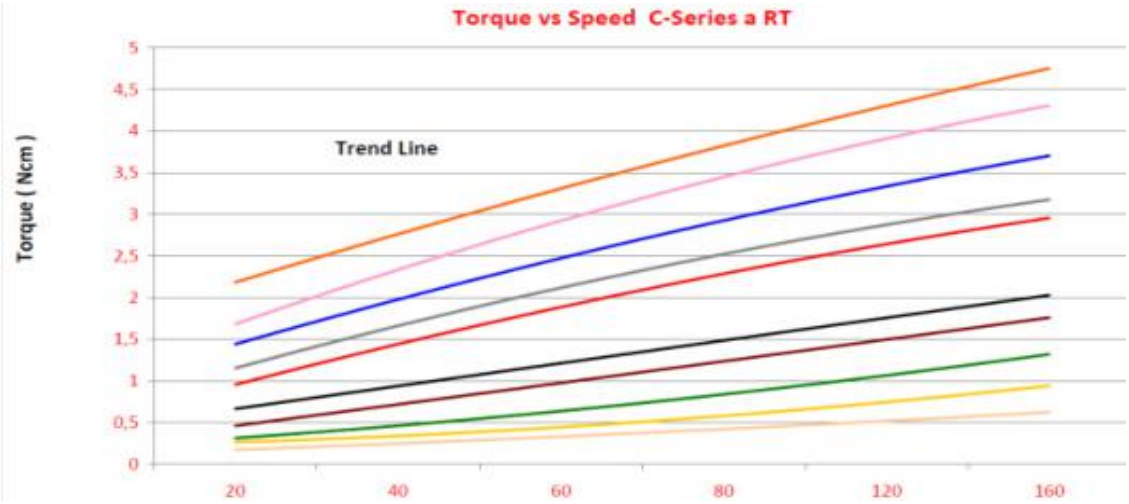
Damper Specification

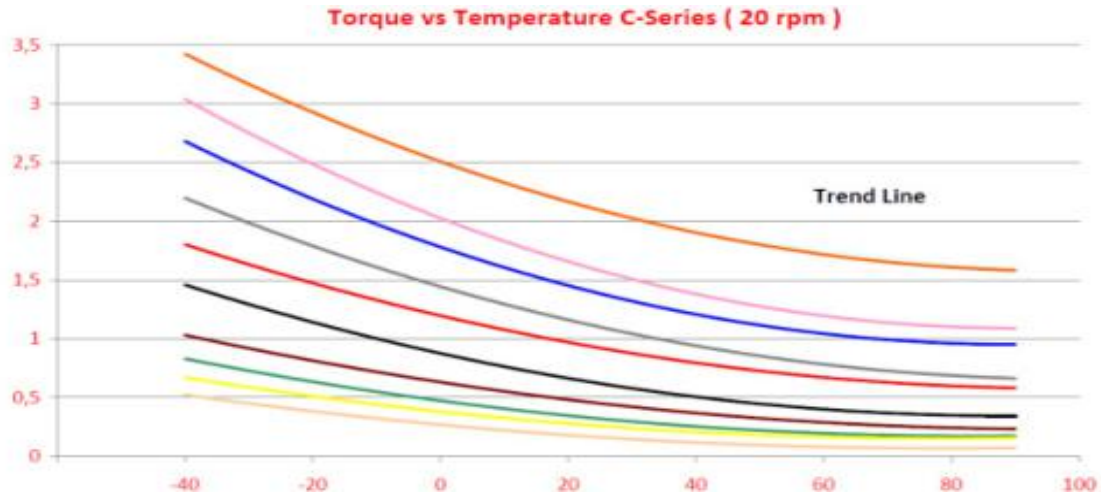
Bulk Materials	
Gear wheel	POM (5S gear in TPE)
Rotor	POM
Base	PA66GF13
Cap	PA66
O-Ring	Silicone
Fluid	Silicone oil

Working Conditions	
Temperature	-40°C up to +90°C
Lifetime	100,000 cycles 1 cycle=0°+360°+0°
100% tested	

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	

Damper Characteristics





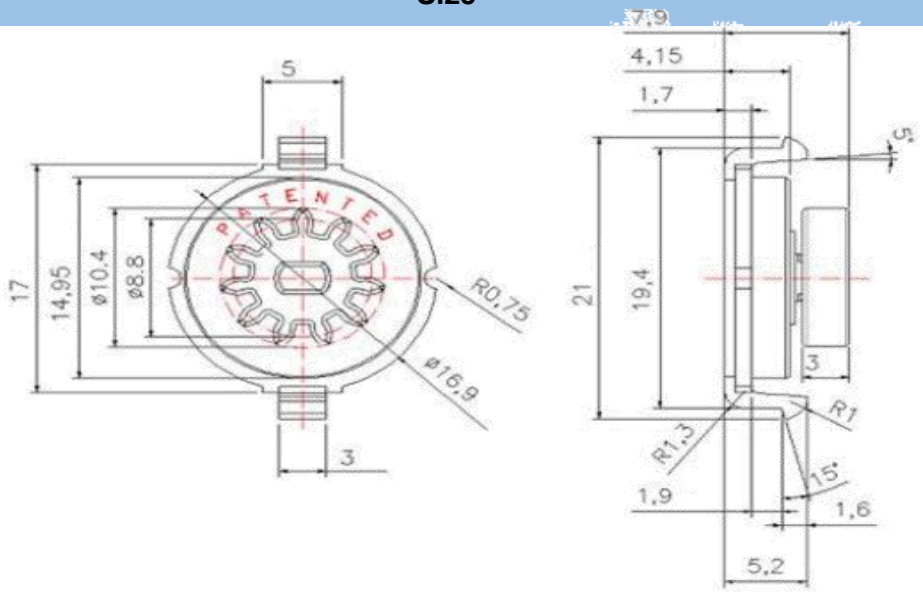
Gear Damper PTR-CE

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange

100% Inspection

Size



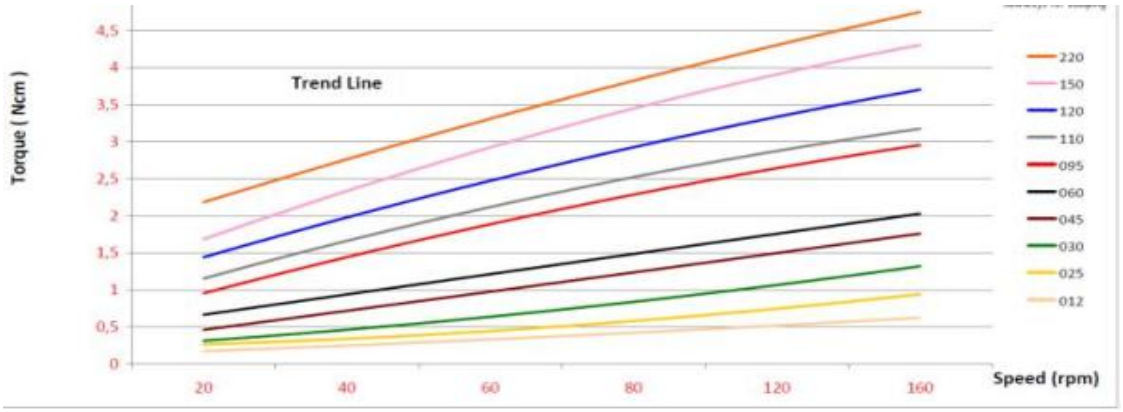
Damper Specification

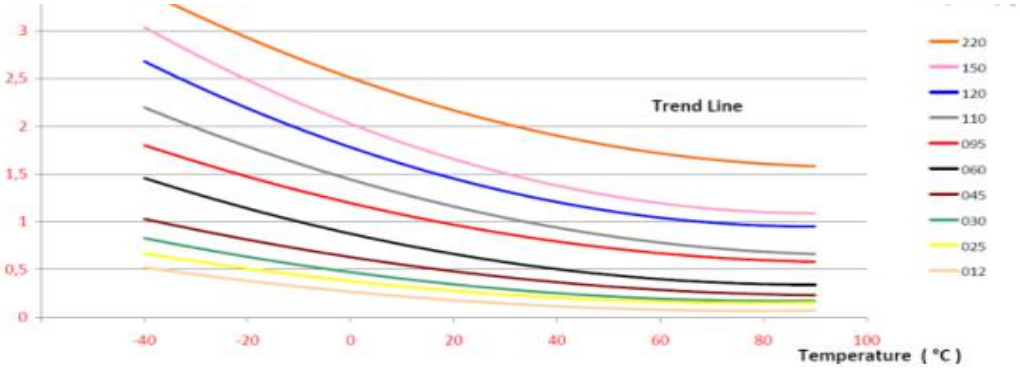
Bulk Materials	
Gear wheel	POM (5S gear in TPE)
Rotor	POM
Base	PA66
Cap	PA66
O-Ring	Silicone
Fluid	Silicone oil

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	100,000 cycles 1 cycle=0°+360°+0°
100% tested	

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø [mm]	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	

Damper Characteristics



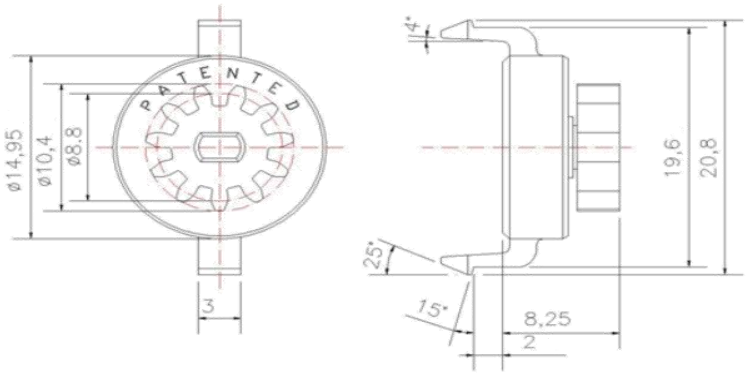


Gear Damper PTR-CF

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange
100% Inspection		

Size

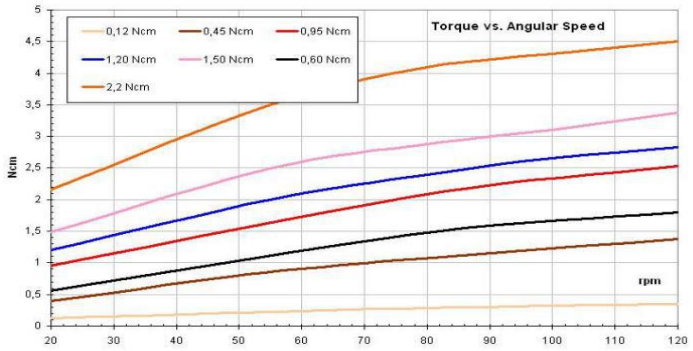


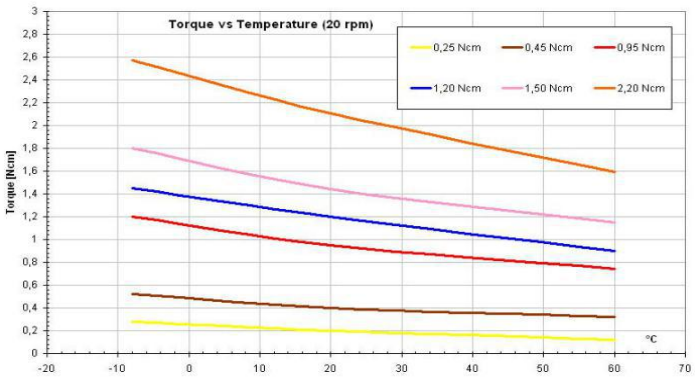
Damper Specification

Bulk Materials	
Gear wheel	POM
Rotor	POM
Base	PC
Cap	PC
O-Ring	Silicone
Fluid	Silicone oil

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	100,000 cycles 1 cycle=0°+360°+0°
100% tested	

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø [mm]	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	





All products are 100% tested on the torque value.Bases, gear, wheels, torques and colors can be combined, having a design flexibility.

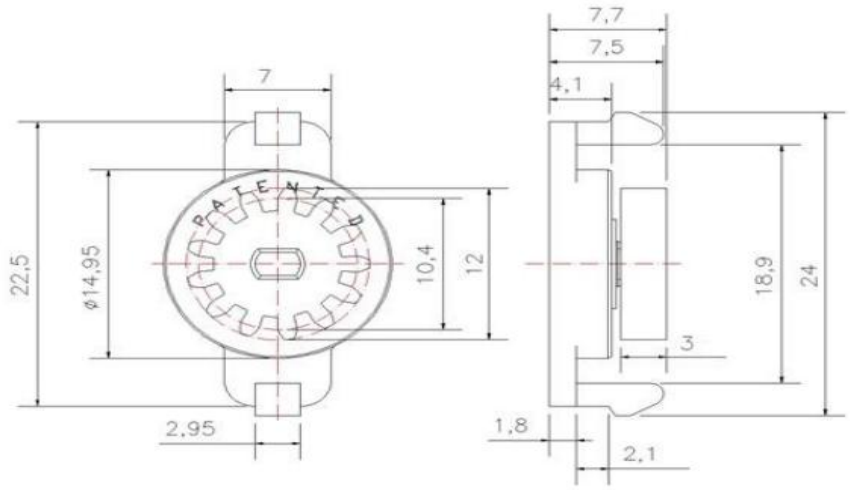
Custom designs are also available.

