

# M800V / M80V Series

Latest series for optimization to make "manufacturing" smarter

## ◆ Features

### ■ Hardware performance improvements

Significantly improved micro line segment processing\* contributes to further cycle time reduction.

\*Twice as fast as M800/M80 Series

### ■ Evolution of control units and display units

Industry's first control unit with built-in wireless LAN enables operation without being limited by time or space. New screen design improves visibility.

### ■ Expansion and evolution of control functions

Motion control release enables control of special mechanisms such as parallel links, etc.

## ◆ Outline diagram



# M800V Series

Separate control unit and display unit type  
Premium model with expandability and flexibility

## ◆ Features

- **Equipped with latest PC unit compatible with Windows 10.**

Can be equipped with complex applications such as 3D machining simulation, etc.

- **Addition of LAN connector for further expandability**

Strengthened connection support with various peripheral networks

- **Lineup includes 19-inch vertical display unit.**

Provides both stylish appearance and excellent operability.

## ◆ Outline diagram



# M800VS Series

Integrated control and display unit type

High-grade model ideal for high-speed, high-accuracy processing and multi-axis multi-part system control

## ◆ Features

### ■ Lineup includes large 19-inch display unit.

Contributes to improved visibility and customization flexibility. Enables a wide variety of different types of information, such as camera images and sensor input information, to be displayed on a single screen.

### ■ Multi-CPU provides high-performance control and high-performance rendering.

Equipped with the latest control functions for high-accuracy and multi-axis multi-line control.

## ◆ Outline diagram





# M800VW Series

Separated-type control unit from a display

Separated-type standard model with expandability and flexibility

## ◆ Features

- Combines standard model M80V control functions\* with further expandability.

Equipped with latest PC unit compatible with Windows 10.  
2 expansion slots provided as standard.

\*Control functions correspond to those of M80V Type A.

- Lineup includes 19-inch vertical/horizontal display unit.

Provides both stylish appearance and excellent operability.

## ◆ Outline diagram



# C80 Series

Innovative next-generation CNC that opens up a new era of manufacturing lines.

## ◆ Features

### ■ Enables flexible system construction.

Supports iQ Platform. Enables flexible system construction utilizing a wide variety of PLC modules according to the customer's production scale and application.

### ■ Improved basic performance and communication speed.

Ultra-high-speed processing of iQ-R PLC and high-speed processing of C80 with the latest dedicated CPU contributes to reduced takt time.

