

**MITSUBISHI
CNC**



The Best Partner for Your Success

The Best Partner for Your Success

This is the MITSUBISHI CNC business philosophy.
All the staffs who are committed to MITSUBISHI CNC business wish to be
“the best partner for customers aiming at global and future-oriented development”.
We will continue our efforts with the aim that our CNCs
be great help to the customers.

Technologies for the Next Generation

Advanced Technologies for the Next Generation

With the sophisticated technologies we have developed as a total factory automation manufacturer, we attain advanced machining control and contribute to the highest accuracy and productivity of manufacturing worldwide.
MITSUBISHI CNCs change machine tools, machining and manufacturing.

Solutions for the Future

Optimum Solutions for the Future

As a global CNC provider as well as the best partner, we provide optimum technologies and supports for the users making a step toward the future.
MITSUBISHI CNCs create new values in cooperation with the users.

Support for the Day-to-day Comfort

Solid Support for Day-to-day Comfort

Providing prompt responses, solid technologies and user-friendly supports, we continuously improve our after-sales service quality for users in the world so that they choose MITSUBISHI CNCs again.

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(Note) The contents of this catalog includes optional specifications. Refer to specification manuals for details.



Technologies for the Next Generation

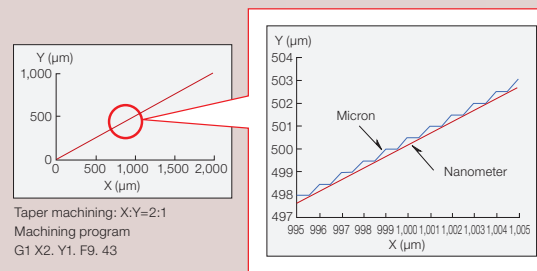
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MITSUBISHI CNCs change machine tools, machining and manufacturing.

High-accuracy Machining with Complete Nano Control

Complete
NANO
Control

The complete nano control enables all processing in nanometers, from NC operation to servo processing. This advanced machining control technology supports next-generation ultra-precision machining.

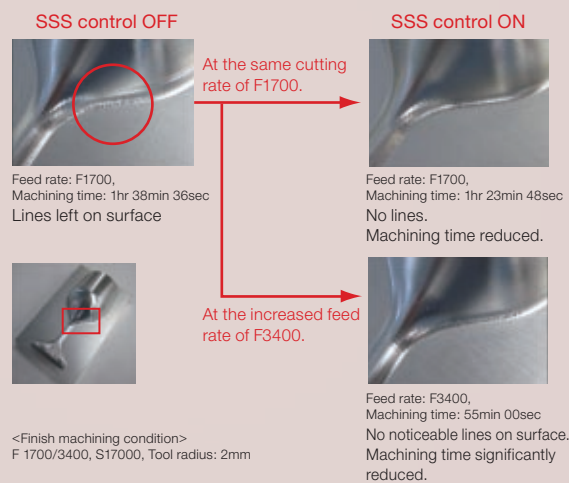


Interpolation path under nanometer control

High-quality Machining with Balanced Accuracy and Speed

SSS
Control

SSS control ensures high machining stability and quality with virtually no effects resulting from cutting shape or speed. Smooth surfaces can be achieved even when small steps exist in a path, and machining time can be reduced by 5 to 30% relative to conventional systems.



Die/Mold Machining Time Reduced

High
Speed
Control

Complete nano control enables high-speed and high-accuracy machining at a maximum fine-segment feed rate of 168kBPM. (BPM: Block per Minute)