Gear Damper PTR- CG

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange
100% Inspection		

Size



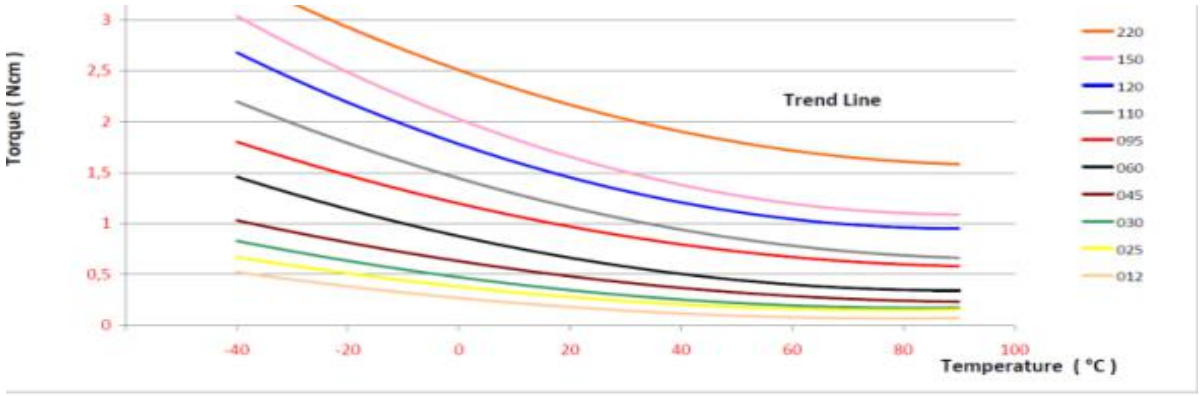
Damper Specification

Bulk Materials	
Gear wheel	POM
Rotor	POM
Base	PA66
Cap	PC
O-Ring	Silicone
Fluid	Silicone oil

Working Conditions	
Temperature	-40°C up to +90°C
Lifetime	100.000 cycles at 200 rpm and RT (1 cycle = 0°÷360°÷0°)
100% tested	

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	


Torque vs Speed C-Series a RT
Torque (Ncm)
Trend Line
5
4,5
4
3,5
3
2,5
2
1,5
1
0,5
0
20
40
60
80
120
160

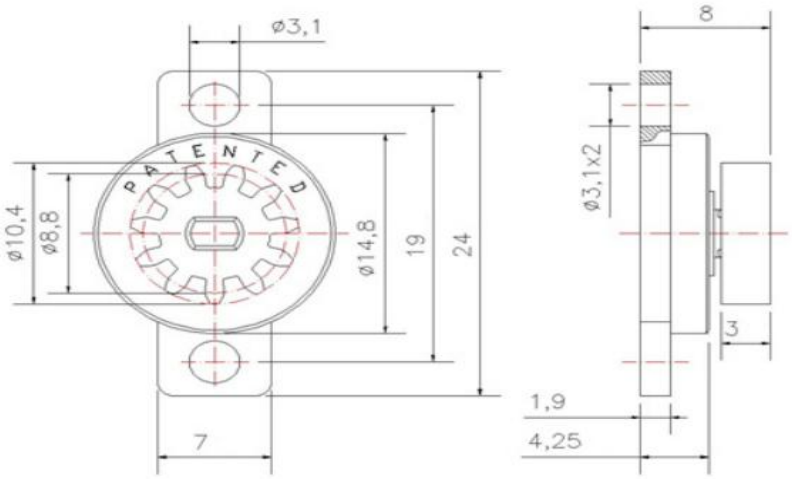

Torque (Ncm)
Trend Line
3
2,5
2
1,5
1
0,5
0
-40
-20
0
20
40
60
80
100
Temperature (°C)
220
150
120
110
095
060
045
030
025
012

Gear Damper PTR-CI

*ISO9001:2008
*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17 N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange
100% Inspection		

Size

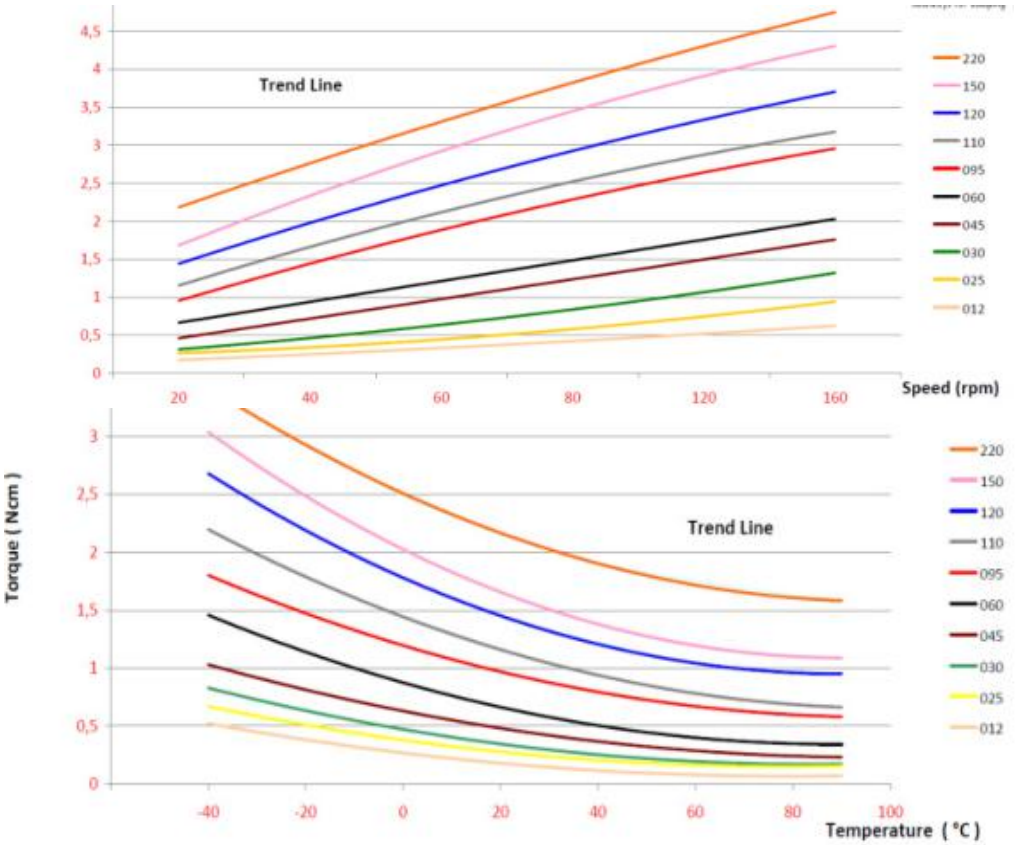


Damper Specification

Bulk Materials	
Gear wheel	POM (5S gear in TPE)
Rotor	POM
Base	PA66GF13
Cap	PA66
O-Ring	Silicone
Fluid	Silicone oil

Working Conditions	
Temperature	-40°C up to +90°C
Lifetime	100.000 cycles at 200 rpm and RT (1 cycle = 0°÷360°÷0°)
100% tested	

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	


Trend Line
4,5
4
3,5
3
2,5
2
1,5
1
0,5
0
20
40
60
80
120
160
Speed (rpm)
220
150
120
110
095
060
045
030
025
012
Torque (Ncm)
Trend Line
3
2,5
2
1,5
1
0,5
0
-40
-20
0
20
40
60
80
100
Temperature (°C)
220
150
120
110
095
060
045
030
025
012

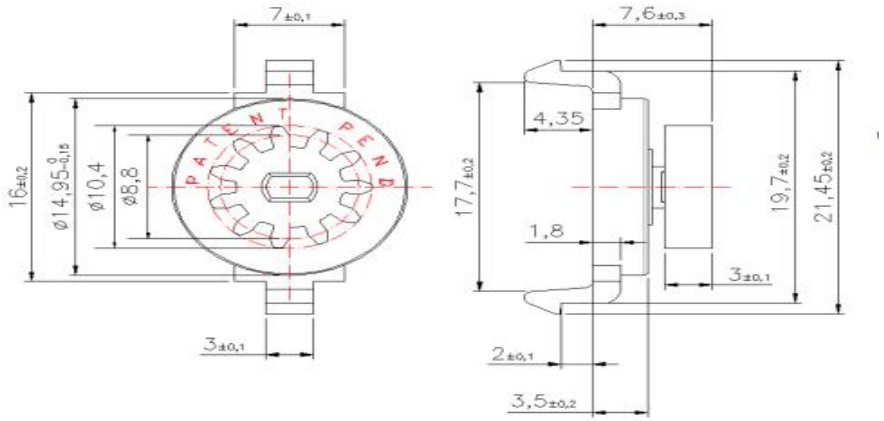
Gear Damper PTR-CJ

*ISO9001:2008

*ROHS directive

Torque at 20rpm,20℃	Production at RPM	Color
0.12 N·cm ± 0.07 N·cm	160	Beige
0.25 N·cm ±0.08 N·cm		Yellow
0.30 N·cm ±0.10 N·cm		Green
0.45 N·cm ±0.12 N·cm		Brown
0.60 N·cm ±0.17N·cm	120	Black
0.95 N·cm ±0.18 N·cm	80	Red
1.20 N·cm ±0.20 N·cm		Blue
1.50 N·cm ±0.25 N·cm		Pink
2.20 N·cm ± 0.35 N·cm		Orange
100% Inspection		

Size

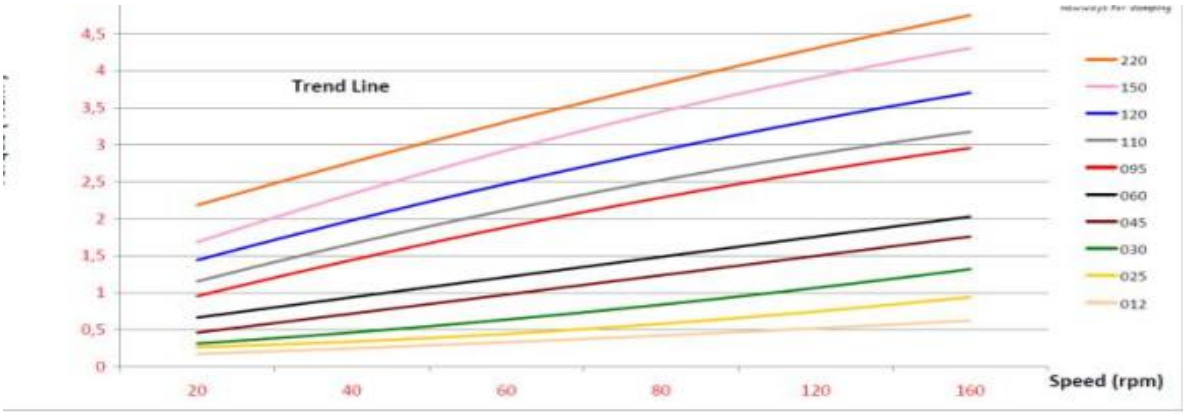


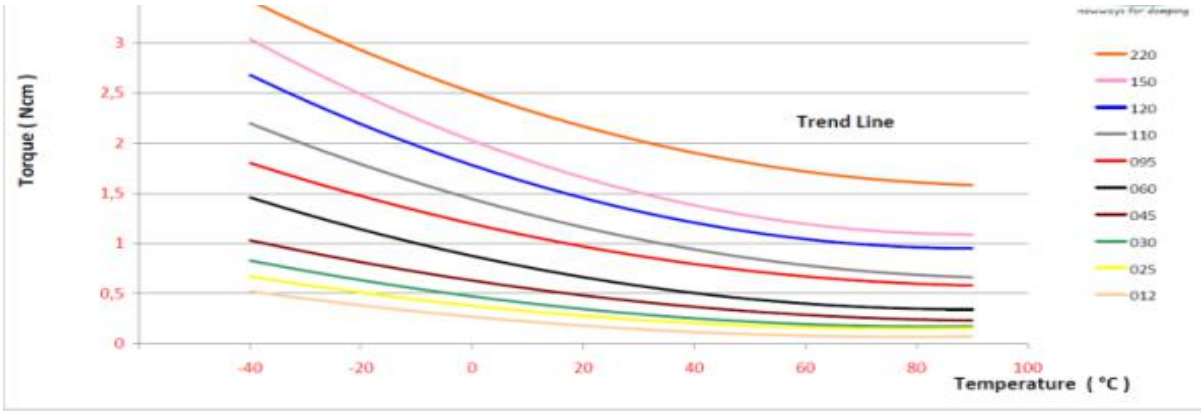
Damper Specification

Bulk Materials	
Gear wheel	POM
Rotor	POM
Base	PC
Cap	PC
O-Ring	Silicone
Fluid	Silicone oil

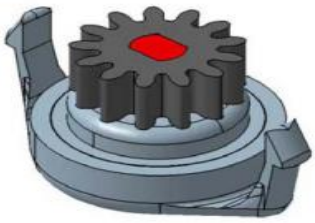
Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	100.000 cycles at 200 rpm and RT (1 cycle = 0°÷360°÷0°)
100% tested	

Gear Wheels	2	3C	6	3A/F	3B	3D/G	3E	4	7	5	5S Soft
Pressure angle [Deg]	20°								14.5°	20°	
Module	0.5	0.6	0.8								
N. Teeth	14	11	10	11				12	13	16	
Outside circle Ø [mm]	8	7.8	9.6	10.4/ 10.3	10,4	10.4/ 10.3	10.4	11.2	12	14.15	14.3
Height [mm]	3	3	3,5	3	3	4,5	3+2	3,5	3	3	





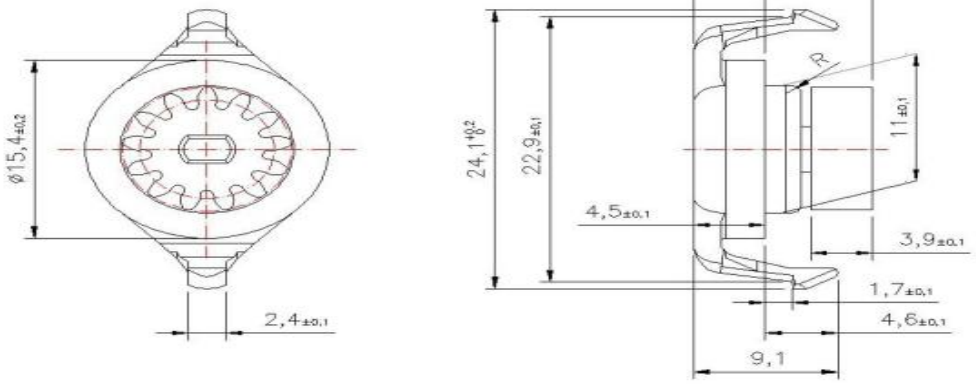
Gear Damper PTR-CK



*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C
030=0.30 N·cm±0.10 N·cm
060=0.60 N·cm±0.17 N·cm
095=0.95 N·cm±0.18 N·cm
120=1,20 N·cm±0.20 N·cm

Size

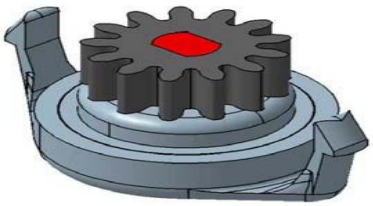


Damper Specification

Bulk material	
Gear wheel	POM
Rotor	POM
Base	PC
Cap	PC
O-Ring	Silicone
Fluid	Silicone oil