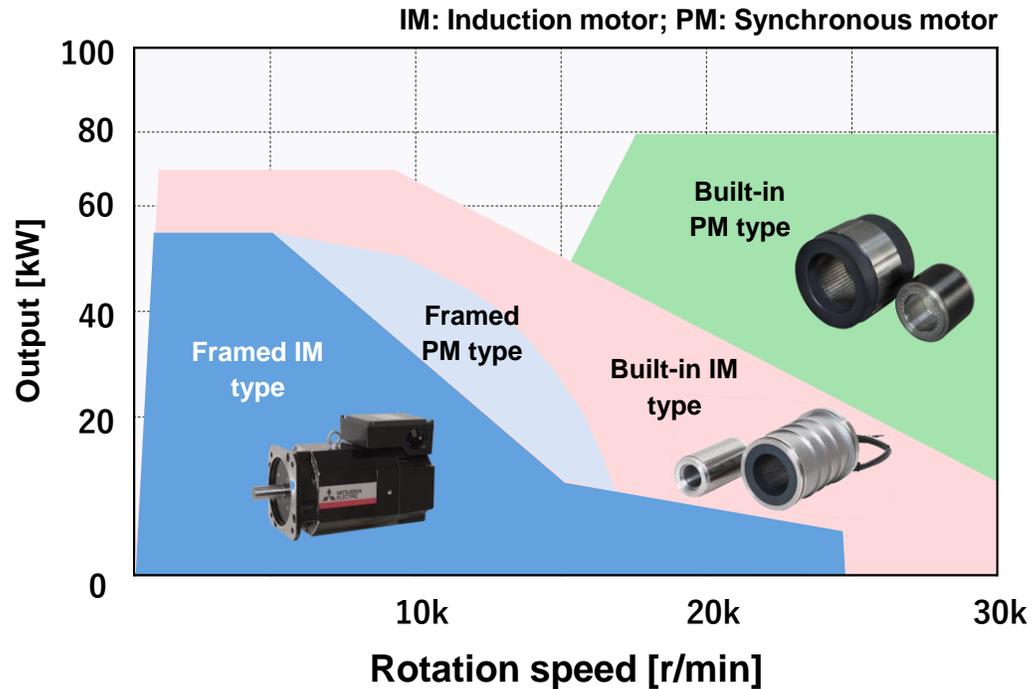
## ◆ Outline diagram



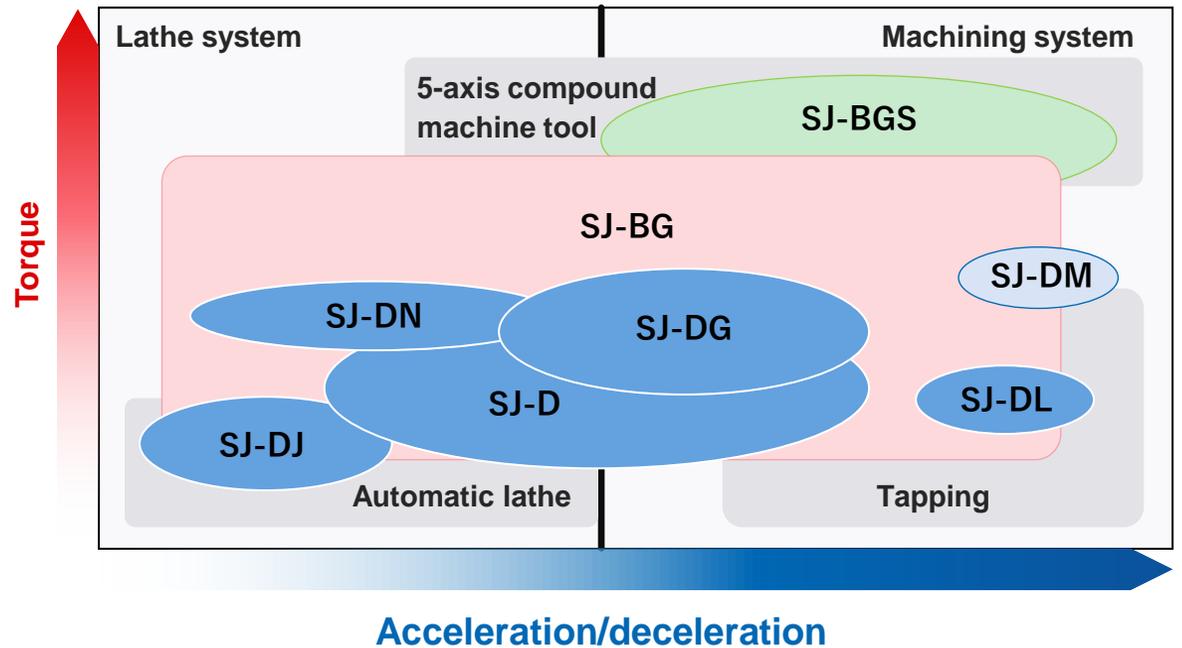
# Spindle motor lineup

We offer a lineup of 8 series of spindle motors according to machine application.

## Specification positioning of each series



## Each series and their machine applications (image)



# Frame-Type Spindle Motor SJ-D Series

Realizes higher performance through application of the latest design technology.

## ◆ Features

### ■ Saves energy by reducing motor losses.

Optimization of magnetic circuit reduces motor-generated losses by approx. 25% compared to previous models.

### ■ Improved machining accuracy due to low vibration and suppression of thermal displacement.

Offers lighter weight and higher rigidity to achieve low vibrations.  
(Vibration level: V3)