High-speed and High-accuracy Control

Machining speed attained with 0.1mm-pitch NC program

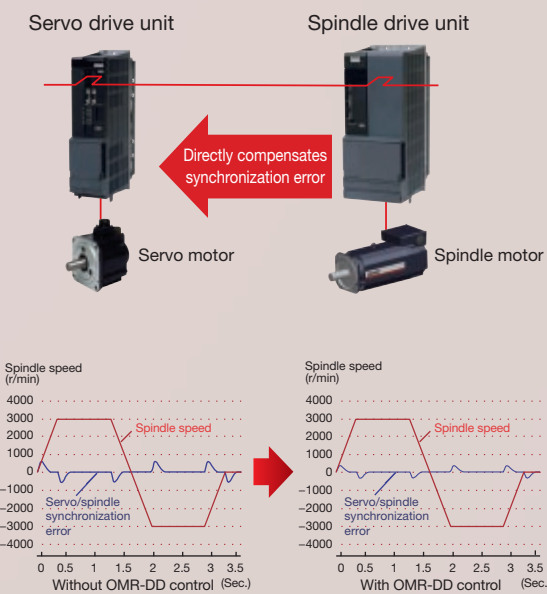


High-speed and High-accuracy Tapping

OMR
DD
Control

A high-speed error-compensation function is used for controlling the spindle and servo, enabling accurate tapping. (Note) This function is available with MDS-D/DH and MDS-DM (one axis only).

OMR-DD Control (Optimum Machine Response Direct Drive)

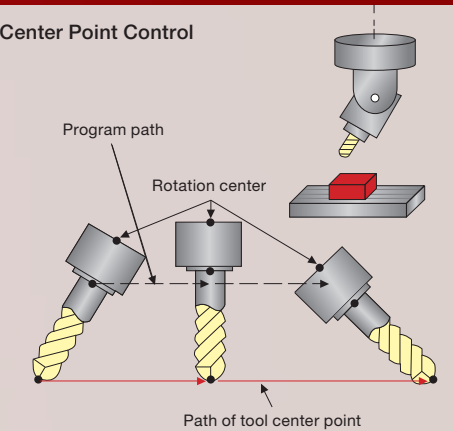


High-grade 5-Axis Machining Control Technology

5 Axis
Machining
Control

Control is performed at the speed of the table coordinate system so that the tool center point traces a straight line. This function contributes to high-accuracy machining on the machining surfaces.

Tool Center Point Control

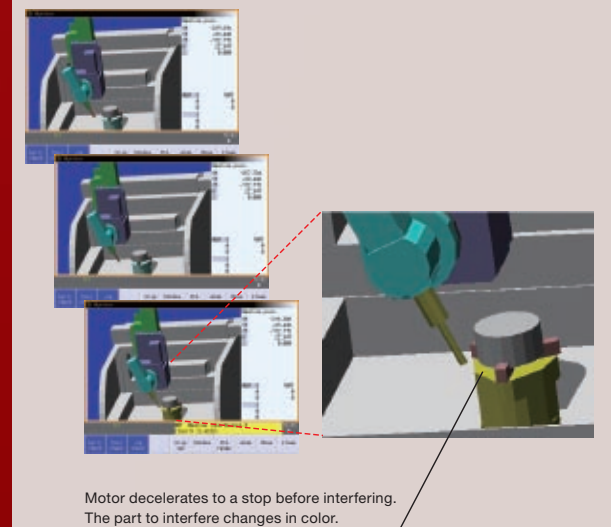


Prevention of Interferences in Machine

5 Axis
Machining
Control

When a possibility of interference is detected on a machine model, the motor decelerates to a stop before interfering. The part to interfere is displayed in a different color.

3D Machine Interference Check



Solutions for the Future

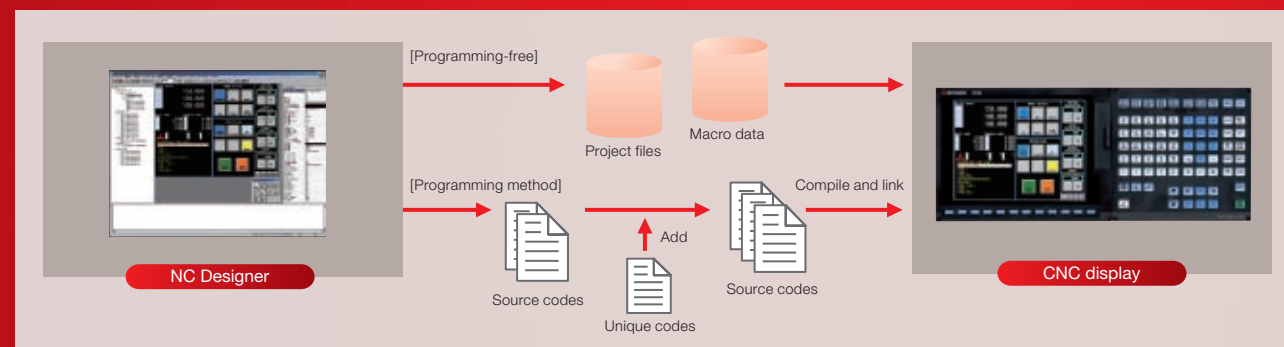
As a global CNC provider as well as the best partner, we provide optimum technologies and supports for the users making a step toward the future.

