Model: PR-T002C-Two way (For medical equipment, etc)
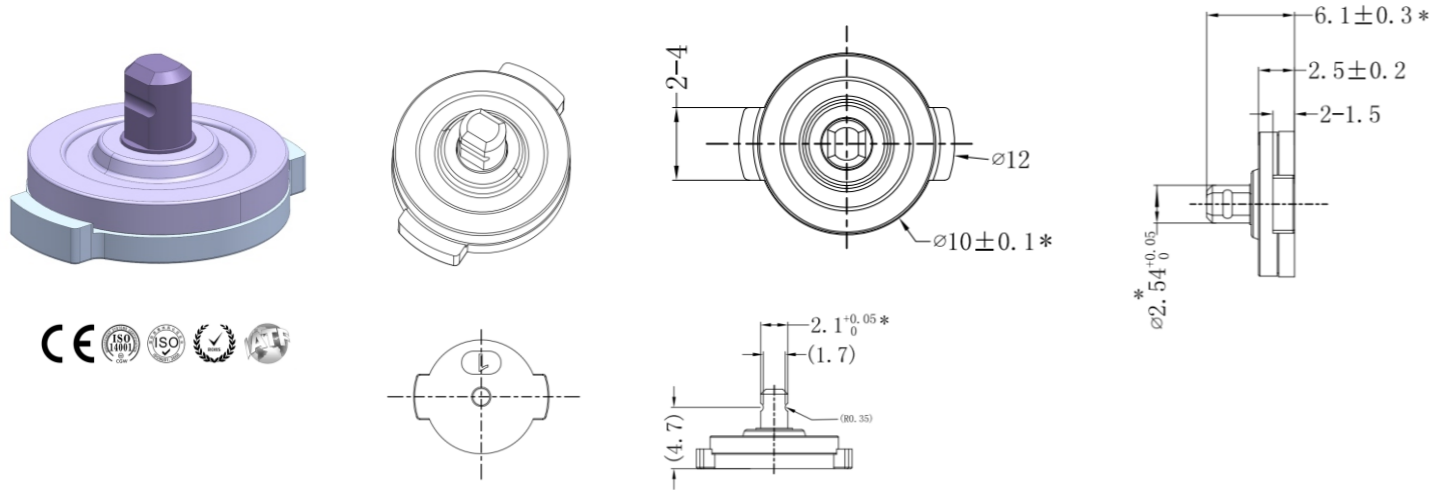
Torque	20-135 GF.CM		
Static Storage Temperature	Body Material	Shaft Material	Oil
−5℃~50℃	PC	POM	Silicone Oil

Model: PR-T035-Two way
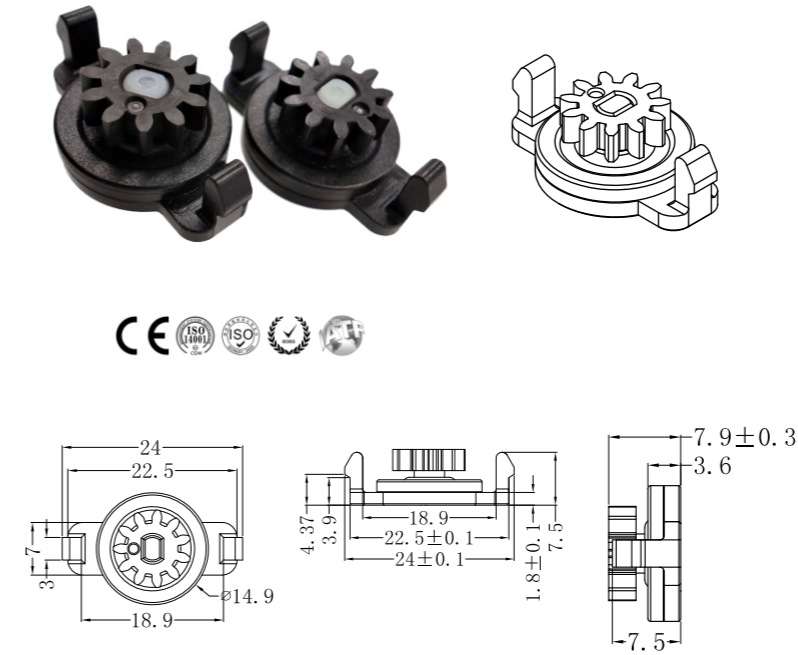
Torque	50-400 GF.CM
Static Storage Temperature	−40℃~110℃
Dynamic Working Temperature	−5℃~50℃
Body Material	PC
Shaft Material	POM
Oil	Silicone Oil

External Diameter	10.4
Dividing Dia	8.8
Gear No	11
Modulus	0.8
Pressure Angle	20°