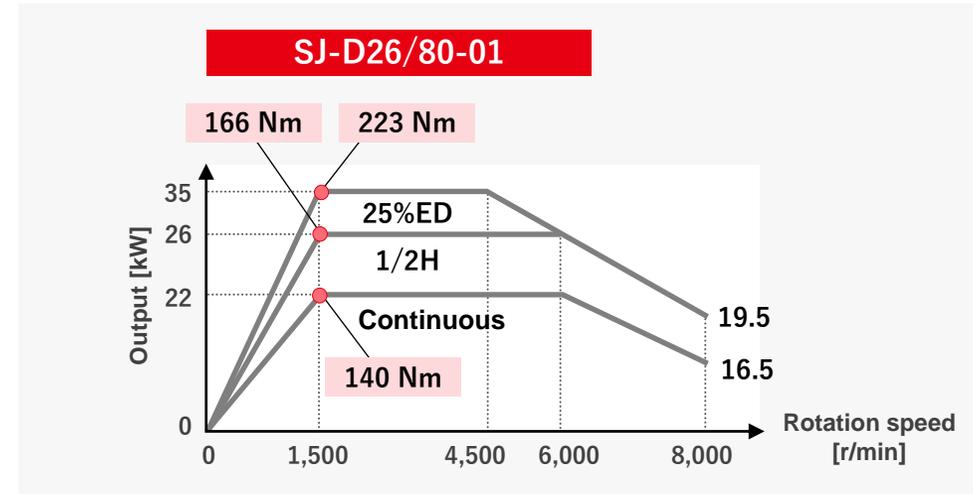
Reduced motor-generated losses and optimized cooling structure suppress motor temperature rise.

### ■ Contributes to suppressing parts deterioration and increases machine life.

Optimization of the cooling structure suppress motor temperature rise.

(Reduces temperature rise of frame surface by approx. 30% compared to previous models.)

## ◆ Outline diagram



# Frame-Type Spindle Motor SJ-DL Series

Realizes improved productivity through reduced acceleration/deceleration time.

◆ Features

■ Improved machining accuracy due to reduced vibrations.

Application of the latest design technology offers both lighter weight and higher rigidity to achieve low vibrations. (Vibration level: V3)

■ Improved surface quality due to higher speed and higher output.

3.7/5.5 kW: 15,000 r/min ⇒ 20,000 r/min or 24,000 r/min

5.5/7.5 kW: 12,000 r/min ⇒ 15,000 r/min

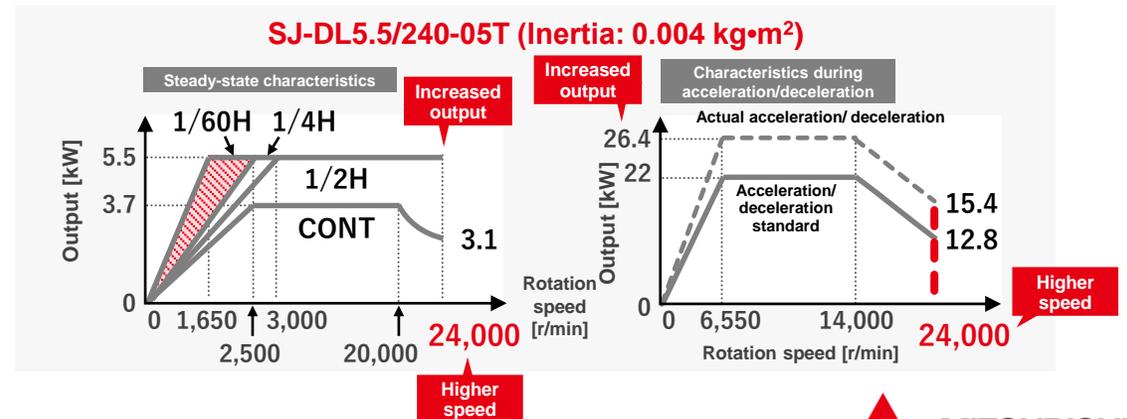
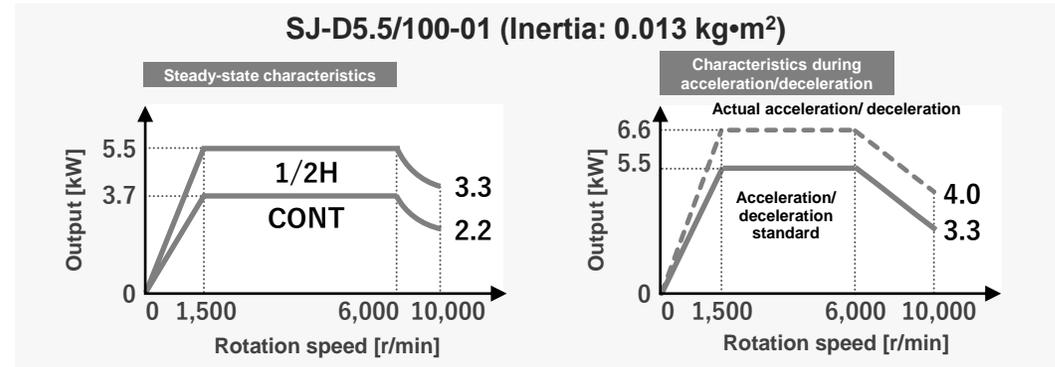
\*Comparison with previous models

■ Improved productivity through reduced acceleration/deceleration time.