Gear wheels	7k
Module	0.7
N.Teeth	13
Pitch circle Ø [mm]	9.1
Outside circle Ø [mm]	10.5
Height [mm]	3.9

Working conditions	
Temperature	-5°C up to +50°C
Lifetime	100, 000 cycles at 200 rpm and RT (1 cycle = 0°÷360°÷0°)
100% test	

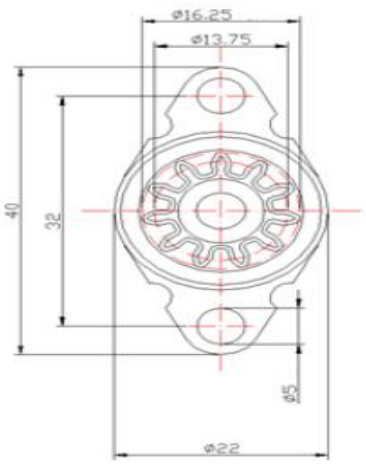


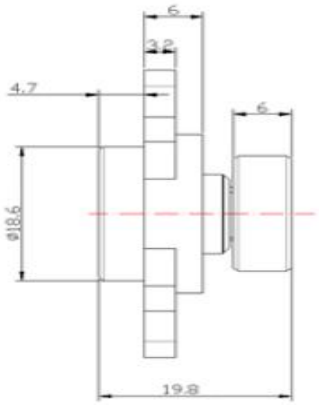
Gear Damper PTR-DE One-Way

*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C	3 N·cm ±0.7 N·cm
	4 N·cm ±0.7 N·cm
	5.5 N·cm ±0.8 N·cm
	7.5 N·cm ±1.3 N·cm
	11 N·cm ±1.5 N·cm
	15 N·cm ±2 N·cm

Size



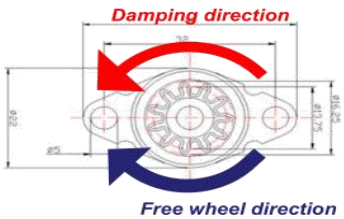


Damper Specification

Bulk Materials	
Gear wheel	POM
Rotor	Zamak
Base	PA6GF13
Cap	PA6GF13
O-Ring	NBR/VMQ
Fluid	Silicone oil

Model No.	TRD-DE
Module	2 holes mounting
N.Teeth	3H
Module	1.25
N.Teeth	11
Height [mm]	6
Gear wheels	16.25mm

Working Conditions	
Temperature	-5°C up to +50°C (O-Ring in VMQ / NBR)
Lifetime	15,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise

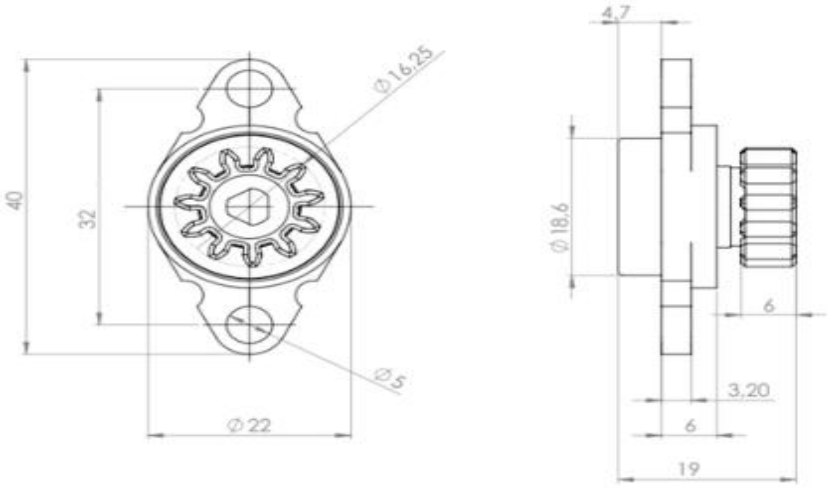


Gear Damper PTR-DE Two-Way

Torque at 20 rpm,20°C	3 N·cm ±0.7 N·cm
	4 N·cm ±0.7 N·cm
	5.5 N·cm ±0.8 N·cm
	7.5 N·cm ±1.3 N·cm
	11 N·cm ±1.5 N·cm
	15 N·cm ±2 N·cm

*ISO9001:2008
*ROHS directive

Size



Damper Specification

Bulk Materials	
Gear wheel	POM
Rotor	Zamak
Base	PA6GF13
Cap	PA6GF13
O-Ring	NBR/VMQ
Fluid	Silicone oil

Model No.	TRE-DE
Module	2 holes mounting
N.Teeth	3H
Module	1.25
Outside circle Ø	11
Height [mm]	6
Gear wheels	16.25

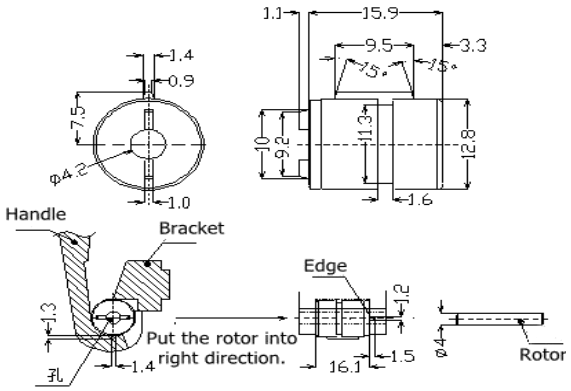
Working Conditions	
Temperature	-5°C up to +50°C (O-Ring in VMQ/NBR)
Lifetime	15.000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise

Barrel Damper PTR-T16

*ISO9001:2008
*ROHS directive

Torque(test at 23℃,20RPM)	
Range: 5-10 N·cm	
A	5±0.5 N·cm
B	6±0.5 N·cm
C	7±0.5 N·cm
D	8±0.5 N·cm
E	9±0.5 N·cm
F	10±0.5 N·cm
X	Customized

Size



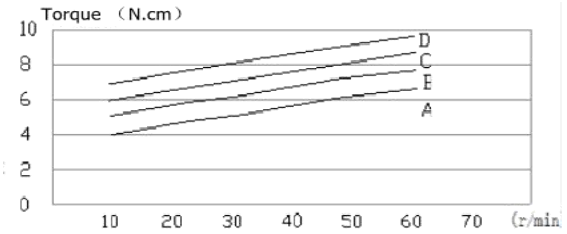
Damper Specification

Product Material	
Base	POM
Rotor	PA
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

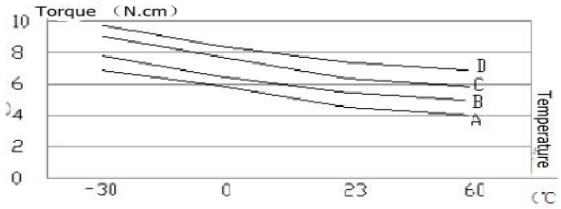
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing



The second diagram shown torque vs temperature （rotation speed:20r/min）
oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment



Application

Car roof shake hands handle, Car armrest, Inner handle and other car interiors,Bracket.

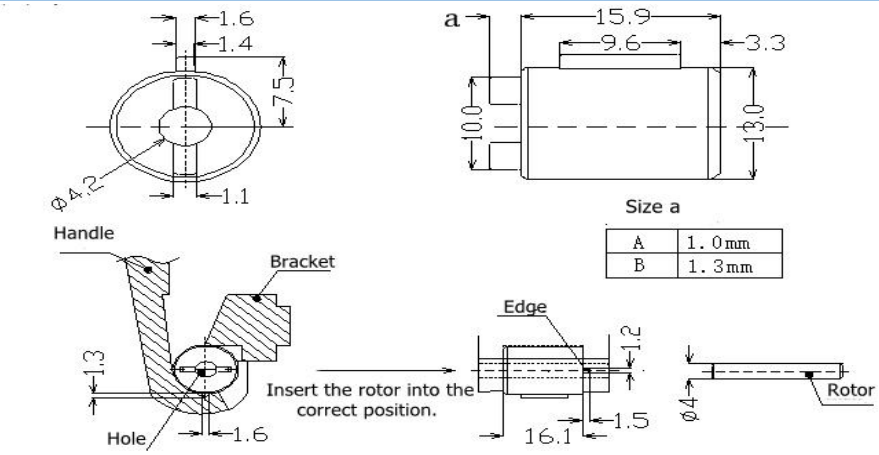
Barrel Damper PTR-T16B

*ISO9001:2008

*ROHS directive

Rated Torque	
5	5.0±1 N·cm
7.5	7.5±1.5 N·cm
X	Customized

Size



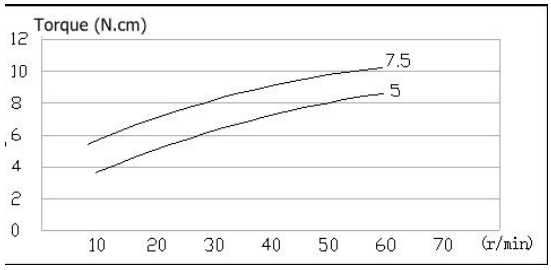
Damper Specification

Material	
Base	POM
Rotor	PA
Big O-Ring	Silicon rubber
Smll O-Ring	Silicon rubber
Inside	Silicon oil

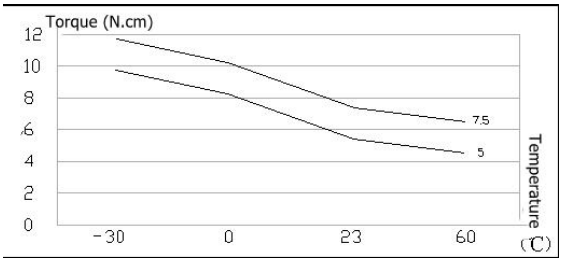
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristics

Torque vsrotation speed（at room temperature:23℃）
Oil damper torque changing by rotate speed as shown in the rigth drawing.
Torque increase by rotate speed increasing.

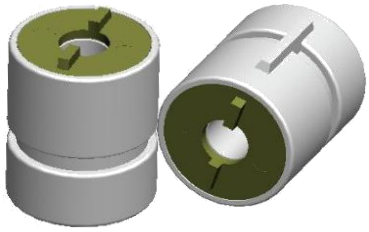


Torque vs temperature（rotation speed:20r/min）
Oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.



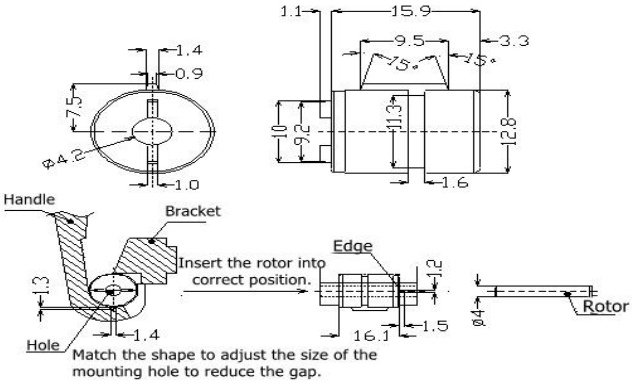
Barrel Damper PTR-T16C

*ISO9001:2008
*ROHS directive



Torque	
5	5.0±1 N·cm
7	7.5±1.5 N·cm
X	Customized

Size



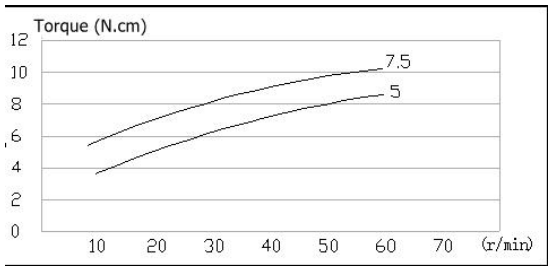
Damper Specification

Material	
Base	POM
Rotor	PA
Big O-Ring	Silicon rubber
Samll O-Ring	Silicon rubber
Inside	Silicon oil

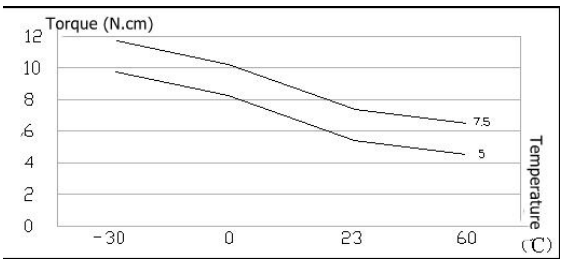
Durability	
Temperature	23℃
One cycle	→1 way clockwise, →1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristics

Torque vsrotation speed（at room temperature:23℃）
Oil damper torque changing by rotate speed as shown in the rigth drawing.
Torque increase by rotate speed increasing.



Torque vs temperature（rotation speed:20r/min）
Oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.

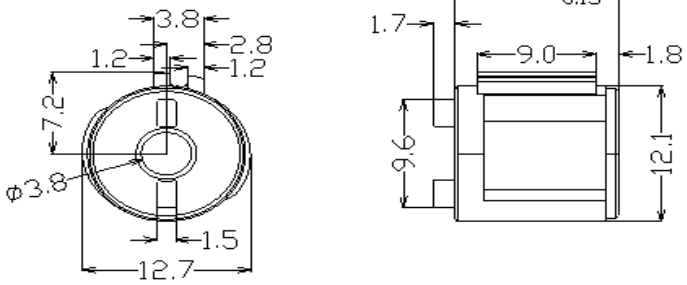


Barrel Damper PTR-TA12

Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	3.5±0.5 N·cm
B	4.5±0.5 N·cm
C	5.5±0.5 N·cm
D	6.5±0.5 N·cm
E	8.5±0.5 N·cm
F	10±0.5 N·cm
X	Customized

*ISO9001:2008
*ROHS directive

Size



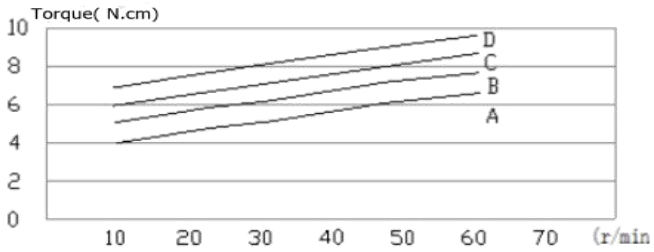
Damper Specification

Product Material	
Base	POM
Rotor	PA
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

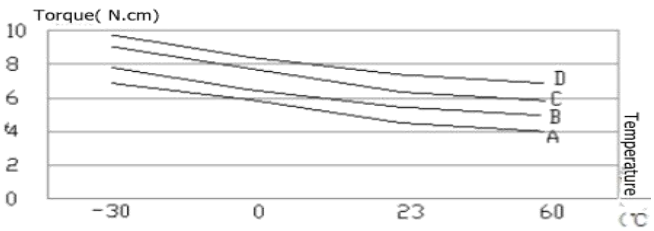
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing.