MITSUBISHI CNCs create new values in cooperation with the users.

Original Screen Design Environment

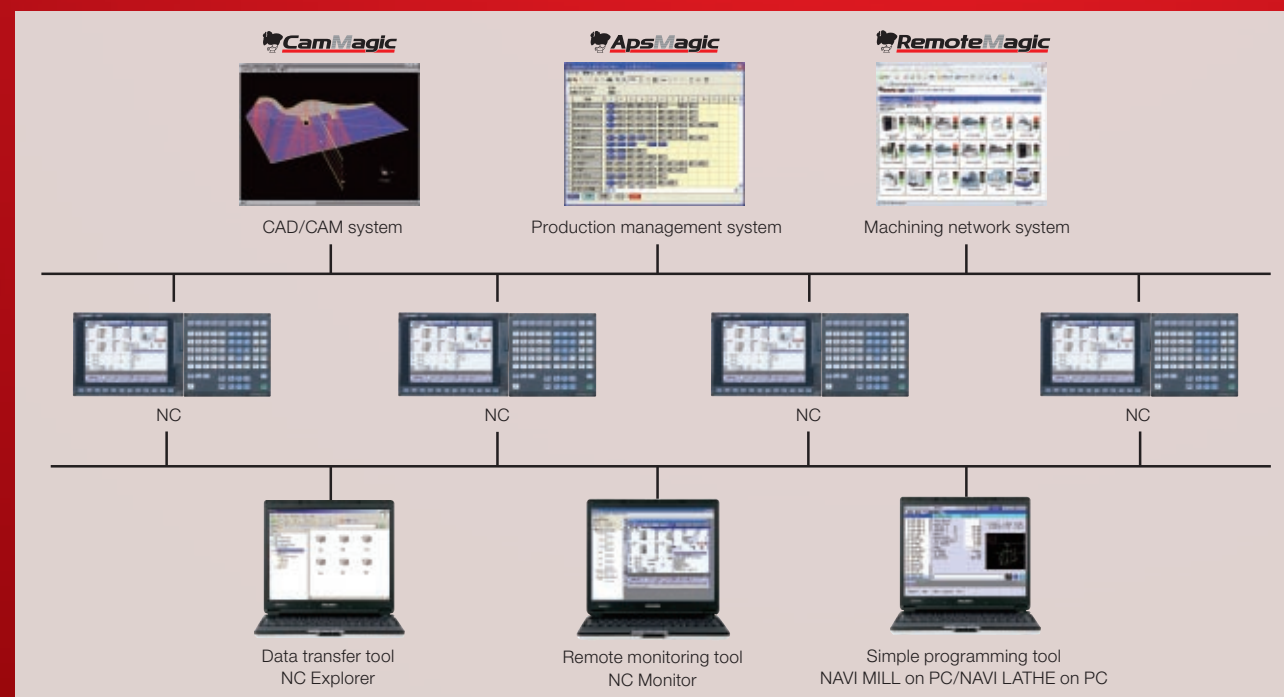


- Well-developed screen design tools help bring out the uniqueness of CNCs.
- NC Designer, which helps create original screens easily, enables users to add unique customized screens that meet machine tool characteristics.
- Two types of designing methods are available: a programming-free method in which automatic programming is carried out upon laying out switches, buttons and data display frames, etc. and a programming method that enables higher-level processing.