Adopts low-inertia rotor and provides increased output during acceleration/deceleration.



◆ Outline diagram



# Frame-Type Spindle Motor SJ-DJ Series

Achieves small size and light weight by specializing in low-speed characteristics.

◆ Features

■ **Contributes to reducing machine size and system costs.**

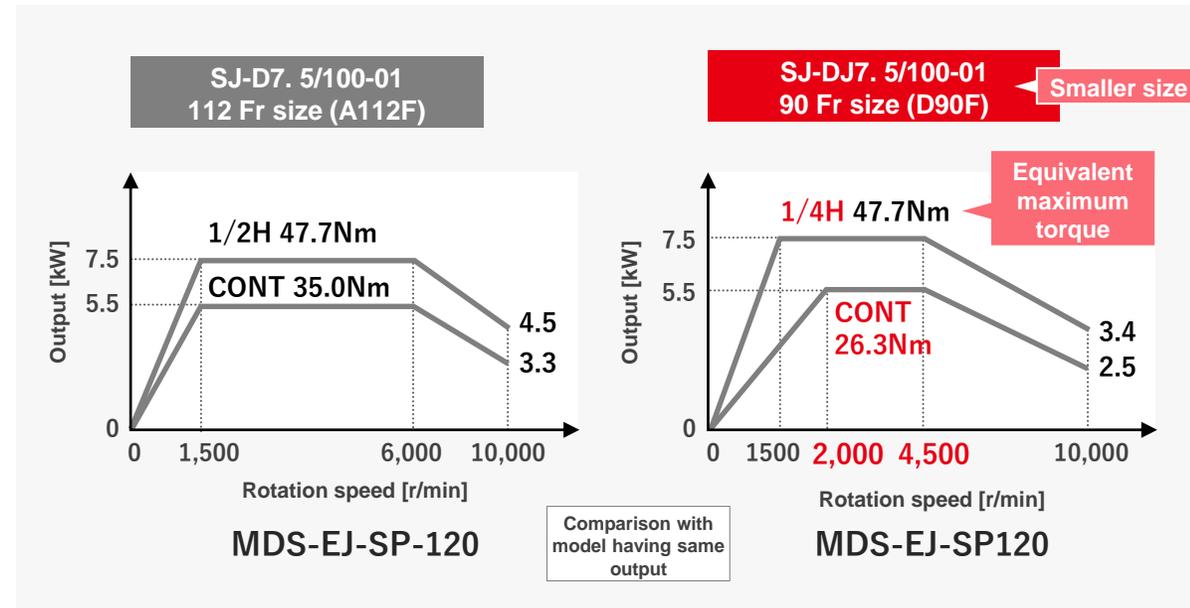
Optimization of electrical design realizes smaller motor size (compared to SJ-D Series model with same output)

■ **Easy machine mounting and improved maintenance characteristics**

Lineup includes leg-equipped types as well as flange types. Improved maintenance characteristics for belt drives



◆ Outline diagram



# Frame-Type Spindle Motor SJ-DG Series

Supports a broad range of machining through high output, high torque, and increased maximum rotation speed.

## ◆ Features

### ■ Characteristics to support machining from roughing to finishing.

Realizes higher output and higher torque compared to SJ-D Series.

The lineup also includes coil switching models which achieve high output in a wide range of rotation speeds.

