

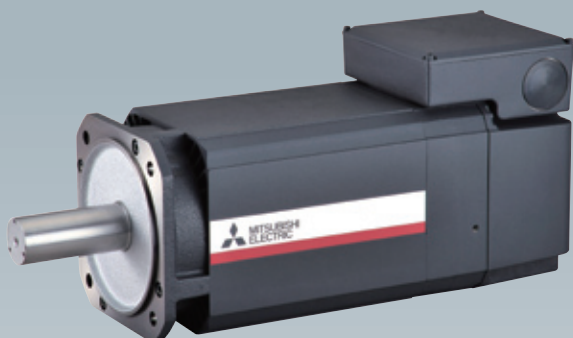
The spindle motor SJ-D Series, an integration of new-generation functionality and design

Eco-conscious new-generation spindle motor for energy savings, higher durability and shorter machining times.

With the increasing demand for environmental protection, we have developed high performance motors focused on energy and resource savings as well as safety and reliability.

Aiming at a design that enhances product reliability, our new motors feature a perfect harmony of design and functionality.

As most industrial products have a decade-long service life, we sought a design that is not affected by trends and that will not be obsolete in the next 15 years.



**GOOD
DESIGN**

2009 Good Design Gold Award

Awarded "Good Design Gold Award"

Sophisticated design saves energy and resources, and offers a lightweight body and high reliability.

A perfect balance of design and performance.

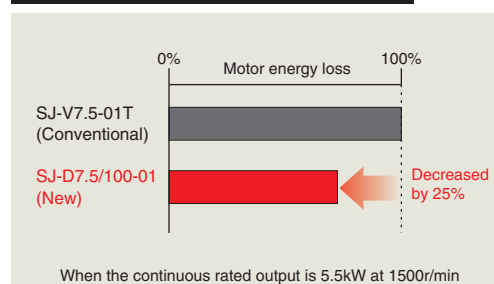
This product was awarded Good Design Gold Award in 2009.

High efficiency (energy savings)

The optimized electrical design lowers the motor energy loss by approximately 25% as compared to our conventional model and reduces power consumption, resulting in lower electrical cost.

Thermal displacement is also reduced, contributing to higher machine accuracy.

Comparison of motor energy loss



High speed

The maximum rotation speed is increased by incorporating a high-speed specification bearing as standard. This offers a wider variety of machining conditions and enables process consolidation, resulting in shorter machining times.

Lightweight / Low vibration

To enhance machine accuracy, motor vibration is lowered to the vibration level of V3 (SJ-D Series (normal specifications)) by reducing the motor mass and improving the rigidity. This motor enables higher machining accuracy.

Enhanced reliability

Part degradation is suppressed and service life is prolonged as the internal temperature rise is reduced due to the lower energy loss, and as a new grease-filled bearing is incorporated in the motor.

Explanation of type

SJ-D Series (for 200V) SJ-D ①② / ③ - ④⑤ - ⑥

① Motor Series

| Symbol | Motor Series |
|--------|--------------------------------------|
| None | Normal specifications |
| J | Compact & lightweight specifications |

② Short-time (or %ED) rated output

| Symbol | Short-time rated output |
|--------|-------------------------|
| 3.7 | 3.7 kW |
| 5.5 | 5.5 kW |
| 7.5 | 7.5 kW |
| 11 | 11 kW |
| 15 | 15 kW |

③ Maximum rotation speed

Indicates the hundreds place and higher order digits.

④ Specification code

Indicates a specification code (01 to 99).

⑤ Detector

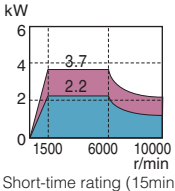
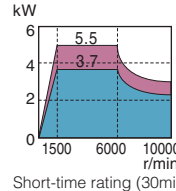
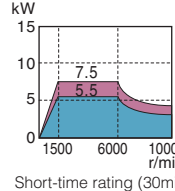
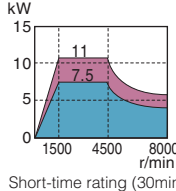
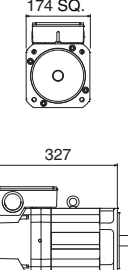
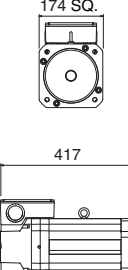
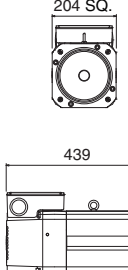
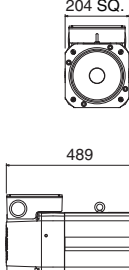
| Symbol | Type |
|--------|--------|
| None | Type 1 |
| T | Type 2 |

⑥ Option^(Note)

