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



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°C~50°CWeight PTRD-57A:75g,PTRD-57A-R/L:94g Main body material iron(9SPFC) Oil type:silicone oil





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	Shaft's external dimensions	ø10 –0.03
recommended dimensions below	Surface hardness	HRC55 or higher
when creating a shaft for	Quenching depth	0.5mm or higher
PTRD-57A. Not using the	Surface roughness	1.0Z or lower
may cause the shaft to slip out.	Chamfer end (Damper insertion side)	C0.2-C0.3 (or P0.2-R0.3)

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.



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.

Speed characteristics of



Temperature characteristics of



Disk Damper PTRD-63A





Note)Rated torque is measured at a rotation speed of 20rpm at 23 $^\circ\!\!C\pm\!\!3$ $^\circ\!\!C$.

*Max. rotation *Max. cycle rate *Working Temperature *Weight *Main body material *Rotor(shaft) material *Oil type *ISO9001:2008 *ROHS directive

50rpm 12 cycle/min -10~50℃ PTRD-63A:92g,PTRD-63A-R/ L:115g Iron(SPFC) Nylon(with glass) Silicone oil

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_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-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	
	8.7±0.8N∙m	Both directions	
PTRD-70A-903	(87±8.0kgf⋅cm)		
PTRD-70A-R114	11±1.1N∙m	Clockwise	
PTRD-70A-L114	(110±11kgf⋅cm)	Counter-clockwise	

(Noted) Rated torque is measured at a rotation speed of 20rpm at 23°C $\pm 3^\circ \! \mathbb{C}$



*Max. rotation *Max. cycle rate *Working Temperature *Weight *Main body material *Rotor(shaft) material *Oil type *ISO9001:2008 *ROHS directive 50rpm 12 cycle/min -10 ~ 50℃ PTRD-70A:112g,PTRD-70A-R/ L:136g Iron(SPFC) Nylon(with glass) 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-70A. Not using the recommended shaft dimensions may cause the shaft to slip out.

admper heen ie n	ot maou mai ono.
Shaft's external dimensions	ø10_8.03
Surface hardness	HRC55 or higher
Quenching depth	0.5mm or higher
Surface roughness	1.0Z or lower
Chamfer end (Damper insertion side)	CO.2-CO.3 (or RO.2-RO.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



ISO9001:2008 ROHS directive

Rated Torque	10-18kgf.cm
Work angle	110°
Operating temperature	-5-+50 ℃
Damping direction	Right / Left
Life Time	50.000 times

Specification

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

8.5g±1g
POM
POM
Silicone oil

Size