### ■ Improved finishing processing surface quality due to higher speed.

SJ-DG3.7/5.5: 10,000 r/min ⇒ 12,000 r/min

SJ-DG7.5/11: 12,000 r/min ⇒ 15,000 r/min

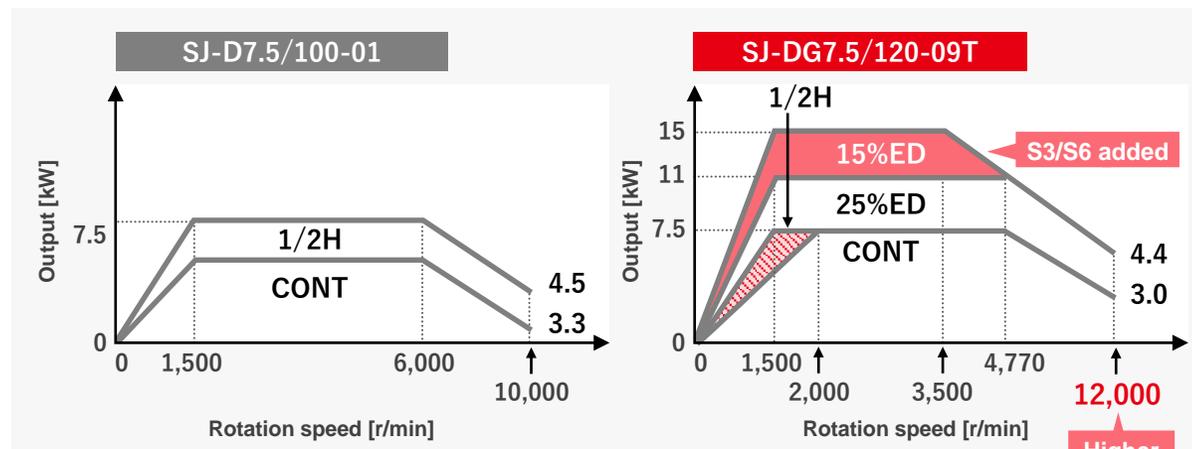
SJ-DG15: 8,000 r/min ⇒ 12,000 r/min

\*Compared to SJ-D Series

### ■ Makes balance adjustment work easier to reduce work time.

Add balance adjustment ring to anti-load side

## ◆ Outline diagram



# Frame-Type Spindle Motor SJ-DM Series

Achieves reduced cycle time by utilizing magnets for higher output and higher torque.

## ◆ Features

### ■ Improved productivity through reduced acceleration/deceleration time.

Achieves 1.6 times the acceleration/deceleration torque compared to induction motors of the same class.

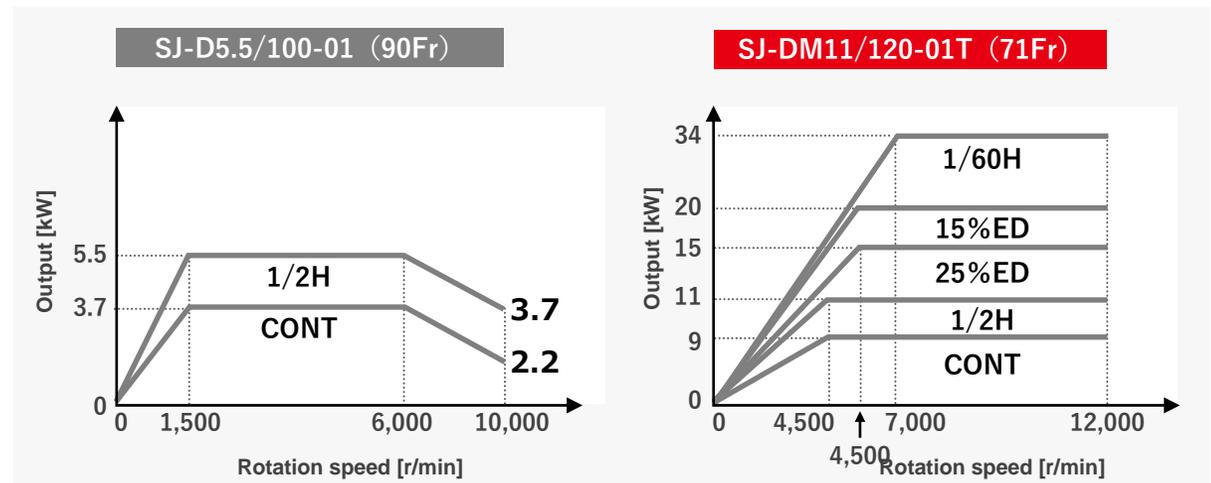
### ■ Contributes to reducing machine size and system costs.

While maintaining the same torque characteristics, the frame size can be reduced by 1 rank compared to induction motors.

### ■ Saves energy.

Achieves higher efficiency through optimum electromagnetic design and utilization of magnets.

## ◆ Outline diagram



# Built-in Spindle Motor SJ-BG Series

Supports improved flexibility in machine design.

## ◆ Features

### ■ Abundant lineup

General series 50 to 180 Fr (9 frame numbers)

High-speed series 100/112/160 Fr

Larger rotor inner diameter dimension contributes to increased shaft rigidity.