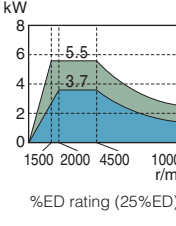
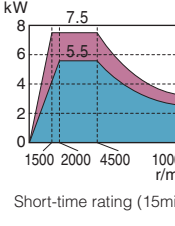
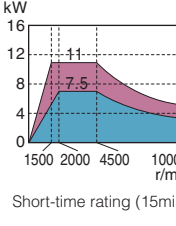
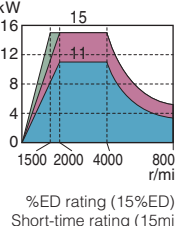
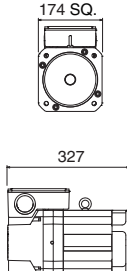
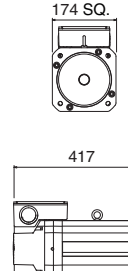
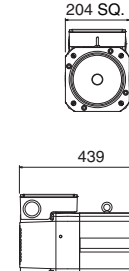
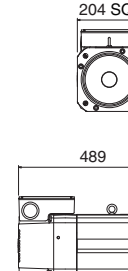
| Symbol | Option |
|--------|--|
| None | Standard (flange type, without oil seal, without key, coil changeover unavailable, air-cooling, solid shaft) |
| C | With key |
| J | Oil seal |
| X | Reversed cooling air |

(Note) If more than one option is included, the symbols are in alphabetical order.

SJ-D Series (normal specifications)

| Spindle motor type | | SJ-D3.7/100-01 | SJ-D5.5/100-01 | SJ-D7.5/100-01 | SJ-D11/80-01 |
|--|----------------------------|---|---|--|---|
| Compatible drive unit | 1-axis type | MDS-D-SP-80 | MDS-D-SP-80 | MDS-D-SP-160 | MDS-D-SP-160 |
| | 2-axis type | MDS-D-SP2-8040 MDS-D-SP2-8080 MDS-D-SP2-16080 | MDS-D-SP2-8040 MDS-D-SP2-8080 MDS-D-SP2-16080 | MDS-D-SP2-16080 | MDS-D-SP2-16080 |
| | Multi axis integrated type | - | MDS-DM-SPV2-10080 MDS-DM-SPV3-10080 | MDS-DM-SPV2-10080 MDS-DM-SPV3-10080 | MDS-DM-SPV2-16080 MDS-DM-SPV3-16080 |
| | Regenerative resistor type | MDS-D-SPJ3-37 | MDS-D-SPJ3-55 | MDS-D-SPJ3-75 | MDS-D-SPJ3-110 |
| Output | |  |  |  |  |
| Base rotation speed | | [r/min] 1500 | 1500 | 1500 | 1500 |
| Max. rotation speed in constant output range | | [r/min] 6000 | 6000 | 6000 | 4500 |
| Maximum rotation speed | | [r/min] 10000 | 10000 | 10000 | 8000 |
| Continuous rated torque | | [N·m] 14.0 | 23.6 | 35.0 | 47.7 |
| Motor inertia | | [kg·m²] 0.007 | 0.013 | 0.023 | 0.031 |
| Outline dimension drawing (flange type) | |  |  |  |  |
| Flange fitting diameter | | [mm] Ø150 | Ø150 | Ø180 | Ø180 |
| Shaft diameter | | [mm] Ø28 | Ø28 | Ø32 | Ø48 |
| Mass | | [kg] 26 | 39 | 55 | 66 |

SJ-DJ Series (compact & lightweight specifications)

| Spindle motor type | | SJ-DJ5.5/100-01 | SJ-DJ7.5/100-01 | SJ-DJ11/100-01 | SJ-DJ15/80-01 |
|--|----------------------------|---|---|---|---|
| Compatible drive unit | 1-axis type | MDS-D-SP-80 | MDS-D-SP-160 | MDS-D-SP-160 | MDS-D-SP-200 |
| | 2-axis type | MDS-D-SP2-8040 MDS-D-SP2-8080 MDS-D-SP2-16080 | MDS-D-SP2-16080 | MDS-D-SP2-16080 | - |
| | Multi axis integrated type | MDS-DM-SPV2-10080 MDS-DM-SPV3-10080 | MDS-DM-SPV2-10080 MDS-DM-SPV3-10080 | MDS-DM-SPV2-16080 MDS-DM-SPV3-16080 | MDS-DM-SPV2-20080 MDS-DM-SPV3-20080 |
| | Regenerative resistor type | MDS-D-SPJ3-55 | MDS-D-SPJ3-75 | MDS-D-SPJ3-110 | - |
| Output | |  |  |  |  |
| Base rotation speed | Short-time | [r/min] 1500 | 1500 | 1500 | 1500 |
| | Continuous | [r/min] 2000 | 2000 | 2000 | 2000 |
| Max. rotation speed in constant output range | | [r/min] 4500 | 4500 | 4500 | 4000 |
| Maximum rotation speed | | [r/min] 10000 | 10000 | 10000 | 8000 |
| Continuous rated torque | | [N·m] 17.7 | 26.3 | 35.8 | 52.5 |
| Motor inertia | | [kg·m²] 0.007 | 0.013 | 0.023 | 0.031 |
| Outline dimension drawing (flange type) | |  |  |  |  |
| Flange fitting diameter | | [mm] Ø150 | Ø150 | Ø180 | Ø180 |
| Shaft diameter | | [mm] Ø28 | Ø28 | Ø32 | Ø48 |
| Mass | | [kg] 26 | 39 | 55 | 66 |

(Note) %ED is a load time ratio of operating time relative to a 10-minute cycle time.
At 25%ED, for example, the operating time is 2.5 minutes and non-operation time is 7.5 minutes of a 10-minute cycle time.

