Housing Interference Fit Design for TCK Series One-Way Clutches

Provided as a reference for customers who plan to manufacture the housing themselves

Recommended Housing Material | Polyacetal (POM)

Polyacetal is a functional resin with low water absorption and excellent dimensional stability. It also possesses self-lubricating properties, wear resistance, and good mechanical strength. For the allowable lock torque of the TCK Series, a resin housing with a wall thickness of 1 to 1.5 mm is sufficient.

We are not recommended metal housings, because they require highly precise press-fit designs, and there is a concern that slight deformation of the sintered parts of the one-way clutch after press-fitting may lead to a decline in performance.

Design of the One-Way Clutch Fitting Area

Design 1:

By utilizing the anti-rotation shape located on the outer circumference of the one-way clutch element and fitting it into the housing, reliable torque transmission can be achieved even with a light press fit. (See Figure 1)

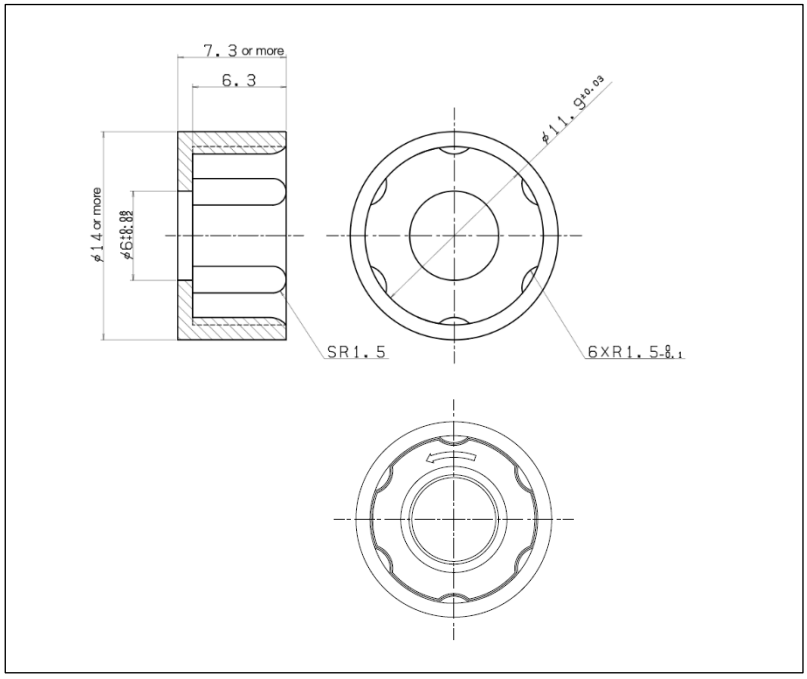

Figure 1: One-Way Clutch Fitting Area – Design 1

Design 2:

If processing the anti-rotation shape described in Design 1 is difficult, it is acceptable to drill a pilot hole using the anti-rotation shape on the outer circumference of the one-way clutch as a guide and then insert parallel pins (Φ1 × 6 mm).

In this case, please use **at least two pins**. (See Figure 2)

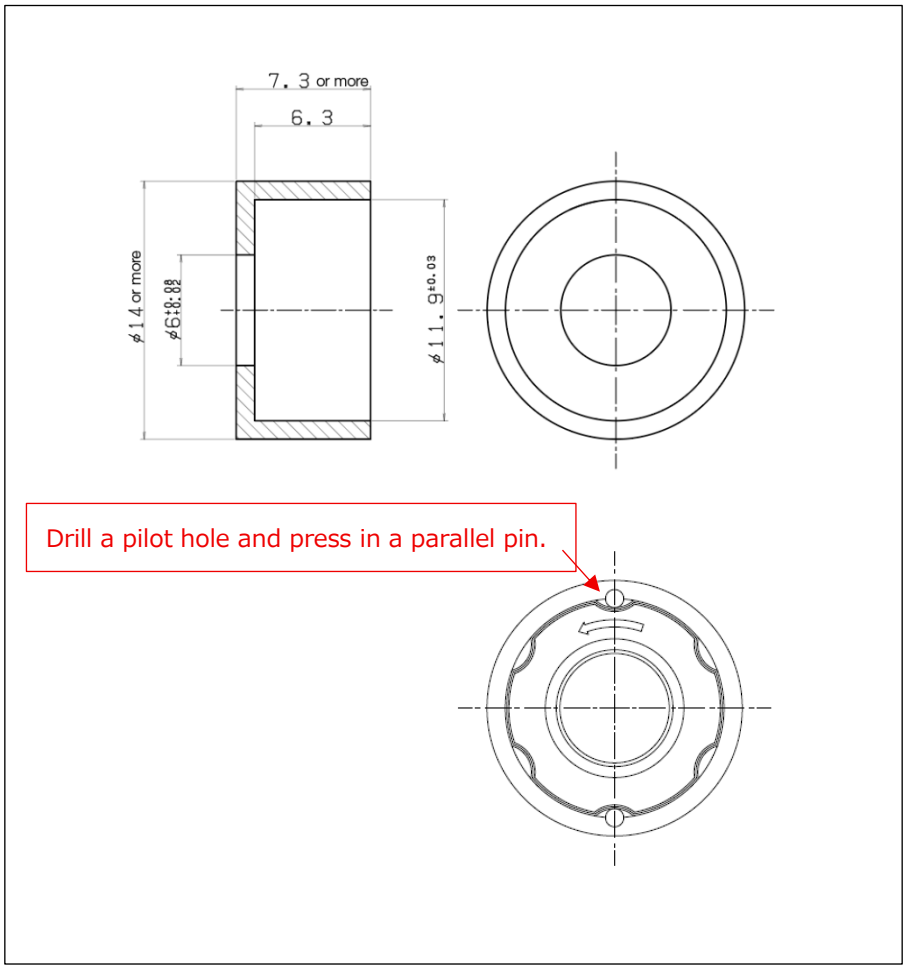

Figure 2: One-Way Clutch Fitting Area – Design 2 (Two Parallel Pins)

Conclusion

We also offer the option of machining the housing and assembling the one-way clutch in-house for delivery.
If you are interested, please contact us via our website.