The second diagram shown torque vs temperature （rotation speed:20r/min）
oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment



Application

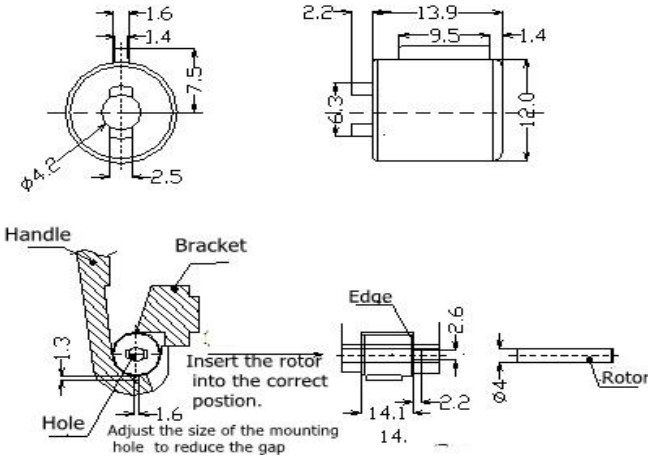
Car roof shake hands handle, Car armrest, Inner handle and other car interiors.

Barrel Damper PTR-TA14

*ISO9001:2008
*ROHS directive

Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	5±0.5 N·cm
B	6±0.5 N·cm
C	7±0.5 N·cm
D	8±0.5 N·cm
E	10±0.5 N·cm
X	Customized

Size



Damper Specification

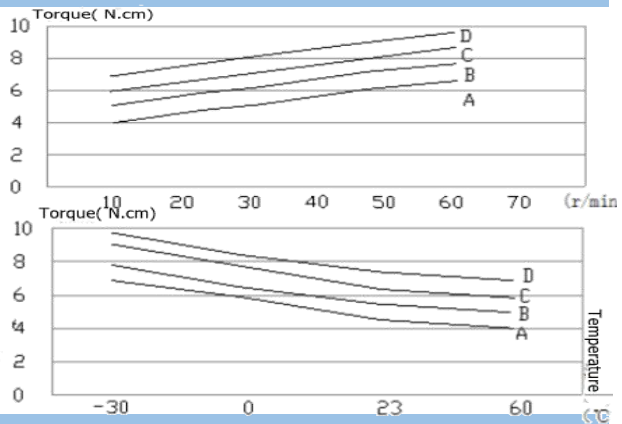
Product Material	
Base	POM
Rotor	PA
Cover	POM
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing.

The second diagram shown torque vs temperature（rotation speed:20r/min）
oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.



Application

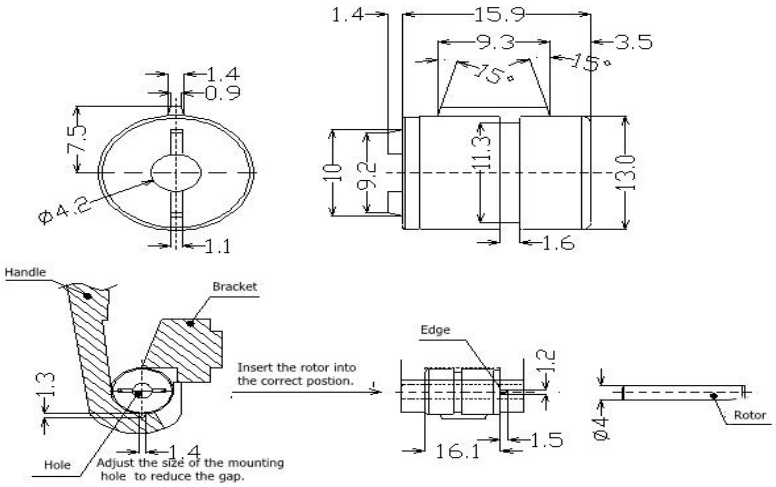
Used in Car roof shake hands handle, car front armrest, Inner handle and other car interiors,box,furniture,small household appliances. Coffee machine. Soda water machine,vending

Barrel Damper PTR-TA16

*ISO9001:2008
*ROHS directive

Torque	
5	5.0±1 N·cm
6	6.0±1 N·cm
X	Customized

Size



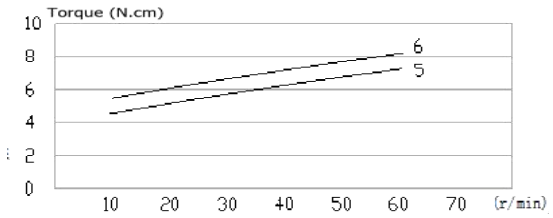
Damper Specification

Material	
Base	POM
Rotor	PA
Big O-Ring	Silicon rubber
Small O-Ring	Silicon rubber
Inside	Silicon oil

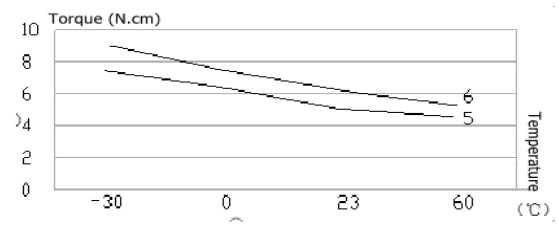
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristics

Torque vsrotation speed（at room temperature:23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing.



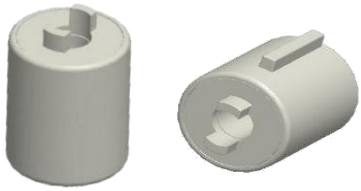
Torque vs temperature（rotation speed:20r/min）
Oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.



Barrel Damper PTR-TB14

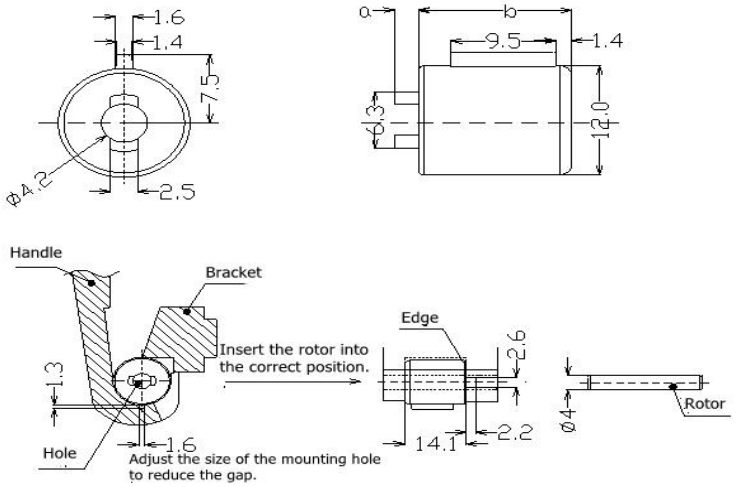
*ISO9001:2008

*ROHS directive



Torque	
1	5±1.0 N·cm
X	Customized

Size



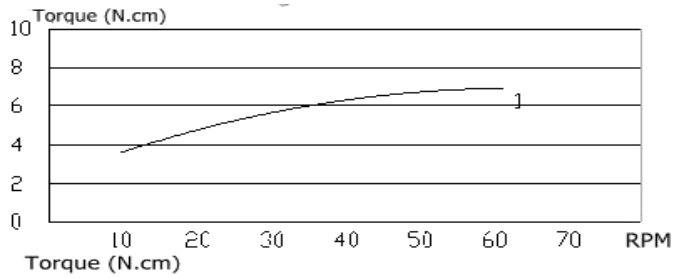
Damper Specification

Material	
Outer case	POM
Inside Rotor	PA
Fluid	Silicon oil
O-Ring	Silicon rubber
Small O-Ring	Silicon rubber

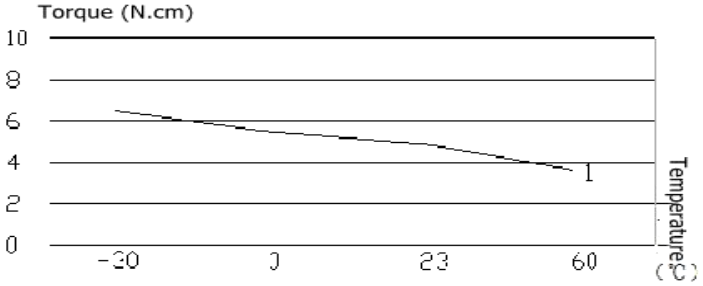
Durability	
Temperature	23℃
One cycle	→1way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.

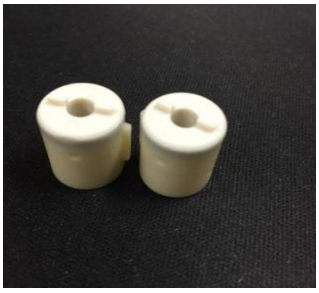


2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature, 、
Generally,Torque is increasing when temperature reduction and decreasing when temperature increment.



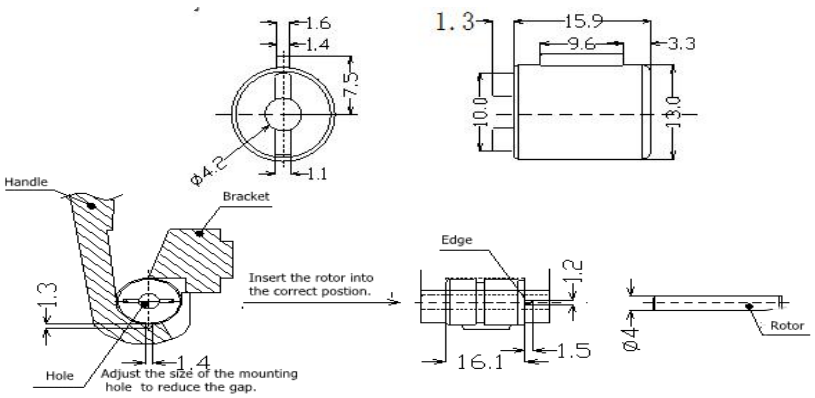
Barrel Damper PTR-TC16

*ISO9001:2008
*ROHS directive



Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	5±0.5 N·cm
B	6±0.5 N·cm
C	7±0.5 N·cm
D	8±0.5 N·cm
E	9±0.5 N·cm
F	10±0.5 N·cm
X	Customized

Size



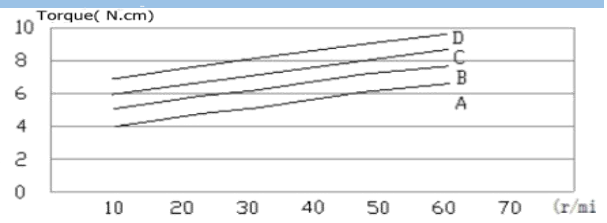
Damper Specification

Product Material	
Base	POM
Rotor	ABS
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

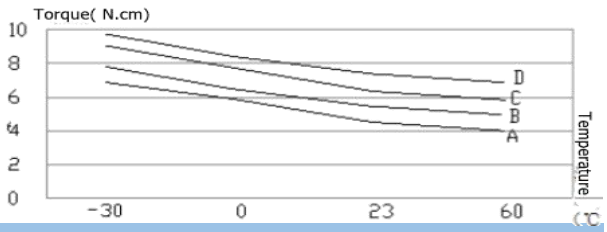
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed （at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing



The second diagram shown torque vs temperature （rotation speed:20r/min）
oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment



Application

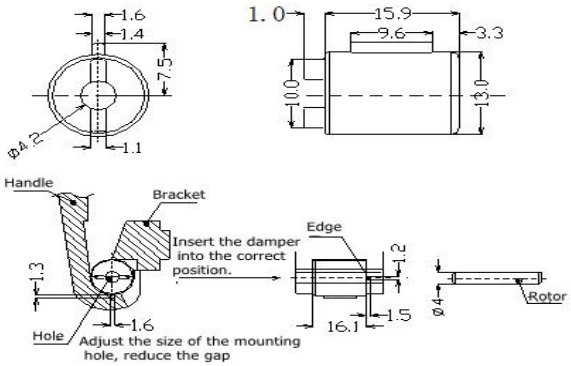
Used in Car roof shake hands handle,car front armrest,Inner handle and other car interiors,box,furniture,small household appliances.Coffee machine.Soda water machine,vending machine etc.

Barrel Damper PTR-TB16

*ISO9001:2008
*ROHS directive

Torque (test at 23℃,20RPM)	
Range: 5-10N·cm	
A	5±0.5 N·cm
B	6±0.5 N·cm
C	7±0.5 N·cm
D	8±0.5 N·cm
E	9±0.5 N·cm
F	10±0.5 N·cm
X	Customized

Size



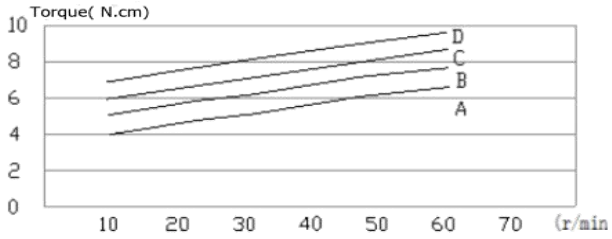
Damper Specification

Product Material	
Base	POM
Rotor	ABS
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

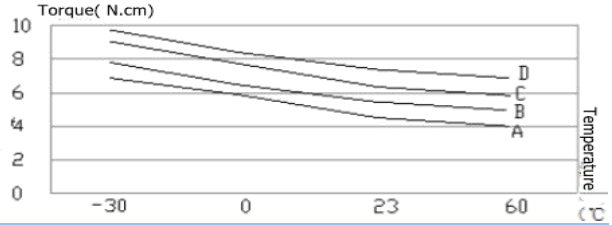
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark:the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing.Torque increase by rotate speed increasing.



The second diagram shown torque vs temperature （rotation speed:20r/min）
oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.



