

# Two-Stage Torque Limiter

Two-Stage Torque Limiter is developed for the actuator of an automated hatchback door of an automotive. It requires two functions, damping and safety protection. These two mechanisms are packaged in one component.



## 01 Features

### 1. Functions

- During the normal operation when opening and closing the hatchback door, the torque of 0.2N·m is always applied to assist stable movement of the hatchback door.

Upon overload situation, the 2nd stage torque limiting mechanism of 4.0N·m is activated to prevent damage of the motor and other actuating devices.

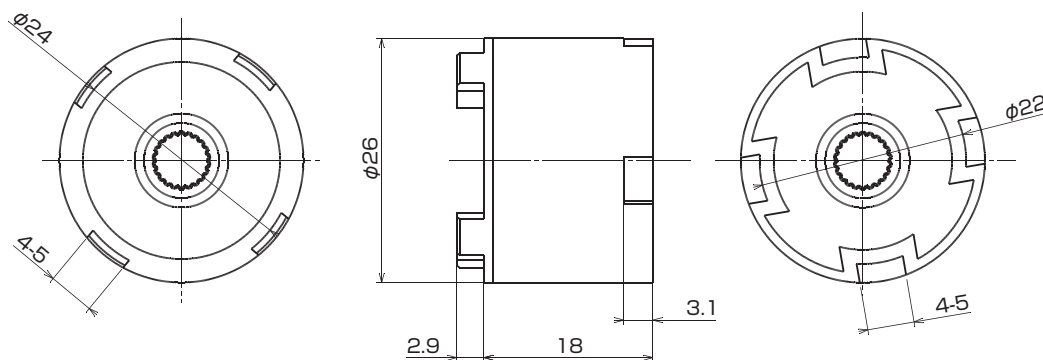
### 2. Precision

- The tolerances of the slipping torque is within 10%.

### 3. Small size and high torque

- Within the outer diameter of 26mm and width of 18mm, the high torque limiting mechanism of 4.0N·m is integrated for safety protection.

## 02 Dimensions



Spline Specifications	
Gear tooth profile	ISO4156
Module	0.25
Number of teeth	22
Pressure Angle	45 deg.
Variation Coefficient	0
Pitch Diameter	$\phi 5.50$
Root Diameter	$\phi 5.80$
Tip Diameter	$\phi 5.35$
Tooth Thickness	3.924
Measured Number of teeth	6

## 03 Durability

Item	Torque Limiter for damper
Torque	0.2 N·m
Rotation Speed	160 rpm
Testing Mode	15 CW Rotation $\Rightarrow$ 15 CCW Rotation
Durability	50 Thousand Cycle

Item	Torque Limiter for Safety Protection
Torque	4.0 N·m
Rotation Speed	600 rpm
Testing Mode	20 CW Rotation $\Rightarrow$ 20 CCW Rotation
Durability	100 Cycle

## 04 Operation Condition

Item	Operation Condition
Temperature	-30 to 80 °C
Humidity	Less Than 90%RH

\*Dimension, Specifications, Durability may be changed.  
Please consult with our sales engineers.