Simple & Easy

E70 Series

The Best Partner for Your Success
New CNC best suited to simple lathes/milling machines

**E70 series**

Seeking easier usability and higher cost efficiency, we have brought out the E70 Series, a new standard CNC series that succeeds the high performance and high operability of the M70V Series. While employing the screen configuration of the M700V and M70V Series, the E70 Series offers even more compact dimensions and less wiring. With the latest hardware installed, the E70 Series is best suited to simple lathes and milling machines.

**Simple Operability**

- Screen design equivalent to M700V/M70V Series, offering simple operability.
- Switching between lathe and milling systems is accomplished simply by changing a parameter.
- Multiple display languages available for global use, which can be selected by parameter setting.
- A pop-up window shows your desired information without closing the original window.

**High Cost Effectiveness**

- Key smooth cutting surface achieved with one-nanometer position interpolation.*
- Up to 20 sequence programs can be registered with the built-in PLC function.
- A wide array of development support tools such as NC Designer is available.
- Ultra-compact drive units with built-in power supplies contribute to reducing control panel size.

- *Least command increment is 0.1 µm

**Compact Size and Less Wiring**

- The control unit is integrated into the back side of the display to realize compact size.
- Ethernet* is available as standard specification, enabling input/output of machining programs and parameters by connecting the NC to a personal computer.
- Front CF card/USB memory interface in the display as standard specification.
- An analog output offered as standard specification to enable the use of a spindle drive with an inverter.

**MITSUBISHI CNC Machine Operation Panel**

- The display and keyboard are the same color, providing consistency in design.
- The key layout can be customized according to machine specifications.
- The sequence program samples have been prepared for the basic key layout.
- Wiring has been reduced by connecting the panel with the NC via a remote I/O link.

*Refer to the product brochure for details.

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**New MDS-DJ Series**

- STO (safe torque off) drives available
- Lathe system keyboard now available
- LF104S-A48 SJ-DJ5.5/100-01

**New MDS-DM Series**

- Multi-hybrid drive unit
- Induction motor (Note)
- HF123S-A48

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**Simple High-grade**

- High-visibility TFT color LCD
- Long-life energy saving LED backlight

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**Examples of connections using E70 Series**

- MDS-DI-V1-40
- MDS-DI-V2-40
- Inverter (Note)
- MDS-DM2-SPV2-10080
- HF104S-A48
- HF104S-A48
- SJ-DJ5.5/100-01
Inclined Axis Control (Lathe system)

- Even when the control axes configuring a machine are mounted at an angle other than 90 degrees, this function enables it to be programmed and controlled in the same way as with an orthogonal axis.
- The inclination angle is set using a parameter, and axes are controlled using the movement amounts of the axes which are obtained through conversion and compensation using this angle.

Guidance Function

By pressing the help button, guidance (operation procedure/parameter descriptions/alarm descriptions/G code format) regarding the currently displayed screen will be shown.
*Add-on guidance data is required.

System Lock Function

This function allows machine tool builders to set the expiration date for machine use.
If the cancel code is not entered by the specified deadline, the system forcibly turns OFF the Servo ready completion signal, placing the machine in an inoperable status.
*We will pay no compensation for any detriment that may arise from an illegal unlock.

Simple & Easy Functions & Usability

Simple, small lathe (with analog spindle)

Cost effective configuration to control the spindle with an inverter using analog output.

Simple, small lathe (Drive unit: MDS-DJ Series)

Space-saving, cost effective configuration using MDS-DJ Series: Ultra-compact drive unit series with built-in power supply.

Small milling machine (Drive unit: MDS-DM2 Series)

Space-saving, wire-saving configuration to control three servo axes, one spindle and converters with one MDS-DM2 Series drive unit.
## Control Unit, Display & Keyboards

### MITSUBISHI CNC Machine Operation Panel

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCL7-KB21</td>
<td>Key switch 155 points, LED 15 points MITSUBISHI standard key layout</td>
</tr>
<tr>
<td>FCL7-KB208</td>
<td>Rotary switches (applicable override, cutting override, select switch (memory protection), emergency stop push-button)</td>
</tr>
</tbody>
</table>

- The internal components of the machine operation panel are protected against water and oil (IP65F).
- Refer to the product brochure for details.

## Drive Units

### All-in-one compact drive units MDS-DJ Series

- ULF-compact drive units with built-in power supplies contribute to reducing control panel size.
- High-efficiency 1kW and low-loss power module have enabled unit downsizing, which also leads to a reduction in control panel size.
- STO (safe torque off) is now available.

### Multi-hybrid Drive Units MDS-SM2 Series

- The multi-hybrid drive units drive a maximum of three servo axes and one spindle.
- A power regeneration system that efficiently uses energy during deceleration as power contributes to highly frequent acceleration/deceleration and energy savings.
- STO (safe torque off) is now available.

*Please contact us for availability of STO as a whole system.*

## Servo Motors

### Medium-inertia Motor HF Series

- High-inertia machine accuracy is improved.
- Suitable for machines requiring quick acceleration.

- Range: 0.5 to 9 [kW]
- Maximum speed: 4,000 to 5,000 [rpm]
- Supports three types of detectors with a resolution of 360,000, 1 million or 16 million p/rev.

### Low-inertia Motor HF-KP Series

- Suitable for an auxiliary axis that requires high-speed positioning.

- Range: 0.2 to 0.75 [kW]
- Maximum speed: 6,000 [rpm]
- Supports a detector with a resolution of 360,000 p/rev.

## Spindle Motors

### High-performance New Type Spindle Motor SJ-D Series

- Motor energy loss has been significantly reduced by optimizing the magnetic circuit.
- Product line:
  - Normal: 3 to 11 [kW]
  - Compact & light: 3 to 15 [kW]
  - Low-inertia: 5 to 15 [kW]

### Tool Spindle Motor HF-KP Series

- Taking advantage of the characteristics of a servo motor such as smallness and high-output, the motor serves as a compact and high-speed spindle motor which can be used for high-speed rotation (6,000rpm). The motor contributes to downsizing of spindles, such as the rotary tool spindle.
- Product line:
  - Small capacity HF-KP Series: 0.4 to 0.8 [kW]
Safety Warning
To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

Eco Changes is the Mitsubishi Electric Group’s environmental statement, and expresses the Group’s stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

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