Application

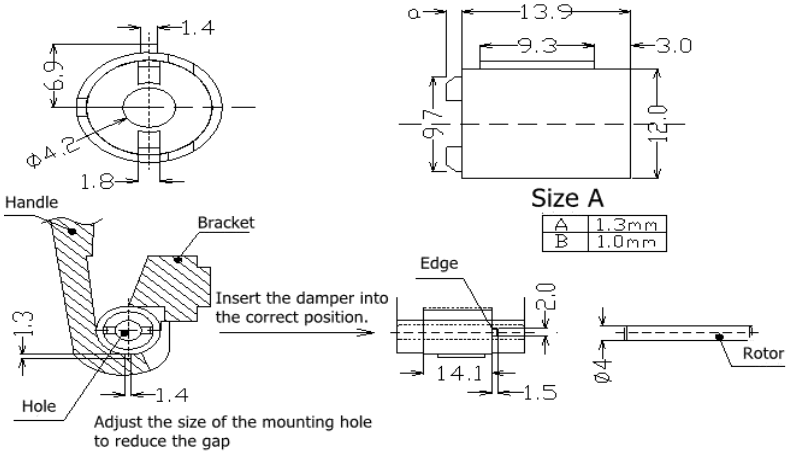
Used in Car roof shake hands handle,car front armrest,Inner handle and other car interiors,box,furniture,small household appliances.Coffee machine.Soda water machine,vending machine etc.

Barrel Damper PTR-TC14

*ISO9001:2008
*ROHS directive

Torque type	
5	5.0±1 N·cm
X	Customized

Size



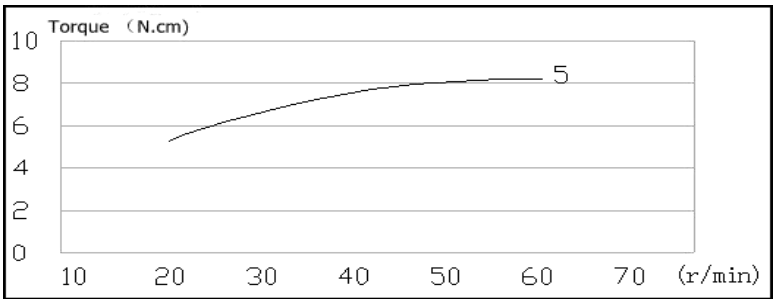
Damper Specification

Material	
Outer case	POM
Inside rotor	POM
Cover	POM
Big O-Ring	Silicon rubber
Small O-Ring	Silicon rubber
Inside	Silicon oil

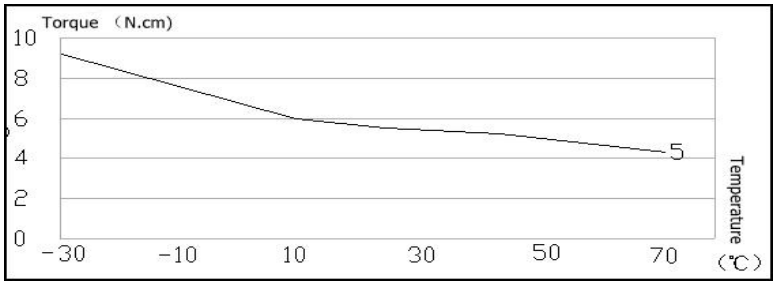
Durability	
Temperature	23℃
One cycle	→1 way clockwise, →1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristic

Torque vsrotation speed（at room temperature:23℃）
Oil damper torque changing by rotate speed as shown in the rigth drawing.
Torque increase by rotate speed increasing.



Torque vs temperature（rotation speed:20r/min）
Oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.



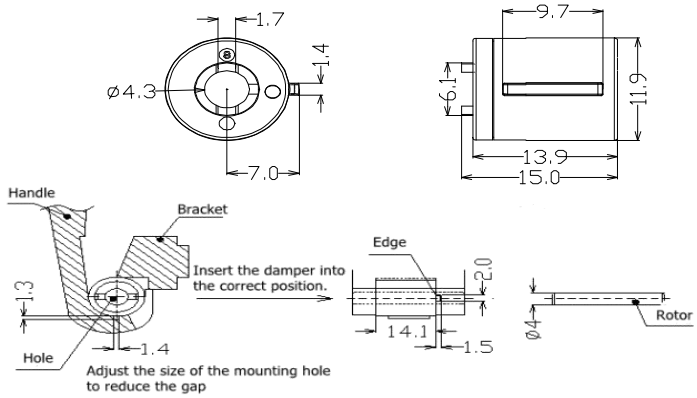
Barrel Damper PTR-TD14

Torque	
5	5.0±1.0 N·cm
7.5	7.5±1.0 N·cm
X	Customized

*ISO9001:2008

*ROHS directive

Size



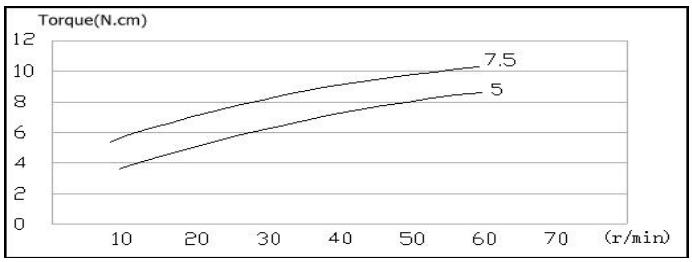
Damper Specification

Material	
Outer case	POM
Inside rotor	PA
Small O-Ring	Silicon rubber
O-Ring	Silicon rubber
Fluid	Silicon oil

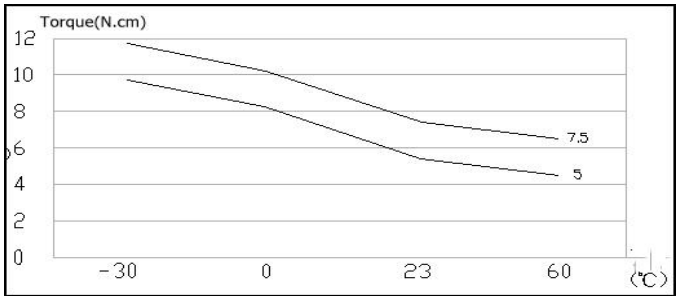
Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristics

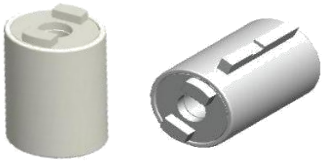
1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature.
Generally,torque is increasing when temperature reduction and decreasing when temperature increment.



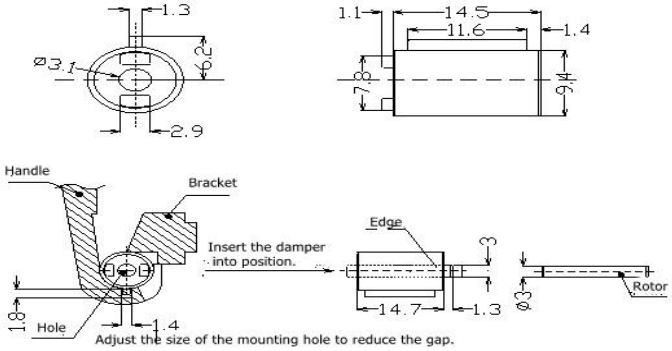
Barrel Damper PTR-TE14



Torque		
1		5±1.0 N·cm
X		Customized

*ISO9001:2008
*ROHS directive

Size



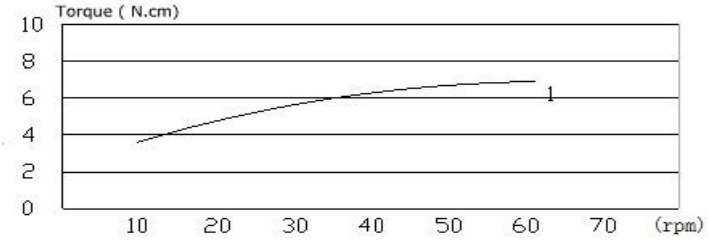
Damper Specification

Material	
Outer case	POM
Inside rotor	PA
Cover	PC
Small O-Ring	Silicon rubber
O-Ring	Silicon rubber
Fluid	Silicon oil

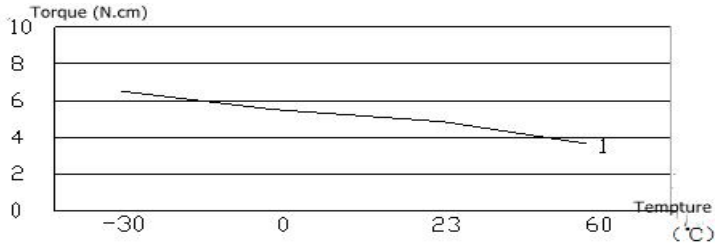
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	10000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as following the drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature,generally,Torque is increasing when temperature reduction and decreasing when temperature increment.

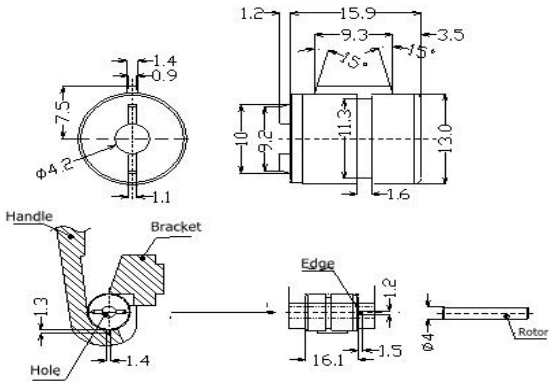


Barrel Damper PTR-TD16

*ISO9001:2008
*ROHS directive

Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	5±0.5 N·cm
B	6±0.5 N·cm
C	7±0.5 N·cm
D	8±0.5 N·cm
E	9±0.5 N·cm
F	10±0.5 N·cm
X	Customized

Size



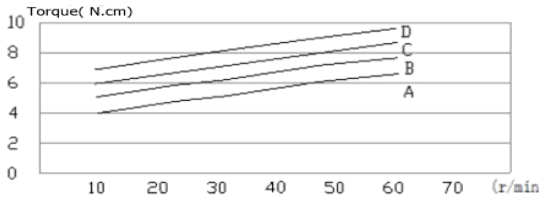
Damper Specification

Product Material	
Base	POM
Rotor	PA
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

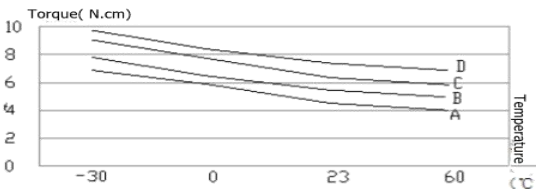
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise（30r/min）
Lifetime	50,000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed （at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing.



The second diagram shown torque vs temperature （rotation speed:20r/min）
oil damper torque changing by temperature. Generally , torque is increasing when temperature reduction and decreasing when temperature increment.



Application

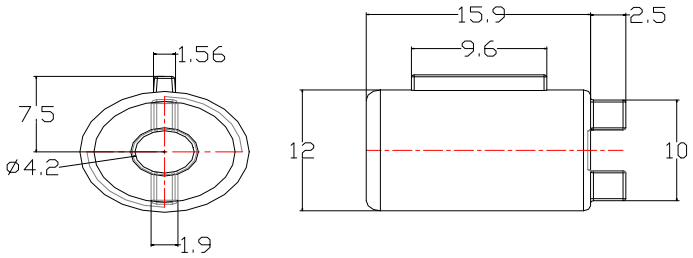
Used in Car roof shake hands handle, car front armrest, Inner handle and other car interiors,box,furniture,small household appliances. Coffee machine. Soda water machine,vending machine etc.

Barrel Damper PTR-TE16

*ISO9001:2008
*ROHS directive

Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	5±0.5 N·cm
B	6±0.5 N·cm
C	7±0.5 N·cm
D	8±0.5 N·cm
E	9±0.5 N·cm
F	10±0.5 N·cm
X	Customized

Size



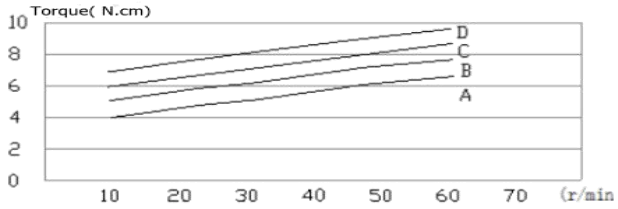
Damper Specification

Product Material	
Base	POM
Rotor	PA
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

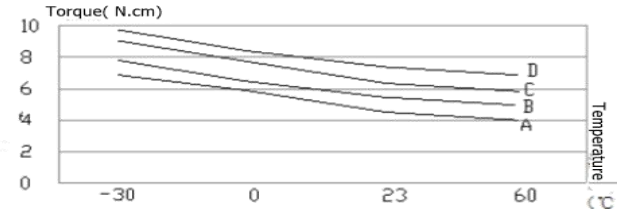
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark:the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing.Torque increase by rotate speed increasing.



The second diagram shown torque vs temperature（rotation speed:20r/min）
oil damper torque changing by temperature.Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

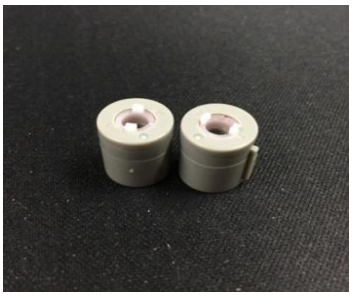


Application

Used in Car roof shake hands handle, car front armrest, Inner handle and other car interiors,box,furniture,small household appliances. Coffee machine. Soda water machine,vending machine,ground switch.etc.

