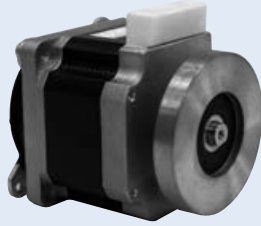


## Customization Services- Gearboxes and Couplings

Custom options availability varies depending on the requested customization and quantity. Contact us for details.

### Rotary damper and surface mount damper

A damper can be added to reduce vibrations when rotating.



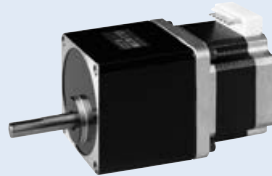
Rotary damper



Surface mount damper

### Gears, encoders, and brake

- A gear can be added for applications where a high load torque is exerted at low speeds.
- A brake can be added to hold the motor position at rest.



With gear

### Geared Motors

Applicable motor size: 56 mm sq. Model: S□2561

#### Low backlash gear model

These models feature low-backlash gear.

|                        |                   |       |       |      |      |      |      |
|------------------------|-------------------|-------|-------|------|------|------|------|
| Allowable torque       | N-m               | 1.25  | 2.5   | 3    | 3.5  | 4    | 4    |
| Gear ratio             | —                 | 1:3.6 | 1:7.2 | 1:10 | 1:20 | 1:30 | 1:36 |
| Backlash               | ° or less         | 0.55  | 0.25  | 0.25 | 0.17 | 0.17 | 0.17 |
| Allowable speed        | min <sup>-1</sup> | 500   | 250   | 180  | 90   | 60   | 50   |
| Allowable thrust load  | N                 | 30    | 30    | 30   | 30   | 30   | 30   |
| Allowable radial load* | N                 | 100   | 100   | 100  | 100  | 100  | 100  |

\* Load is exerted on the point 1/3 the shaft length from the shaft end.

Note: The motor and shaft rotate in the same direction for 1:3.6 and 1:7.2 gear ratios and in opposite directions for 1:10, 1:20, 1:30, 1:36 gear ratios.

#### Harmonic gear model

This model has extremely low backlash and superb positioning precision. The lineup has high gear ratios of up to 1:100 available.

|                         |                   |                         |                          |
|-------------------------|-------------------|-------------------------|--------------------------|
| Allowable torque        | N-m               | 5.5                     | 8                        |
| Peak torque             | N-m               | 14                      | 20                       |
| Gear ratio              | —                 | 1:50                    | 1:100                    |
| Lost motion             | arcmin            | 0.4 to 3 (at ±0.28 N-m) | 0.4 to 1.5 (at ±0.4 N-m) |
| Allowable speed         | min <sup>-1</sup> | 70                      | 35                       |
| Maximum allowable speed | min <sup>-1</sup> | 100                     | 50                       |
| Allowable thrust load   | N                 | 400                     | 400                      |
| Allowable radial load*  | N                 | 360                     | 360                      |

\* Load is exerted on the point 1/3 the shaft length from the shaft end.

Note: The motor shaft and the gear output shaft rotate in the opposite directions.

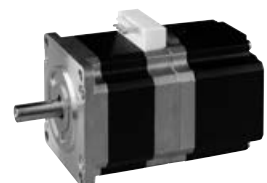


### Electromagnetic brake models

Compatible motors: 56 mm sq. Model no. SF256□ Note: Non-UL certified

The non-excitation electromagnetic brake holds a workpiece when power is lost, preventing it from falling.

|                        |               |                     |
|------------------------|---------------|---------------------|
| Brake activation type  | —             | Non-excitation type |
| Input voltage          | —             | 24 VDC ± 5%         |
| Power consumption      | W             | 6 (at 75° C)        |
| Static friction torque | N · m or more | 0.8                 |
| Polarity               | —             | Red: +, black: -    |



Custom options availability varies depending on the model number and quantity. Contact us for details.