Manufacturing Support Software

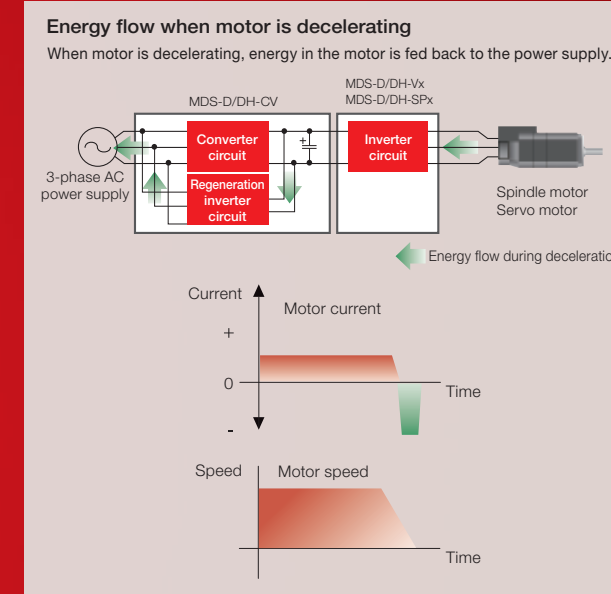
We provide optimal solutions for manufacturing sites by combining various software.



Energy Savings

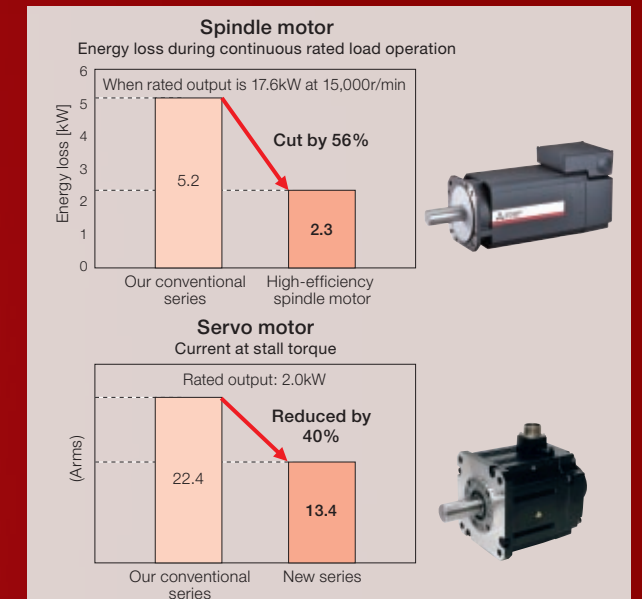
Drive units (MDS-D/DH Series, MDS-DM Series)

Application of the power regeneration system which allows energy generated during deceleration to be efficiently used as a power supply. Use of low-loss power devices enables reductions in loss of power.



