



Our Technologies Realize Your Dreams

One-Way Hinges



One-way hinges are a mechanical component that combines the functions of the one-way clutch and torque limiter, and are a hinge that has a load torque for retaining a lid, etc. in one direction while freely rotating without load in the other direction.

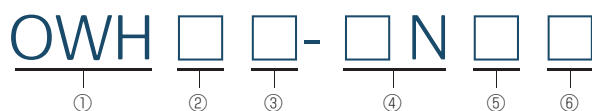
When used in door mechanisms, they can be used to make opening easy (only the weight of the lid) or to hold in any arbitrary position.

These are ideal as the door hinges on various types of lids in OA related equipment.



01 Specifications for the Standard Models

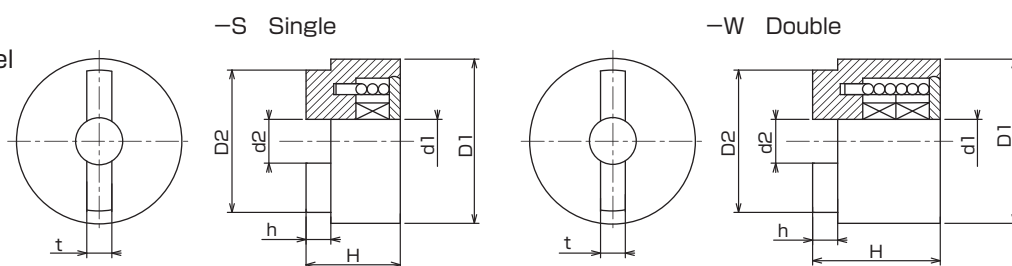
Naming and auxiliary symbols



①Collective name	②Features codes	③Bore	④Nominal torque	⑤Torque generating direction	⑥# of clutches used
One-way hinge	F	10-	3.0N	R	W
OWH	<ul style="list-style-type: none"> • No Code= Model Standard • F=Model Flange 	<ul style="list-style-type: none"> • 6=Bore $\phi 6$ • 8=Bore $\phi 8$ • 10=Bore $\phi 10$ 	Example <ul style="list-style-type: none"> • 0.1N=0.1 N·m • 3.0N=3.0N·m 	<ul style="list-style-type: none"> • R=Clockwise (Black) • L=Counter-clockwise (White) () indicates shield color 	<ul style="list-style-type: none"> • S=1 piece • W=2 pieces

Dimensions

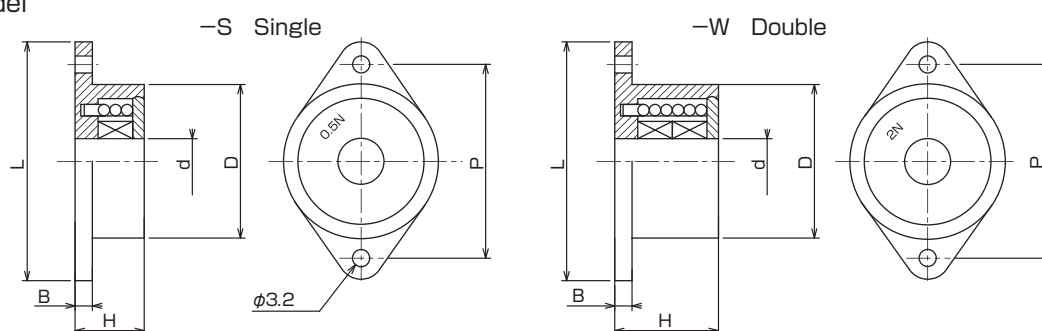
Standard Model



Unit=mm

Nominal Number	Dimension							Torque range (N·m)
	Outside dia. D1	Bore d1	Width H ± 0.2	Outside dia. D2 ± 0.1	Bore d2 $+0.20_0$	Width t ± 0.1	Height h $0_{-0.20}$	
OWH6-□N□S	25	6	16	21	6.2	4	4	0.1 to 1.0
OWH8-□N□S	28	8	16	24	8.2	4	4	0.1 to 1.0
OWH10-□N□S	30	10	16	26	10.2	4	4	0.1 to 1.5
OWH6-□N□W	25	6	22	21	6.2	4	4	1.0 to 2.0
OWH8-□N□W	28	8	22	24	8.2	4	4	1.0 to 2.0
OWH10-□N□W	30	10	22	26	10.2	4	4	1.5 to 3.0

