

## TCJ for transmitting rotational force only in one direction



TCJ is a one-way clutch that realizes high torque in spite of its small size and can be used in high temperature environments. TCJ can solve various problems.

### BENEFIT

- Can be used by press-fitting into various shaped housings such as gears, pulleys, levers and cams.
- No need to prepare bearings. (Built-in sintered bearings)
- Expects the cost reduction since the wide tolerance shaft can be used.
- Compact, high torque, and can be used in high temperature environment up to 140°C / 284°F.

| Code   | Part No.     | Allowable Torque<br>【N·m】 (lbf·in) | Idling Torque<br>【mN·m】 (lbf·in) | Backlash<br>【°】 | Lock Direction<br>【Shaft Fixed】 | Shaft Diameter<br>【mm】                                    |
|--------|--------------|------------------------------------|----------------------------------|-----------------|---------------------------------|---|
| 489999 | TCJ-614-RB-H | 0.78 (6.9)                         | 2.94 or less (0.03)              | 2.5 or less     | CW · CCW                        | $\phi 6 \begin{smallmatrix} 0 \\ -0.03 \end{smallmatrix}$ |

\* The lock direction can be switched by changing the mounting direction to the housing.

### OPERATION TEMPERATURE

| Operation Temperature [°C] (°F) |
|---------------------------------|
| 0 - 140°C (32 - 284°F)          |

### HOUSING DIMENSIONS

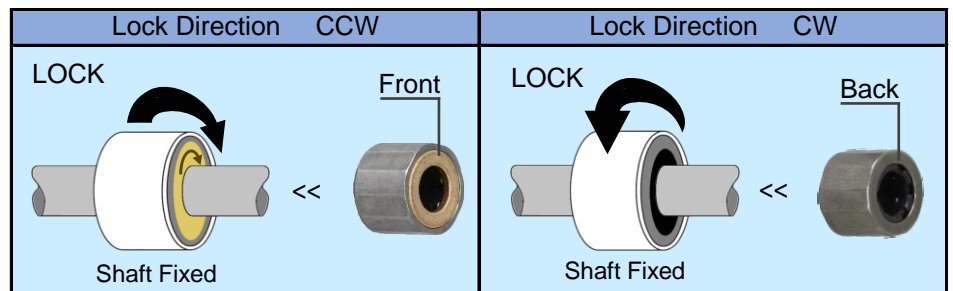
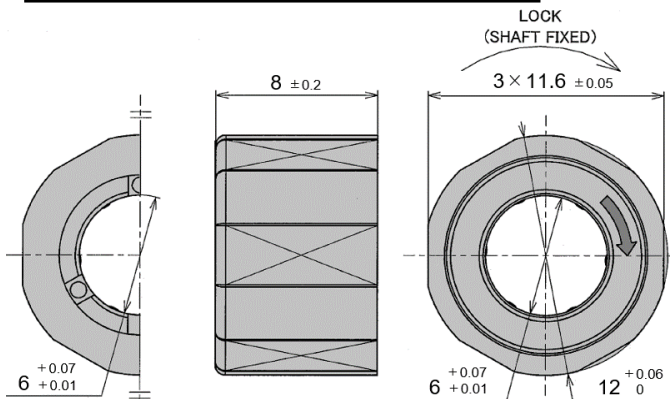
| Minimum Housing Dimensions [mm] |          |   |
|---------------------------------|----------|---|
| Outside                         | Width    | Inside *  |
| $\phi 14 \leq$                  | $8 \leq$ | $\phi 6 \begin{smallmatrix} +0.07 \\ +0.01 \end{smallmatrix}$ |

\*No need to prepare bearings inside.

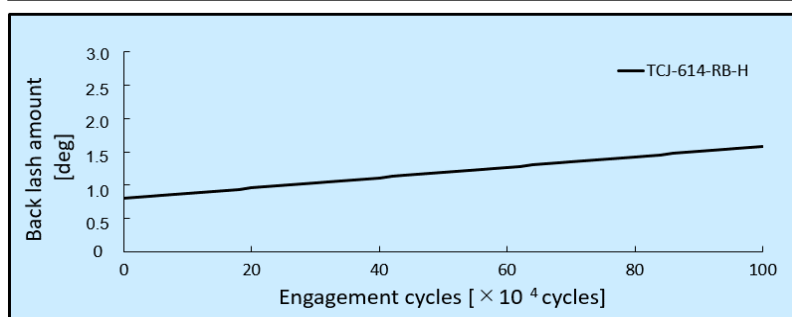
### MAIN MATERIALS

| Part name    | Material      |
|--------------|---------------|
| Outer sleeve | Steel         |
| Retainer     | Plastic       |
| Needle       | Bearing steel |
| Spring       | Stainless     |
| Cover        | Stainless     |
| Grease       | Silicone      |

### CLUTCH ELEMENT DIMENSIONS



### DURABILITY

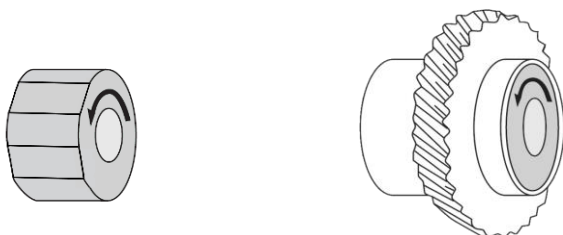


### TEST CONDITION

- Swinging cycle: 240 times / min
- Swinging angle: 30°
- Radial load: 9.8N (2.20lbf)
- Durability : 1,000,000 cycles
- Shaft tolerance range :  $\phi 5.97\text{mm}$
- Surface hardness : 670 Hv

### ASSEMBLY

It is possible to provide clutches assembled in the housing.



Single Item

Assembling With Customized Housing

### RECOMMENDED SHAFT

|                |   |
|----------------|---|
| Material       | Stainless<br>Bearing steel<br>Carbon tool steel             |
| Processing     | Heat treatment 700Hv0.1<br>*Please refrain from plating use |
| Shaft Diameter | $\phi 6 \begin{smallmatrix} 0 \\ -0.03 \end{smallmatrix}$   |

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