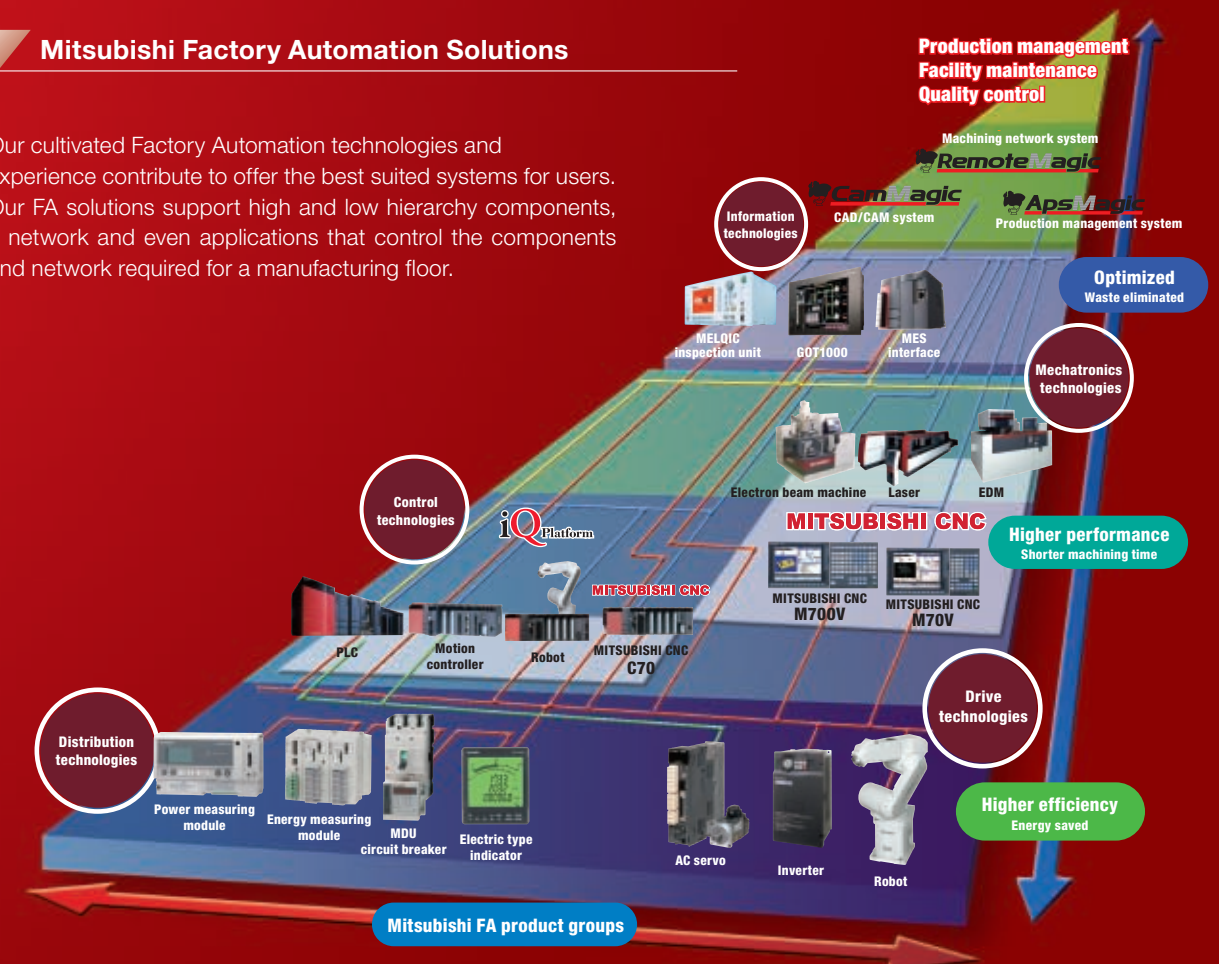
Spindle motors/Servo motors

Energy loss of spindle motors during high-speed operation has been substantially reduced. Drive current of servo motors has also been reduced by downsizing the motors while increasing the torque.



Mitsubishi Factory Automation Solutions

- Our cultivated Factory Automation technologies and experience contribute to offer the best suited systems for users.
- Our FA solutions support high and low hierarchy components, a network and even applications that control the components and network required for a manufacturing floor.



Technologies

Solutions

Support

Support

for the Day-to-day Comfort

Providing prompt responses, solid technologies and user-friendly supports, we continuously improve our after-sales service quality for users in the world so that they choose MITSUBISHI CNCs again.

Global Service & Support Network

We provide satisfying after-sales services worldwide, aiming to be your best partner.



We have established FA Centers that manage service centers and service satellites in each area to enhance our service quality by providing trainings for engineers and enhancing service parts and repair facilities.

After-sales Service

Maintenance service

Our service centers boasting high-quality customer service system are located in various regions around the world to provide secured and reliable services for the users. We offer wide range of services such as giving prompt and precise advices and suggestions, and on-site repairs, etc.



Part supply

As each service center keeps maintenance parts in stock, the down time after a failure can be minimized. We are making our efforts to provide utmost services that allow users to use their CNC machine tools more securely.



One-year maintenance contract

We provide maintenance services after expiration of warranty period in one-year units. Should there be any failure, our engineer in the closest service center will be at your support immediately.

Training

We provide trainings on both basic and advanced operations using actual machines. Individually tailored training programs and on-site lessons are also available. Refer to MELFANSweb for details.



Displays in 17 Languages

Supports 17 languages.

Supported languages

- Japanese
- English
- German
- Italian
- French
- Spanish
- Chinese (traditional)
- Chinese (simplified)
- Korean
- Portuguese
- Hungarian
- Dutch
- Swedish
- Turkish
- Polish
- Russian
- Czech

High-quality

Our top priority is to provide users with high-performance and high-quality products. We are making the best efforts to improve quality and reliability in every process from planning, development, designing and manufacturing through operation after delivery.



Nagoya Works



FA Development Center



Product Line

Advanced product lines take your machine to the next level

High-grade Mitsubishi CNC M700V Series, Equipped with Advanced Complete Nano Control

- The latest RISC-CPU is installed to achieve advanced complete nano control
- High-accuracy machining with complete nano control
- Easy operability that significantly reduces machining setup time



(Note) Windows® is a trademark or registered trademark of Microsoft Corporation in the United States and other countries.