Flange Model



Unit=mm

Nominal Number	Dimension						Torque range (N·m)
	Outside dia. D	Bore d	Width H ± 0.2	Width B ± 0.1	Length L	Pitch P ± 0.1	
OWHF 6-□N□S	25	6	13	3	42	34	0.1 to 1.0
OWHF 8-□N□S	28	8	13	3	44	36	0.1 to 1.0
OWHF 10-□N□S	30	10	13	3	46	38	0.1 to 1.5
OWHF 6-□N□W	25	6	19	3	42	34	1.0 to 2.0
OWHF 8-□N□W	28	8	19	3	44	36	1.0 to 2.0
OWHF 10-□N□W	30	10	19	3	46	38	1.5 to 3.0

02 Features

1. Compact, thin and high-torque

The width is 13mm for 0.1 to 1.0N·m type or 19mm for 1.0 to 3.0N·m type ; therefore, it requires minimum mounting space.

2. Free stop

Capable of stopping a lid at any position and supporting its load.

3. Not easily affected by environmental conditions

Operation condition : -5°C to +60°C, 90%RH

4. Wide torque setting range

A standard setting torque is from 0.1 to 3.0N·m by an increment of 0.1N·m. units within the range. Please consult us if you require other torque range specified above.

5. Two directions, R and L, are available

Two directions, R and L types, are available in terms of torque generating direction.

03 The adaptable shafts for Standard and Flange models

Please use the shaft satisfying the following specifications when using Origin One-way hinges.

Specification Items	Specifications of the adaptable shaft
Diameter tolerances	OWH bore $\phi 6 \begin{smallmatrix} 0 \\ -0.03 \end{smallmatrix}$
	OWH bore $\phi 8 \begin{smallmatrix} 0 \\ -0.03 \end{smallmatrix}$
	OWH bore $\phi 10 \begin{smallmatrix} 0 \\ -0.03 \end{smallmatrix}$
Materials	Please see steel products such as SUM, SUS, SUJ-2, and SK.
Note	Please use a heat-treated shaft.

04 Operation Environment

Operation environment conditions	Operation environment
Temperature	-5 to 60 °C
Humidity	90%RH or less

Note) ·Please consult us if you use Origin products under different operation environment not specified above.

·Since the operation environment described here is based on our experiences and testing data, it may not be applied to the products in same way under different circumstances.

For this reason, we do not guarantee that the content of this catalogue will apply to your operation condition exactly in the same way. Please make final decision at one of your company premises before using this product.

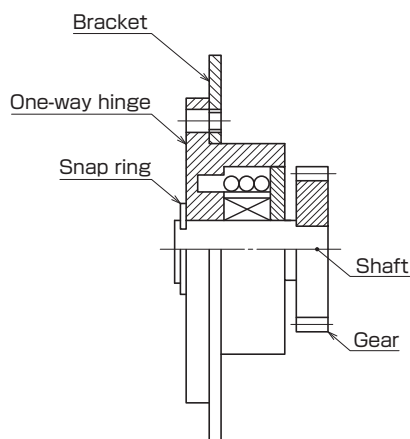
05 Mounting

Models	Mounting
Standard Model	Insert the adaptable shaft to the one-way hinge and put the boss part of the hinge into the grooves of gears and other matching component. When is operated, the hinge needs to be turned.
Flange Model	Set the flange part of the housing and then insert the adaptable shaft. You may make a "D-cut" at the edge of the shaft for mounting, when putting a gear. When is operated, the shaft needs to be turned.

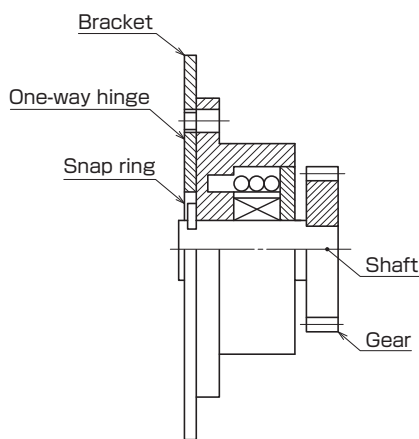
Assembly examples

Please consult us for the applications shown below.