Model: PR-T033A-Two way
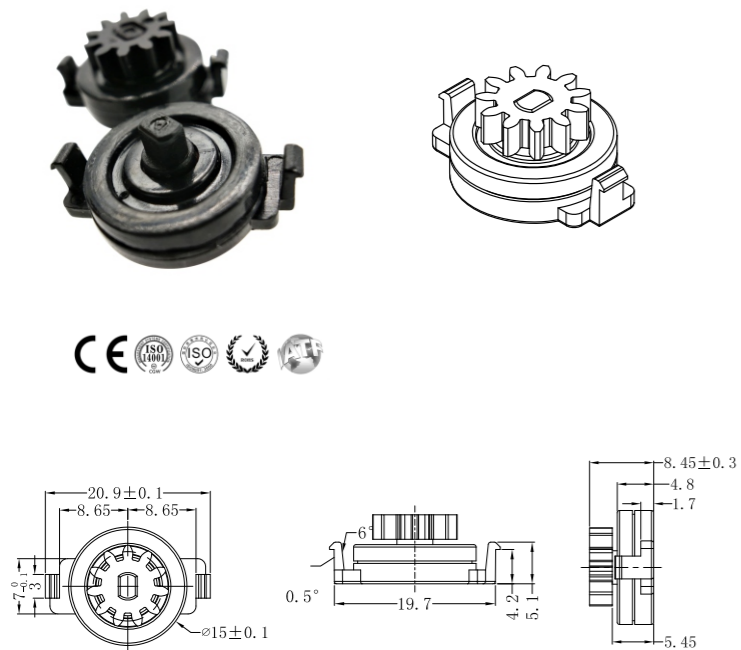
Torque	30-400 GF.CM
Static Storage Temperature	−40℃~110℃
Dynamic Working Temperature	−5℃~50℃
Body Material	PC
Shaft Material	POM
Gear Material	POM
Oil	Silicone Oil

External Diameter	10.4
Dividing Dia	8.8
Gear No	11
Modulus	0.8
Pressure Angle	20°

Model: PR-T036-Two way
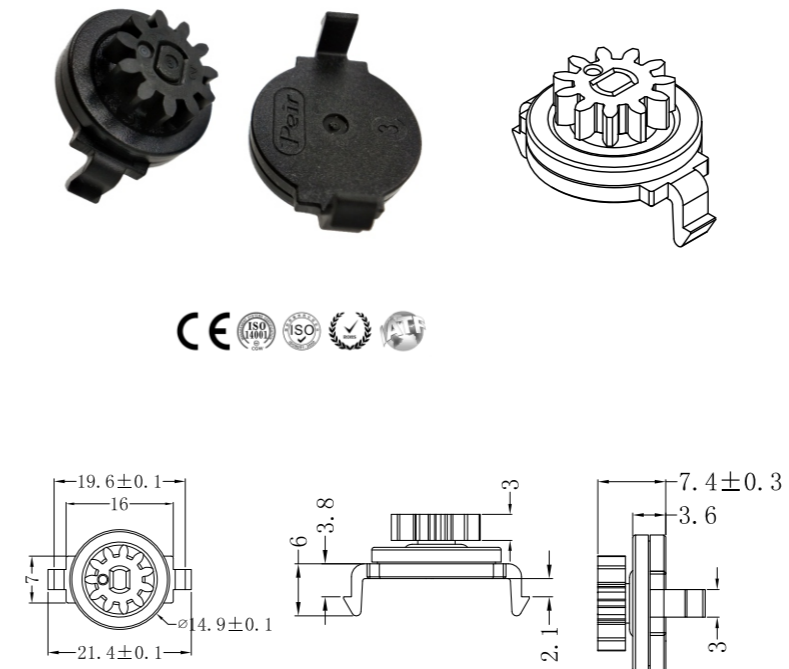
Torque	30-300 GF.CM
Static Storage Temperature	−40℃~110℃
Dynamic Working Temperature	−5℃~50℃
Body Material	PC
Shaft Material	POM
Gear Material	POM
Oil	Silicone Oil

External Diameter	10.4
Dividing Dia	8.8
Gear No	11
Modulus	0.8
Pressure Angle	20°

Peir

Model: PR-PR-T089A-One/Two way (For kettle, etc)

∅3.00

14.40±0.30 *
4.00±0.10
8.50⁺⁰·¹⁰₋₀.₂₀ *

7.20 ± 0.20
22.20 ± 0.20
∅15.00±0.20 *
∅13.00

8.70±0.20 *
10.21±0.20 *
11.70±0.20 *
15.00±0.20 *

1.40
5.00
3.50

Torque	80-1200 GF.CM

Static Storage Temperature	−40℃ - 110℃	External Diameter	13
Dynamic Working Temperature	−5℃ - 50℃	Dividing Dia	11
Oil	Silicone Oil	Gear No	11
Body Material	PC	Modulus	1.0
Shaft Material	POM	Pressure Angel	20°
Gear Material	POM		

Model: PR-T096A-Two way (For kettle, etc)

16.1±0.2
14.8
12.1
7.8±0.15

14.7±0.1
13.7±0.1
∅6.6
∅7.8
∅3.5

2.7
4.8

Torque	30-100 GF.CM

Static Storage Temperature	-40℃ - 110℃
Dynamic Working Temperature	-5℃ - 50℃
Body Material	POM
Gear Material	POM
Shaft Material	POM
Oil	Silicone Oil