Global Standard Mitsubishi CNC M70V Series, Pursuing High Speed and Accuracy

- Enhanced machining accuracy and reduced tact time
- Easy and advanced operation contributing to setup time reduction
- Compact size



iQ Platform Compatible CNC C70 Series Incorporated with Mitsubishi's State-of-the-Art Technologies

- Compatible with the Mitsubishi FA integrated solution, "iQ Platform"
- High-performance CNC integrated with high-speed PLC offers high-speed control to reduce cycle time
- A wide variety of FA products helps construct flexible lines



*Customized screen image

Drive Units

High-performance Servo/Spindle Drives MDS-D/DH Series

- With the fastest current control cycle, basic performance is drastically enhanced (high-gain control). A combination of high-speed servo motor and high-accuracy detector helps enhance overall drive performance.
- The connection between the drive unit and CNC is fast and reliable optical communication.
- A line of drive units driving a maximum of two spindles is available, contributing to a reduction in control panel size.



Multi-hybrid Drives MDS-DM Series

- The multi-hybrid drive unit drives a maximum of three servo axes and one spindle.
- The connection between the drive unit and CNC is fast and reliable optical communication.
- A power regeneration system that efficiently uses energy during deceleration as power contributes to highly-frequent acceleration/deceleration and energy savings.



Servo/Spindle Drives MDS-D-SVJ3/SPJ3 Series

- Ultra-compact drive units with built-in power supplies contribute to reducing control panel size.
- The connection between the drive unit and CNC is fast and reliable optical communication.
- A high-efficiency fin and low-loss power module have enabled unit downsizing, which also leads to a reduction in control panel size.



Servo Motors

Medium-inertia Motor HF Series

- High-inertia machine accuracy is ensured. Suitable for machines requiring quick acceleration.
- Range: 0.5 to 9 [kW]
- Maximum speed: 4,000 or 5,000 [r/min]
- Supports three types of detectors with a resolution of 260,000, 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 [r/min]
- Supports a detector with a resolution of 260,000p/rev.



Linear Servo Motor LM-F Series

- Use in clean environments is possible since no ball screws are used and therefore contamination from grease is not an issue.
- Elimination of transmission mechanisms which include backlash, enables smooth and quiet operation even at high speeds.
- Dimensions:
Length: 290 to 1,010 [mm]
Width: 120 to 240 [mm]



Direct Drive Servo Motor TM-RB Series

- High-torque direct-drive combined motor with a high-gain control system provides quick acceleration and positioning, which makes rotation smoother.
- Suitable for a rotary axis that drives a table or spindle head.
- Range:
Maximum torque: 36 to 1,280 [N·m]



Spindle Motors

High-performance New Type Spindle Motors SJ-D Series

- Motor energy loss has been significantly reduced by optimizing the magnetic circuit.
- Product line:
Normal SJ-D Series 3.7 to 11 [kW]
Compact & light SJ-DJ Series 5.5 to 15 [kW]



High-performance Spindle Motors SJ-V Series

- A vast range of spindle motors is available, all ready to support diversified machine tool needs.
- Product line:
Normal SJ-V Series 0.75 to 55 [kW]
Wide-range constant output SJ-V Series 5.5 to 18.5 [kW]
High-speed SJ-V-Z Series 2.2 to 22 [kW]
Hollow-shaft SJ-VS Series 5.5 to 18.5 [kW]



Low-inertia, High-speed Spindle Motors SJ-VL Series

- The spindle dedicated to tapping machines requiring faster drilling and tapping.
- The low-inertia reduces acceleration/deceleration time, resulting in higher productivity.
- Product line:
Low-inertia normal SJ-VL Series 3.0 to 11 [kW]
Low-inertia hollow shaft SJ-VLS Series 3.7 to 11 [kW]



Built-in Spindle Motor

- As feedback communication is serial, the resolution is significantly enhanced (Max. 4 million p/rev)
- The adjustment PCB has been eliminated to achieve adjustment-free conditions. The standard gap has been reduced to 0.3mm.