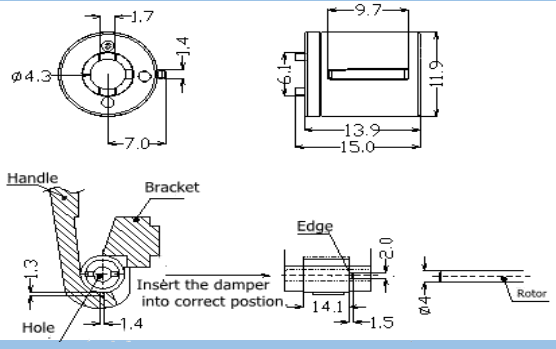
Barrel Damper PTR-TF14

*ISO9001:2008
*ROHS directive



Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	3.5±0.5 N·cm
B	4.5±0.5 N·cm
C	5.5±0.5 N·cm
D	6.5±0.5 N·cm
E	7.5±0.5 N·cm
X	Customized

Size



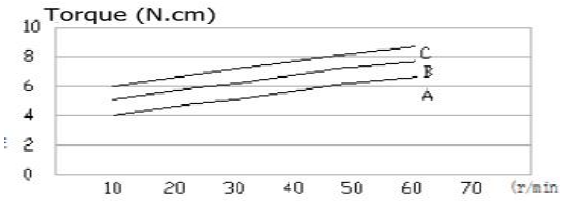
Damper Specification

Product Material	
Base	ABS
Rotor	POM
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

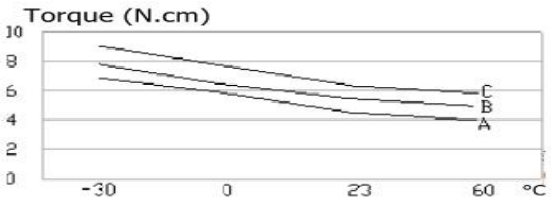
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50,000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing



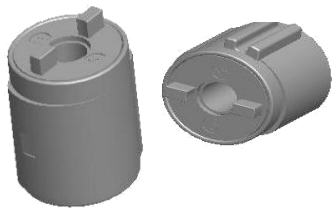
The second diagram shown torque vs temperature（rotation speed:20r/min）
Oil damper torque changing by temperature.Generally ,torque is increasing when temperature reduction and decreasing when temperature increment



Application

Used in Car roof shake hands handle, car front armrest, Inner handle and other car interiors,box,furniture,small household appliances. Coffee machine. Soda water machine,vending machine,ground switch.etc.

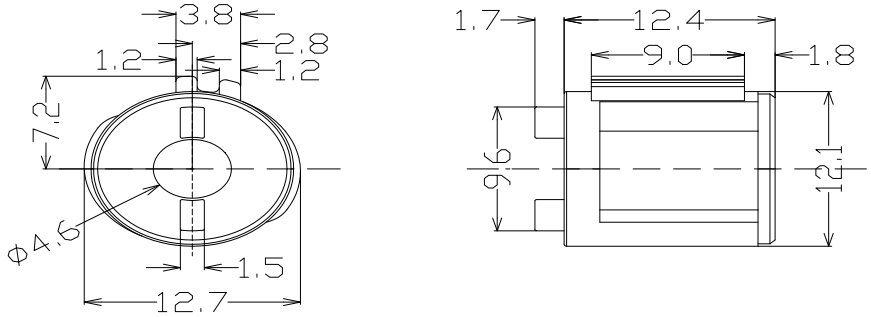
Barrel Damper PTR-TF12



Torque	
1	6.0±1.0 N·cm
X	Customized

*ISO9001:2008
*ROHS directive

Size



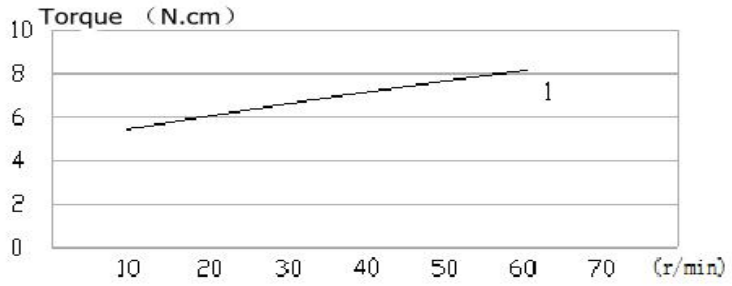
Damper Specification

Material	
Base	POM
Rotor	PA
Inside	PC
Small O-Ring	Silicon oil
Big O-Ring	Silicon rubber

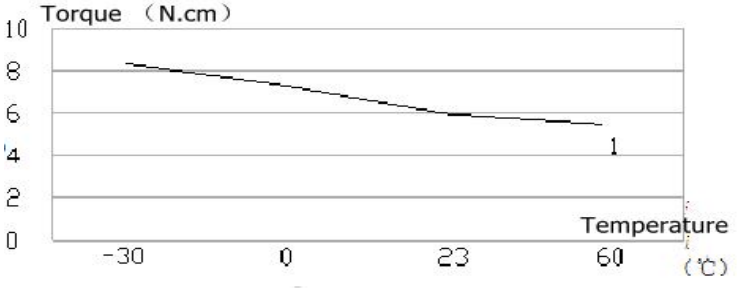
Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise（30r/min）
Lifetime	10000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.



2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature.
Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

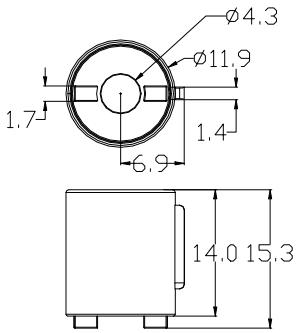


Barrel Damper PTR-TH14

*ISO9001:2008
*ROHS directive

Torque (test at 23°C,20RPM)		
A	Natural Color	4.5±0.5 N·cm
B	Black	5.5±0.5 N·cm
C	Blue	6.5±0.5 N·cm
X	As per customers' demand	

Size



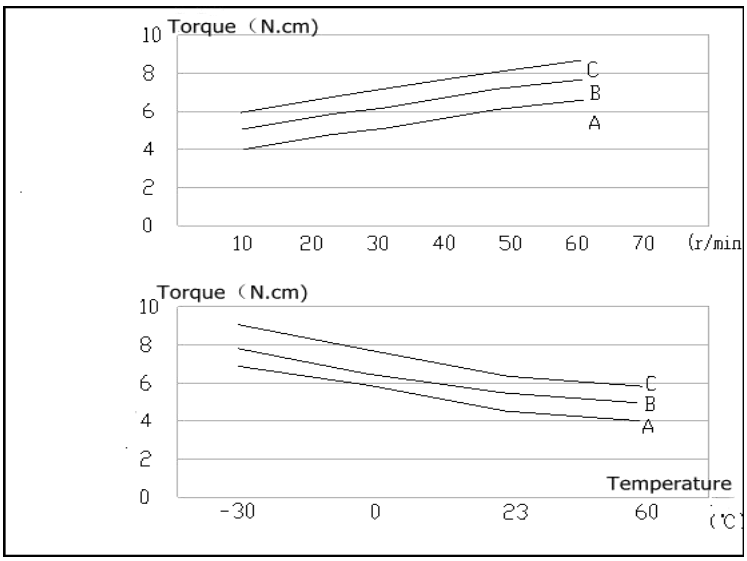
Damper Specification

Product Material	
Base	ABS
Rotor	POM
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

Durability	
Temperature	23℃
One cycle	→ half way clockwise （30r/min）, → half anticlockwise （30r/min）
Lifetime	20000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the drawing. Torque increase by rotate speed increasing



The second diagram shown torque vs temperature （rotation speed:20r/min）
Oil damper torque changing by temperature.Generally ,torque is increasing when temperature reduction and decreasing when temperature increment

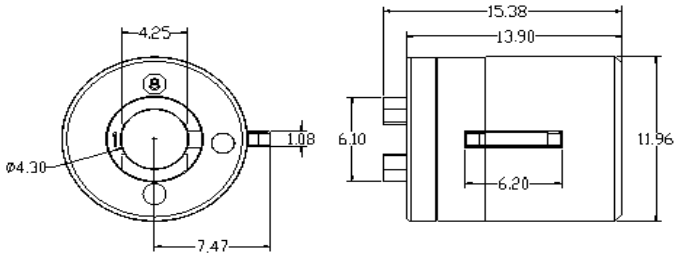
Barrel Damper PTR-TG14

*ISO9001:2008

*ROHS directive

Torque(test at 23℃,20RPM)	
Range: 5-10N·cm	
A	3.5±0.5 N·cm
B	4.5±0.5 N·cm
C	5.5±0.5 N·cm
D	6.5±0.5 N·cm
E	7.5±0.5 N·cm
X	Customized

Size



Damper Specification

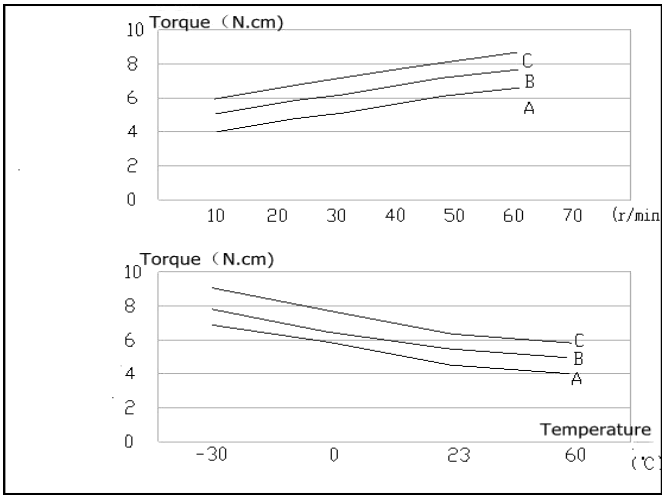
Product Material	
Base	ABS
Rotor	POM
Inside	Silicone oil
Big O-ring	Silicon rubber
Small O-ring	Silicon rubber

Durability	
Temperature	23℃
One cycle	→1 way clockwise, → 1 way anticlockwise （30r/min）
Lifetime	50000 cycles

Damper Characteristics

Remark: the first diagram shown torque vsrotation speed（at room temperature：23℃）
Oil damper torque changing by rotate speed as shown in the left drawing. Torque increase by rotate speed increasing.

The second diagram shown torque vs temperature （rotation speed:20r/min）
oil damper torque changing by temperature,generally Torque is increasing when temperature reduction and decreasing when temperature increment.

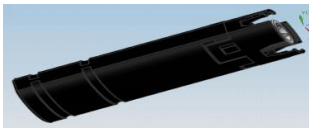


Application

Used in Car roof shake hands handle, car front armrest, Inner handle and other car interiors,box,furniture,small household appliances. Coffee machine. Soda water machine,vending machine,ground switch.etc.

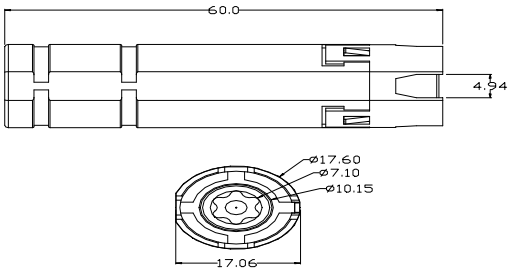
Barrel Damper PTR-TL

*ISO9001:2008
*ROHS directive



Torque at 20rpm,20℃		
A	Red	0.3±0.1N·cm
X	As per client request	

Size



Damper Specification

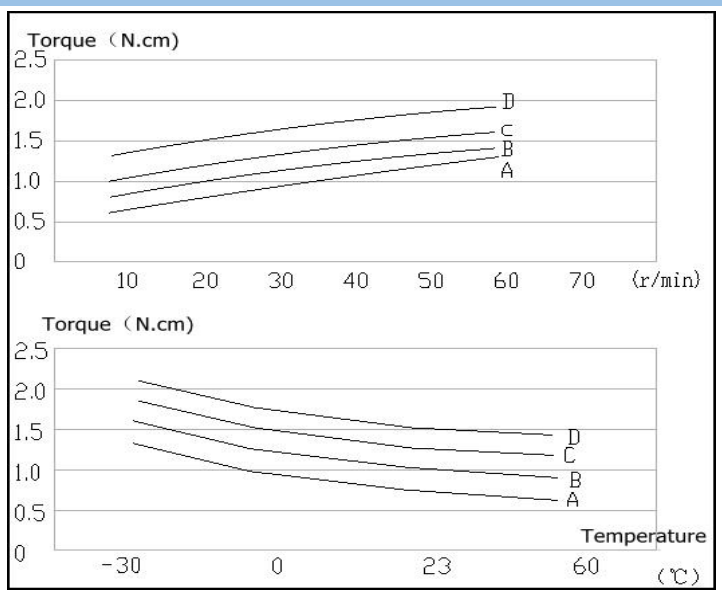
Material	
Base	PC
Rotor	POM
Cover	PC
Gear	POM
O-Ring	Silicon rubber
Fluid	Silicon oil

Durability	
Temperature	23℃
One cycle	→1.5 way clockwise, （90r/min） → 1 .5way anticlockwise （90r/min）
Lifetime	50000 cycles

Damper Characteristics

1.Torque vsrotation speed（at room temperature:23℃）
Torque of the oil damper torque changing by rotate speed as shown as in the right drawing. Torque increase by rotate speed increasing.

2.Torque vs temperature（rotation speed:20r/min）
Torque of the oil damper torque changing by temperature. Generally,torque is increasing when temperature reduction and decreasing when temperature increment.

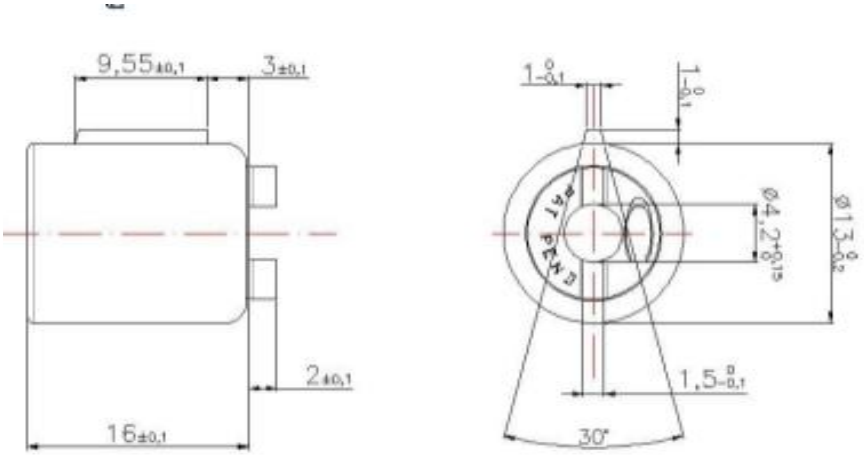


Barrel Damper PTR-BA

*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C
15 N·cm ±2,4 N·cm
20 N·cm ±3N·cm

Size



Bulk Materials	
Rotor	POM
Base	PA6GF15
O-Ring	NBR
Fluid	Silicone oil

Damper Specification

Working Conditions	
Temperature	-5°C up to +50°C
Lifetimes	50,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise, wait 2 sec.