Model: PR-T090A-Two way

15.4⁰₋₀.₃
∅15±0.1
∅10.4⁰₋₀.₂₅

7.65±0.3
4.65
4
8
45°

3
5.8
4
12
1.7
5 5
6.3 6.3
R2
∅3.5
4.5
5.5

Torque	30-250 GF.CM

Static Storage Temperature	Dynamic Working Temperature	Body Material	Shaft Material	Oil
−40℃−110℃	−5℃−50℃	PC	POM	Silicone Oil

External Diameter	Dividing Dia	Gear No	Modulus	Pressure Angle
10.4	8.8	11	0.8	20°

Model: PR-CD-Two way

7±0.1
4.25⁺⁰·²₋₀.₁
8±0.5
∅14.95⁰·⁰⁰₋₀.₁₅
∅10.4
∅8.8
17±0.1
A I E K P F N B
3⁰₋₀.₁
2.5⁺⁰·¹₋₀
3.5±0.1
19.6±0.1
20.8⁺⁰·²₋₀
3±0.1

∅15.2
3.10
19.60
C0.50

Gear Material	Shaft Material	Case	Cover	Sealing Ring	Oil
POM	POM	PA66GF13	PA66	Silicone Rubber	Silicone Oil

Model: PR-CG-Two way

Gear Material	Shaft Material	Case	Cover	Sealing Ring	Oil
POM	POM	PC	PC	Silicone Rubber	Silicone Oil

Model: PR-CJ-Two way

Gear Material	Shaft Material	Case	Cover	Sealing Ring	Oil
POM	POM	PC	PC	Silicone Rubber	Silicone Oil

Model: PR-DA007-Two way (For automotive centre armrest, etc)

Torque	
	1-5.3Ncm

Rotary Damper Temperature & Speed Characteristics

Temperature Characteristics

Temperature Characteristics

The torque of the rotary damper varies according to the temperature. The higher temperature for the lower torque; The lower temperature for the higher torque. When the temperature returns to normal, the damper characteristics will return to normal as well.

Speed Characteristics

Speed Characteristics

The torque of the rotary damper varies according to rpm. In general, if the rpm goes up, the torque increases; If the rpm goes down, the torque decreases. In addition, please note that the starting torque slightly differs from the rated torque.
(The torque value indicated in the product data is measured at the rotation speed of 20r/min)

Gear removable

Rotor

O-ring

Cover

Body

Gear Damper

Torque calculation method in different scenarios

1.Controlled slow closing down. (From 90°- 0°)

Showed on the right figure, the flat starts to close down from position of less than 90 to horizon position.
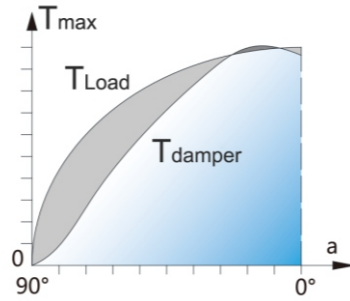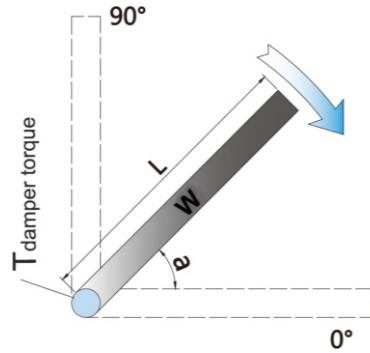
$T=(W*g)*(L/2)*(\cos a)$

Example:

W=2KG, L=300mm

$T_{max}=(2*9.8)*(0.3/2)=2.94$ Nm

$T_{damper}=0$-3.0Nm

2.Damper and springs achieve soft opening. (0°~ 90°)

As the right picture shows, the flat open along the axis when the spring exerts force on it. The graph below shows the relation among spring Force T, gravity of flat W and the resistance of rotation of damper:

Example:

W=1 KG, L=200mm

$T_{load}=1*9.8*(0.2/2)=0.98$Nm

$T_{spring}=1.2$~0.5Nm

$T_{damper} \leq F_{spring}-F_{load}$

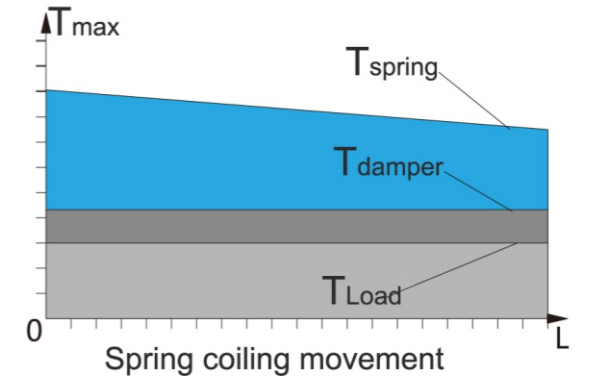$\qquad =(1.2-0.98)$Nm~$(0.5-0)$Nm

$\qquad =0.22$~0.5Nm

Note:

T: Torque.

L/2: 1/2 the length of the cover from the pivot to the end(Center of gravity).

W: Actual weight of lid.

a: Max angle between the cover and horizontal position.

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