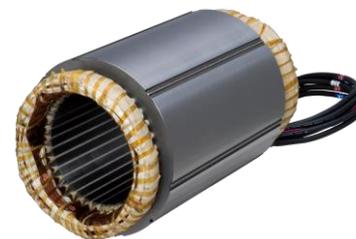
### ■ Contributes to smaller spindle unit size.

20% higher continuous rated torque per unit volume than previous models.

### ■ Full range of optional specifications

Lineup includes molded structure without cooling jacket in addition to molded structure with cooling jacket.

## ◆ Outline diagram



Standard (Varnished)



Mold with cooling jacket



Mold without cooling jacket



High-speed series rotor

# Built-in Spindle Motor SJ-BGS Series

Higher-speed heavy cutting and finishing processing achieves improved productivity

## ◆ Features

### ■ Higher output achieves heavy cutting.

PM synchronized motor achieves support for the high-output region that was difficult for the previous BG Series to support.

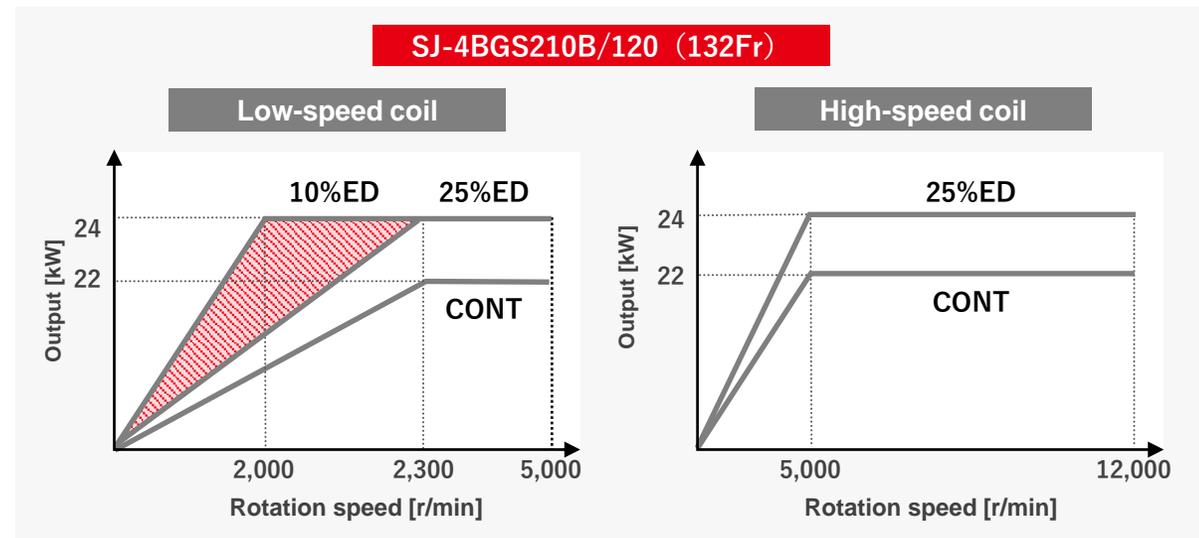
### ■ Improved finishing processing surface quality due to higher speed.

Application of new structural design technology that supports higher speeds increases maximum rotation speed.

### ■ Saves energy.

Higher efficiency through optimum electromagnetic design and utilization of magnets.

## ◆ Outline diagram



# Drive unit lineup

Lineup of high-performance drive units equipped with comprehensive safety functions and diagnosis functions.

Large Capacity

## High-performance servo/spindle drive units

MDS-E/EH Series

## Multi-hybrid drive units

MDS-EM/EMH Series

## All-In-One compact drive units

MDS-EJ/EJH Series

Compact



# MDS-E/EH/EM/EMH Series

Functions/Performance: Product lineup

## ◆ Features

### ■ High-Performance Drive Units MDS-E/EH Series

- Separate power supply and drive unit type lineup with various capacities
- Employs misconnection-prevention type motor power connector
- Equipped with insulation deterioration detection function

### ■ Multi-Hybrid Drive Units MDS-EM/EMH Series

- Can perform drive control of up to 3 servo axes and 1 spindle.
- Shared busbar with MDS-E/EH Series
- Supports making machines more compact.
- Employs misconnection-prevention type motor power connector
- Equipped with our latest power modules to achieve higher output (MDS-EM-SPV3-320120)

## ◆ Outline diagram



MDS-E/EH Series



MDS-EM/EMH Series

# MDS-EJ/EJH MDS-EX-CV/CVH Series

Functions/Performance: Product lineup

## ◆ Features

### ■ All-In-One Compact Drive Units MDS-EJ/EJH Series

- Ultra-compact drive unit with integrated power supply
- Helps to reduce control panel size.