Model No.	TRD-BA
Body	Ø 13 x 16 mm
Ribs type	1
Ribs thickness - height [mm]	1.5 x 2

Damper Characteristics

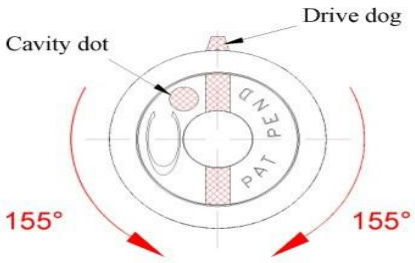
Working Informations

1.Keep hope the base.

2.Place the cavity dot to the left of the drive dog.

3.Rotate the axle for both direction of 155°.

4.The damper works only like a decelerating systems and it can't be used like a mechanical stop to keep on position the system application.

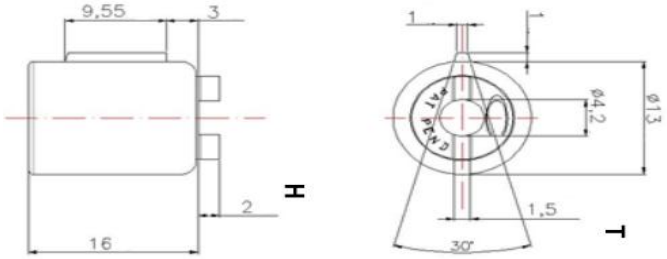


Barrel Damper PTR-BB

*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C
15 N·cm
20 N·cm ±3 N·cm

Size



Bulk Materials	
Rotor	POM
Base	PA6GF15
O-Ring	VMQ
Fluid	Silicone oil

Damper Specification

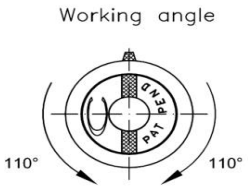
Model No.	TRD-BB
Body	Ø 13 x 16 mm
Ribs type	1x1mm
Ribs thickness - height [mm]	1.5 x 2mm

Working Conditions	
Temperature	-5°C up to +50°C
Lifetimes	20,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise.

Damper Characteristics

Working Informations

1.Keep hope the base.
2.Align the lateral rib with the rotor key.
3.Rotate the axle for both direction of 110°.
4.The damper works only like a decelerating systems and it can't be used like a mechanical stop to keep on position the system application.

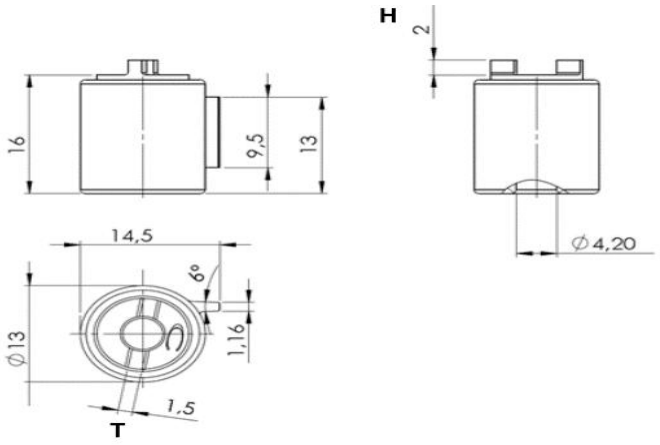


Barrel Damper PTR-BF

Torque at 20 rpm,20°C
15 N·cm ±2,4 N·cm
20 N·cm ±3 N·cm

*ISO9001:2008
*ROHS directive

Size



Damper Specification

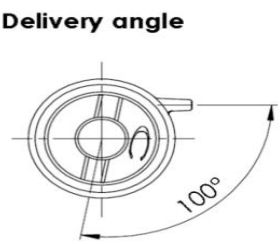
Model No.	PTR-BF
Body	Ø 13 x 16 mm
Ribs type	1,16mm x 6°
Ribs thickness - height [mm]	1.5 x 2mm

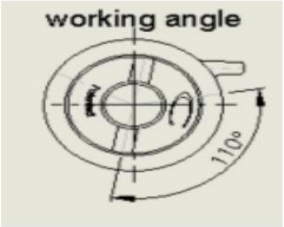
Bulk Materials	
Rotor	POM
Base	PA6GF15
O-Ring	VMQ
Fluid	Silicone oil

Working Conditions	
Temperature	-5°C up to +50°C
Lifetimes	20,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise.

Damper Characteristics

Working Informations





Barrel Damper PTR-DD One-Way

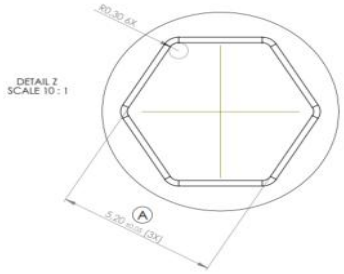
*ISO9001:2008
*ROHS directive

Model	Rotary type	Torque （N·cm）	Cap color	Orientation
PTR-DD-1-060	inner rotor shape 1	57.5N·cm ±7.5N·cm	black	Inner rotor free run clockwise
PTR-DD-1-085		85N·cm±12N·cm	white	
PTR-DD-1-110		110N·cm±15N·cm	grey	
PTR-DD-1-130		130N·cm±18N·cm	pink	
PTR-DD-2-060	inner rotor shape 2 (Hexagon)	57.5N·cm ±7.5N·cm	black	Inner rotor free run clockwise
PTR-DD-2-085		85N·cm±12N·cm	white	
PTR-DD-2-110		110N·cm±15N·cm	grey	
PTR-DD-2-130		130N·cm±18N·cm	pink	

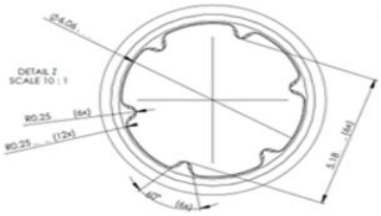
Torque at 20 rpm,20°C

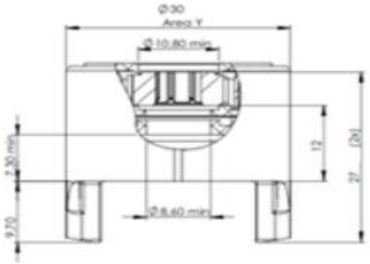
Size

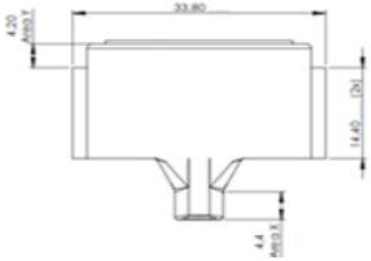
Inner Rotor SHAPE 2



Inner Rotor SHAPE 1







Damper Specification

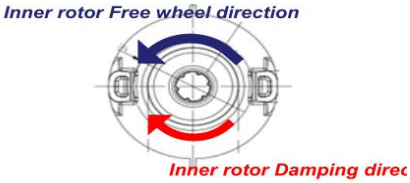
Bulk Materials	
Rotor	POM
Base	PA6GF15
free gear bushing	SUS304
Pins	SUS304
Cap.	POM
Free gear	Iron and Bronze alloy
O-Ring	VMQ
Fluid	Silicone oil

Model No.	PTR-DD
Body	Ø 30 x28.3 mm
Rotary type type	1,16mm x 6°
Inner Hole Geometry	See the drawing

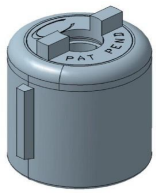
Working Conditions	
Temperature	-5°C up to +50°C
Lifetimes	50,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise.

Damper Characteristics

Working Informations



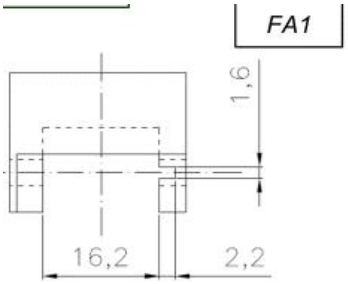
Barrel Damper PTR-FA

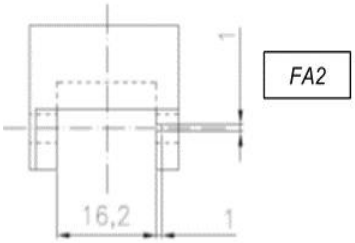


*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C
5 N·cm ± 0.85 N·cm
6 N.cm ±0.85 N·cm
8 N.cm ±1.1 N·cm
10 N.cm ±1.5 N·cm
11 N.cm +2 N·cm/-1N·cm
100% tested

Size



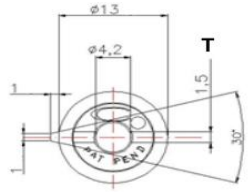


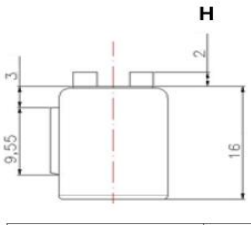
Damper Specification

Bulk Materials	
Rotor	POM
Base	PC
O-Ring	NBR
Fluid	Silicone oil

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	50，000 cycles

Model No.	PTR-FA		
Body	Ø 13 x 16 mm		
Bibs type	1	2	3
Ribs thickness - height [mm]	1.5 x 2	1 x 1	2 x 2.5





Damper Characteristics

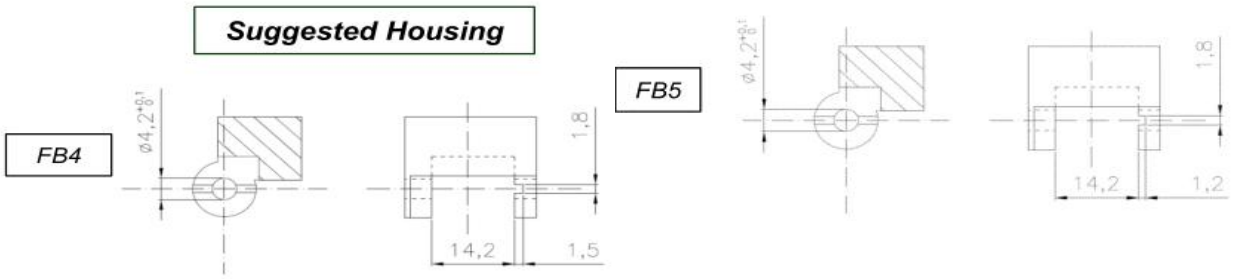
1.Free to rotate 360°.
2.Better performance on multiple closing time.
3.Higher durability under stress.

Barrel Damper PTR-FB

*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C
3.4 N.cm± 0.5 N·cm
5 N.cm ±0.85 N·cm
6.2 N·cm± 1 N·cm

Size



Damper Specification

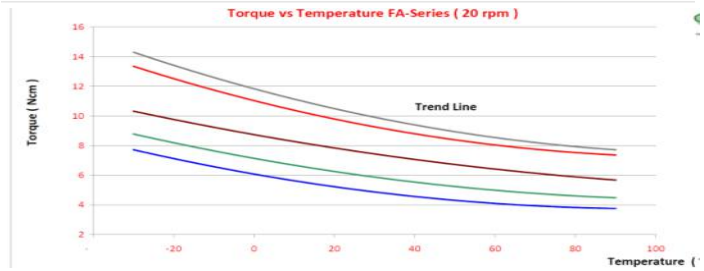
Bulk Materials	
Rotor	POM
Base	PC
O-Ring	NBR
Fluid	Silicone oil

Model No.	PTR-FB
Body	Ø 12 x 14 mm
Ribs type	4
Ribs thickness - height [mm]	1.7x1.3

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	50.000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise
100% test	

Damper Characteristics

1.Free to rotate 360.
2.Higher durability under stress
3.Better performance on multiple closing time.

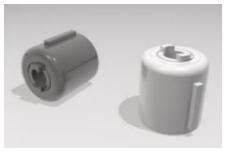


Application

This damper is used in many applications - grab handles, storage bins, overhead bins, ashtrays, door handles, flip panels and any other light to medium weight rotary applications.

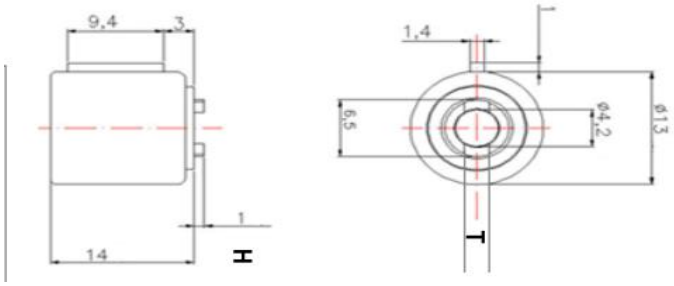
Barrel Damper PTR-FC

*ISO9001:2008
*ROHS directive



Torque at 20 rpm,20°C
5 N·cm ±0.85 N·cm
9 N·cm ±1.5 N·cm

Size



Damper Specification

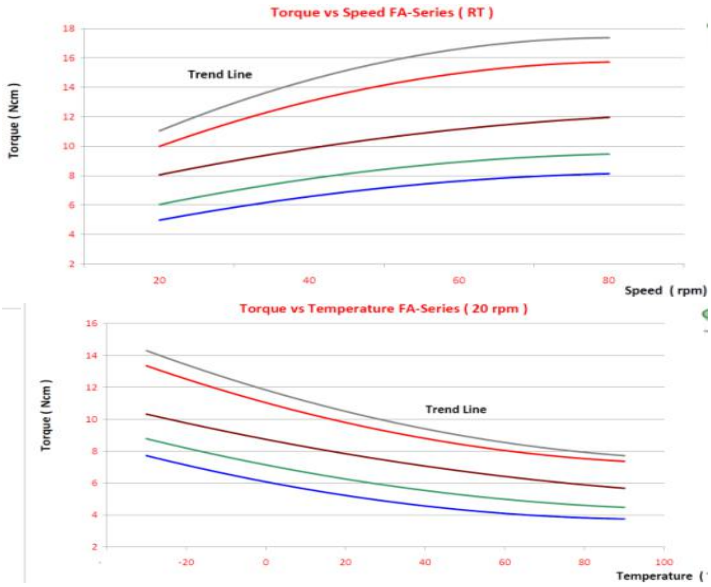
Bulk Materials	
Rotor	POM
Base	PC
O-Ring	NBR
Fluid	Silicone oil

Model No.	PTR-FC
Body	Ø 13 x 14 mm
Ribs thickness - height [mm]	2.5 x 1

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	50,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise
100% test	

Damper Characteristic

1.Free to rotate 360.
2.Higher durability under stress
3.Better performance on multiple closing time.