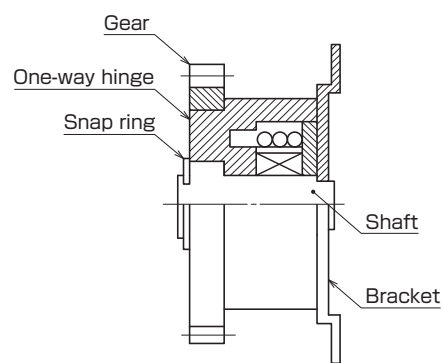
Example 1



Example 2



Example 3



06 Comparison with Oil damper

Head	One-way hinge	Oil damper
Torque	Constant	Variable depending on speed
Lid	Motion can be stopped at any position.	Falls
Environment	-5°C to 60°C 90%RH	affected by environmental conditions
Others	Wide torque setting range	-----

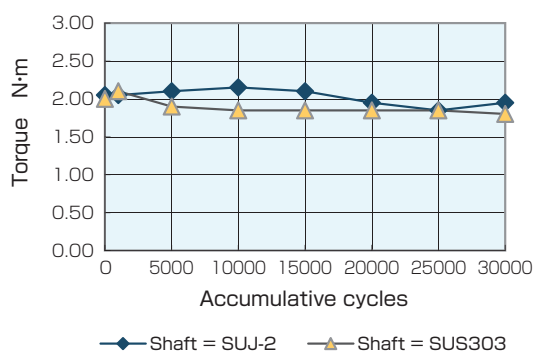
07 Reliability

Torque is set as within $\pm 10\%$ to the nominal value before shipment.
 Guaranteed life-time is 20,000 cycle (1 cycle = 1 return motion).
 Please consult us for the torque fluctuation over this guaranteed life-cycles.

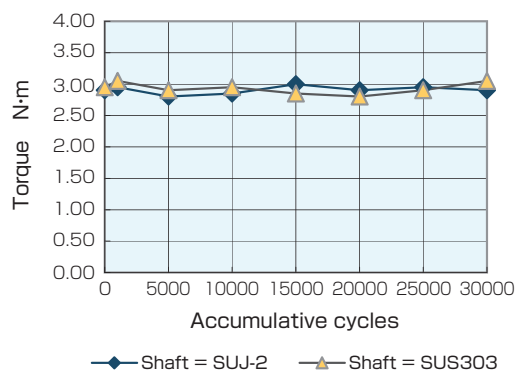
Reliability test data

Test condition items	Test conditions
Speed	13 strokes / min.
Operation angle	360°

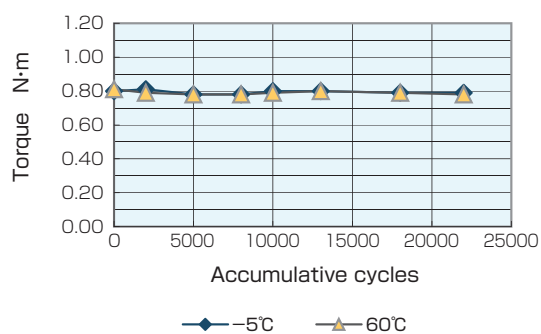
OWH6-2.ONRW Reliability test data



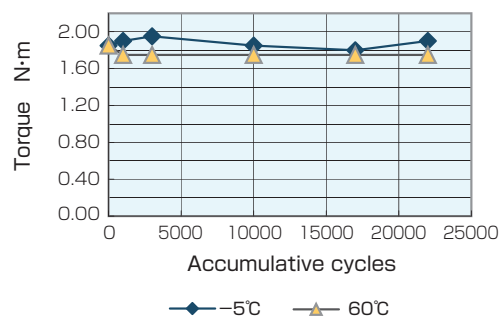
OWH10-3.ONRW Reliability test data



OWH8-0.8NRS Reliability test data



OWH8-2.ONRW Reliability test data



08 Cautions

Care must be taken when mounting the one-way hinge especially, since the torque may be changed if an unbalanced load is directly applied in the radial or axial direction.



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Safety
Warning

The data presented in this catalog are for general application purposes. Do not use this product in such a way that may be harmful to people or exceed its performance.

Safety
Precaution

To avoid accidents and/or failures as well as to ensure safety, do not use this product exceeding the specifications noted in this catalog and ignoring the precautions.

*Specifications are subject to change without a notice for future development.