### ■ Power Supply Units MDS-EX-CV/CVH Series

- Helps to reduce control panel size.
- Improved unit maintenance/service characteristics.
- New regeneration system improves regeneration capacity.

## ◆ Outline diagram



MDS-EX-CV/CVH Series



MDS-EJ/EJH Series

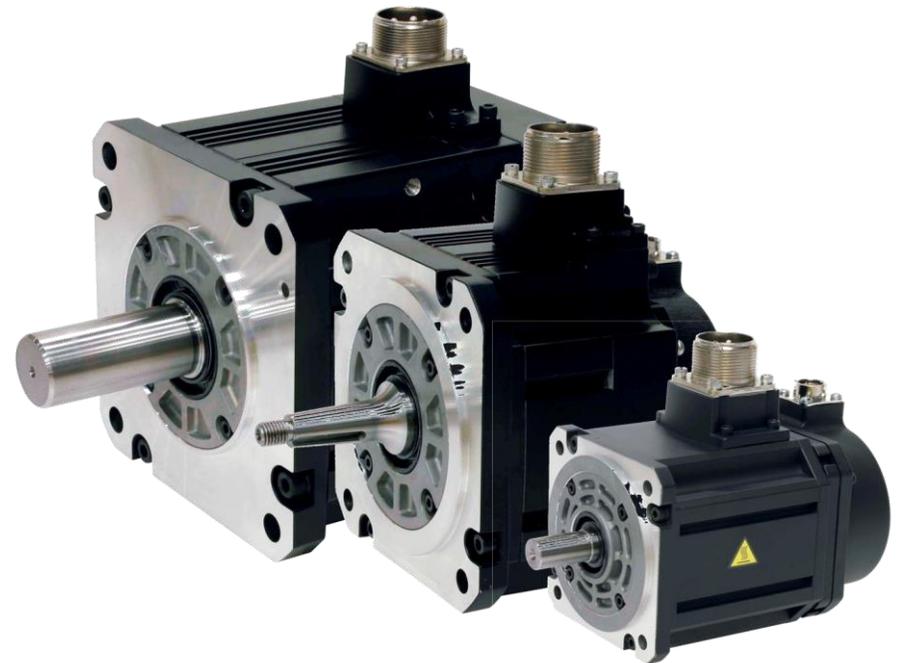
# Servo Motors HG/HG-H Series

Medium-inertia, high-accuracy, high-speed motors

## ◆ Features

- **Low-profile horizontally mounted connector types are added to 90 motor lineup.**
- **Function safety support**  
Duplicated information redundancy inside detectors
- **Smooth high speed/high-torque**  
Detector resolution is 4 times higher for smooth machining.

## ◆ Outline diagram



# Tool Spindle Motors HG-JR Series

Compact high-speed tool spindle motors

## ◆ Features

- While fully utilizing the high-output compact-size characteristics of servo motors, they support high-speed rotation (8,000 r/min).

- **New low-profile horizontally mounted connector types are added to lineup.**

In addition to previous vertically mounted connector type, horizontally mounted connector type can be selected.

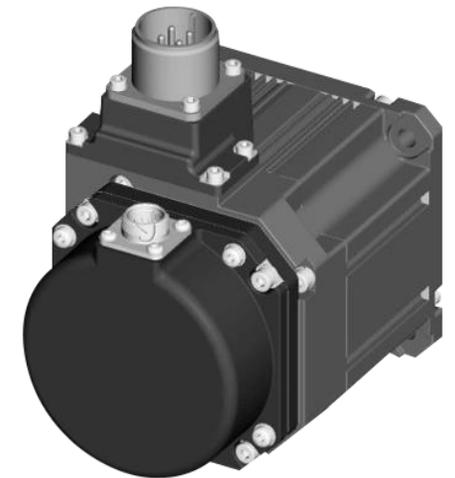
- **Function safety support**

Duplicated information redundancy inside detectors

## ◆ Outline diagram



Horizontally mounted  
connector



Vertically mounted  
connector