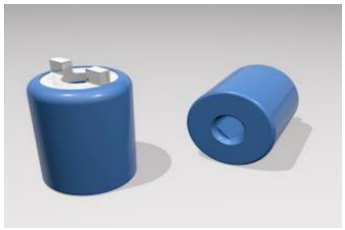


Application

This damper is used in many applications - grab handles, storage bins, overhead bins, ashtrays, door handles, flip panels and any other light to medium weight rotary applications.

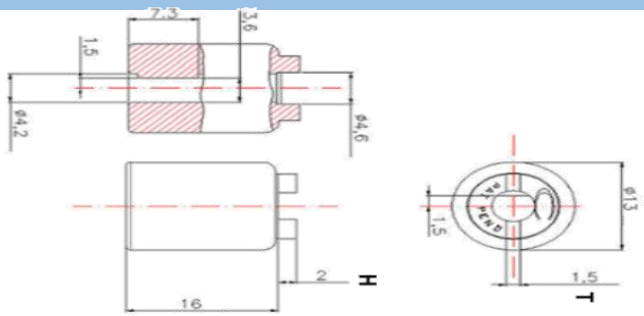
Barrel Damper PTR-FE

*ISO9001:2008
*ROHS directive



Torque at 20 rpm,20°C
5 N·cm ±0.85 N·cm
6 N·cm ±0.85 N·cm
8 N·cm ±1.1 N·cm
10 N·cm ±1.5 N·cm
11 N·cm +2 N·cm/ -1 N·cm

Size



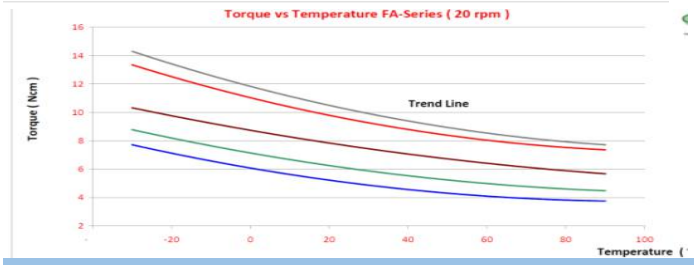
Damper Specification

Bulk Materials	
Rotor	POM
Base	PC
O-Ring	NBR
Fluid	Silicone oil

Model No.	PTR-FE
Body	Ø 13 x 16 mm
Ribs thickness - height [mm]	1.5x2

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	50,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise
100% test	

Damper Characteristic



1.Free to rotate 360.
2.Higher durability under stress
3.Better performance on multiple closing time.

Application

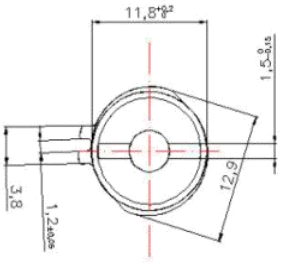
This damper is used in many applications - grab handles, storage bins, overhead bins, ashtrays, door handles, flip panels and any other light to medium weight rotary applications.Invisible in shaft installation.

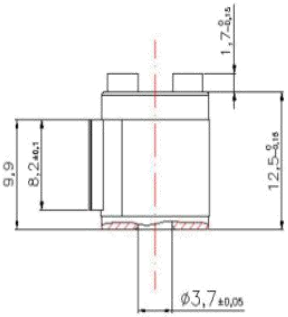
Barrel Damper PTR-FG

Torque at 20 rpm,20°C
5 N·cm ±0.85 N·cm

*ISO9001:2008
*ROHS directive

Size





Damper Specification

Bulk Materials	
Rotor	POM
Base	PC
O-Ring	NBR
Fluid	Silicone oil

Model No.	PTR-FG
Body	Ø 11.8x 12.5 mm
Ribs thickness - height [mm]	1.5x1.7

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	50,000 cycles 1 cycle: 1 way clockwise, 1 way anticlockwise
100% test	

Damper Characteristic

Better performance on multiple closing time - higher durability under stress.

Application

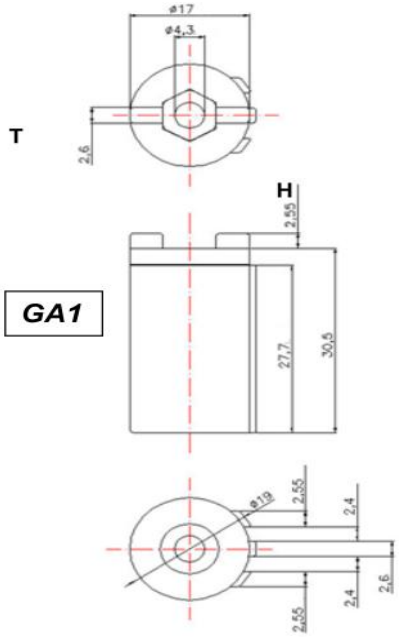
This damper is available with a torque of 5 N·cm. Dimensions:
11,8Øx12,5mm. Free to rotate 360° .
Main application is armrest, small lids, storage bins and cover.Invisible in shaft installation.

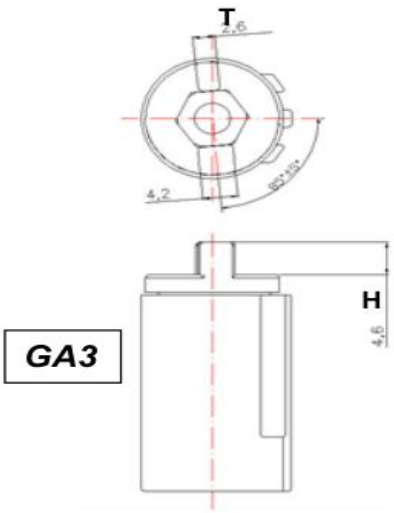
Big Barrel Damper PTR-GA

*ISO9001:2008
*ROHS directive

Torque at 20 rpm,20°C
70 N·cm±20 N·cm
90 N·cm±25 N·cm

Size





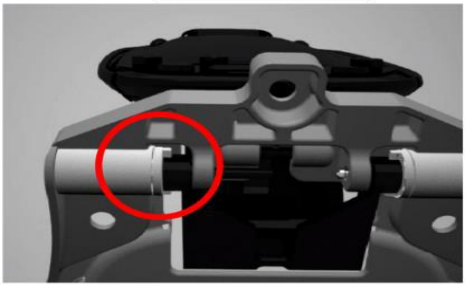
Damper Specification

Bulk Materials	
Rotor	PC
Metallic Body	ZnAl4Cu1
O-Ring	NBR/VMQ
Fluid	Silicone oil

PTR-GA	GA1	GA3
Body	Ø 17x 30.5 mm	
Ribs type	1	3
Ribs thickness - height [mm]	2.6x2.55	2.6x4.6

Working Conditions	
Temperature	-5°C up to +50°C
Lifetime	10,000 cycles
100% test	

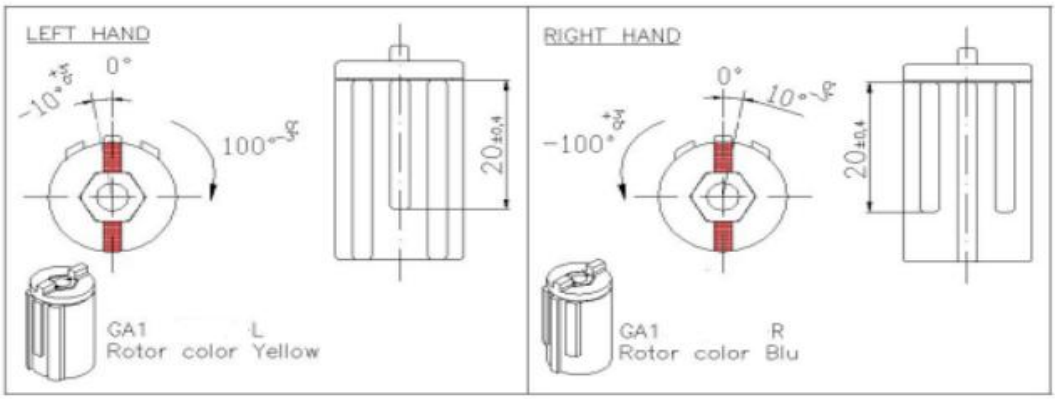
Sample Application



Damper Characteristic

• The damper can rotates for a maximum of 110°.
• It must be always guaranteed a safe angle of about 5° and don't exceed the total angle allowed.
• The damper works only like a decelerating system and it can't be used like a mechanical stop to keep on position the system-application.
• The application must have a mechanical stop (on closing and opening position) that always attend before the mechanical stop of the damper.

Working Information



Application

This damper is used in many applications – armrests, storage bins, flip panels and any other medium to heavy weight rotary applications.Main application is armrest, small lids, storage bins and cover.Invisible in shaft installation.

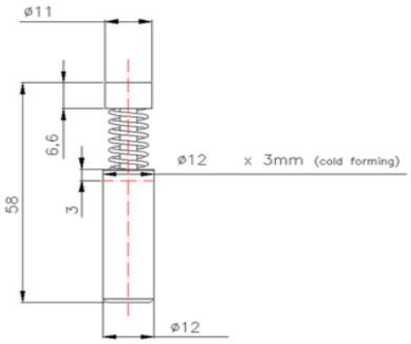
Customization of the torque or color are possible.

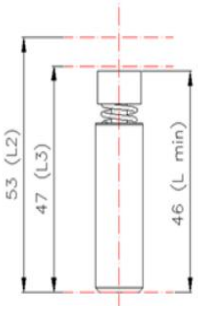
Linear Damper PTR-LE

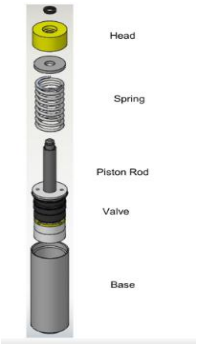
Model No.	Head color	Force （N）
PTR-LE2-300	yellow	300±60N
PTR-LE2-450	white	450±80 N

*ISO9001:2008
*ROHS directive

Size







Damper Specification

Bill of Material	
Base and Plastic Rod	Steel
Spring	Steel
Seals	Rubber
Valve and Cap	Plastic
Oil	Silicone oil

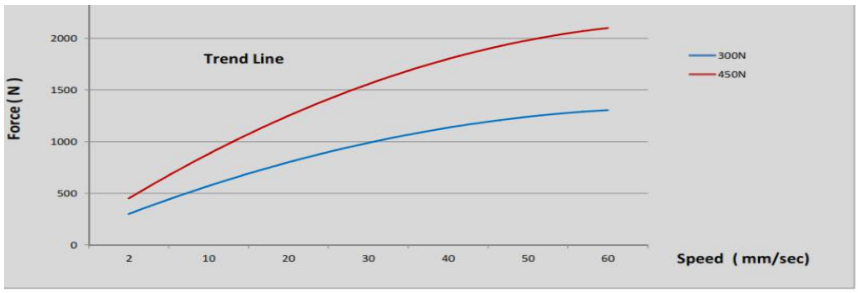
PTR-LE	PTR-LE2
Body	ϕ12*58mm
Cap	ϕ11
Max Stroke	12mm

Working condition：
Lifetime： 200,000cycles at RT
Pause between each cyle 7 sec

APPLICATION

This damper has a one-way damping with an automatic return （by spring） and re-arm. It use in many way applications-kitchen ovens, freezers, Industry refrigerators and any other medium to heavy weight rotary and slide application.

Damper Characteristics



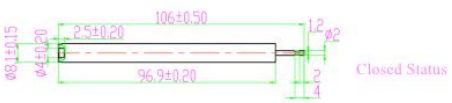
All products are 100% tested on the force value.
Head caps, forces and colors can be combined providing design flexibility.

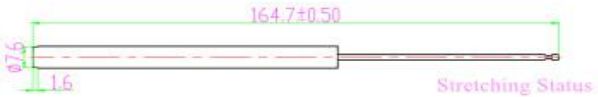
Linear Damper PTR-0855

Force	5±1 N
Horizontal speed	26mm/s
Max. Stroke	55mm
Life Cycles	100，000 times
Working Temperature	-30°C-60°C
Rod Diameter	Φ4mm
Tube Dimater	Φ8mm
Tube Material	Plastic
Piston rod Material	Stainless Steel

*ISO9001:2008
*ROHS directive

Size





APPLICATION

This damper is used in home appliances, electronics, automobiles, automation machinery, theater seats, family living facilities,sliding door, sliding cabinet， furniture etc.

Friction Hinge PTH

PTH- 1005
Stainless Steel free-stop Friction Hinges

PTH - 1006
Metal Alloy Random Stop Hinge

PTH - 1007-S1 S/S
Damping friction Hinges

PTH - 1010
Friction Hinge Random Stop

PTH - 1015
Metall Free-Stop Rotary Rotary Damper Detent Hinge

PTH - 1017
friction hinge Rotary Damper Adjustable Postioning Hinge

PTH-1018
adjustable torque metal friction hinges

PTH - 1023
360 degree adjustable torque friction hinges

PTH-1026
Zinc Metal Alloy Detent Hinge

PTH - 1001
Metal Detent Position Hinges

PTH- 1002
Metal Alloy Torque Hinges

PTH- 1003
Butt Hinges Aluminum Alloy Free-stop Hinges

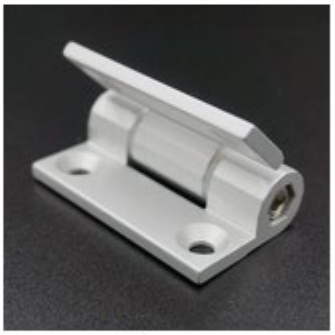
PTH - 1004
Metal Alloy Random Stop Hinges

PTH- 1004-Z1
Metal Pin-Axile Torque Hinges

PTH- 1009
Friction Metal Torque Hinges

PTH- 1019
Black Plastic Random Stop Detent Hinges

PTH- 1020
Black Plastic Postioining Stop Hinges



PTH- 1022
Metal Alloy Rotation Fixed Free Stop Hinges

PTH - 1025
Friction Metal Alloy Hinge Random Stop Contant Torque Hinge

PTH- 1024
Black Conceal Plastic Torque Hinges

PTH - 1011
360-Degree Rotation Random Stop Hinge
Application: foldable LED light lamps, frame rotation,etc

PTH- 1013
360 Degree Pivot Small Free-Stop Hinges
Application: foldable LED light lamps, frame rotation,etc

PTH-F001
Miniature Swivel Axile 360 Degree Free Stop Metal Alloy Hinge
Application:cellphone ,in positioning Laptop Displays,etc