Tool Spindle Motors HF-KP/HF-SP Series

- Taking advantage of the characteristics of a servo motor such as smallness and high-output, this motor serves as a compact and high-output spindle motor which is capable of high-speed rotation (6,000r/min). This motor contributes to downsizing of spindles, such as the rotary tool spindle.
- Product line:
Small capacity HF-KP Series 0.4 to 0.9 [kW]
Medium capacity HF-SP Series 2.2 to 4 [kW]



IPM Spindle Motor

- In answer to demands for downsizing and higher efficiency, an IPM motor has been introduced for further energy savings.
- A reduction in acceleration/deceleration time contributes to shorter cycle times.



M700V Series

High-grade Mitsubishi CNC M700V Series, equipped with advanced complete nano control.

Latest RISC-CPU achieves Advanced Complete Nano Control

- The latest RISC-CPU and high-speed optical servo network are installed, achieving high-speed and high-accuracy control, nano control and 5-axis machining
- Functions can be easily expanded by adding an expansion unit
- Ultrahigh-speed PLC engine reduces cycle time

High-accuracy Machining with Complete Nano Control

- Combination of "complete nano control" that processes everything from NC operation to servo control processing in nanometers, a state-of-the-art technology "SSS control" and "OMR control" makes it possible to achieve ultrahigh-quality machining
- High-speed and high-accuracy machining at 168k blocks per minute is possible

Easy Operability that Significantly Reduces Machining Setup Time

- NC screen design has been renewed to strongly support operations from machining setup to monitoring
- The NC screen displays machining program check and machining states visually by using 3D display

Windows®XPe-based Model Added to the Product Line

- Since Windows®XPe is installed in M720VW, M730VW and M750VW, they facilitate developing such as MTB's original CAM function and data managing function that can enhance the operability



Main Specifications

Model name		Machining center system			Lathe system			Machining center system			Lathe system		
		M720VS	M730VS	M750VS	M720VW	M730VW	M750VW	M720VW	M730VW	M750VW	M720VW	M730VW	M750VW
Number of control axes	Maximum number of control axes (NC axes + spindles + PLC axes)	12	16		12	16		12	16		12	16	
	Maximum number of NC axes (in total for all the part systems)	8	16		12	16		8	16		12	16	
	Maximum number of spindles	4			4	6		4			4	6	
	Maximum number of PLC axes	6			6			6			6		
	Maximum number of PLC indexing axes	4	6		4	6		4	6		4	6	
	Maximum number of simultaneous contour control axes	4	8		4	8		4	8		4	8	
Maximum number of NC axes per part system		6	8		6	8		6	8		6	8	
		2			2	4		2			2	4	
CF card in control unit mode		—			—			Available			Available		
Front IC card mode		Available			Available			Available			Available		
Hard disk mode		—			—			Available			Available		
Least command increment		0.1μm	1nm		0.1μm	1nm		0.1μm	1nm		0.1μm	1nm	
Least control increment		1nm			1nm			1nm			1nm		
Maximum program capacity		2,000kB (5,120m)			2,000kB (5,120m)			2,000kB (5,120m)			2,000kB (5,120m)		
Maximum PLC program capacity		128,000 steps			128,000 steps			128,000 steps			128,000 steps		
Display		8.4-type/10.4-type/15-type touch panel (selectable)						10.4-type/15-type touch panel (selectable)					
Keyboard		Sheet keys/clear keys (selectable)						Clear keys					
Windows® XPe		—						Available					
MITSUBISHI CNC machine operation panel		Compatible						Compatible					

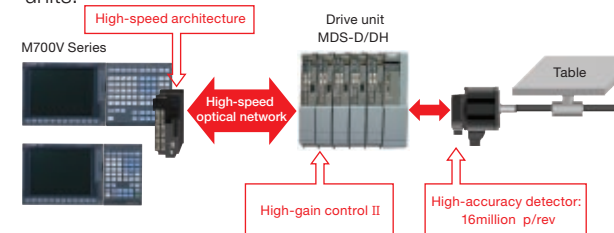
(Note1) Maximum specifications including optional specifications are listed.

(Note2) Windows® is a trademark or registered trademark of Microsoft Corporation in the United States and other countries.

Complete Nano Control

Complete
NANO
Control

All operations from program values to servo commands are done in nanometer units. Interpolation is at the nano-unit level even when program commands are in micrometer units.

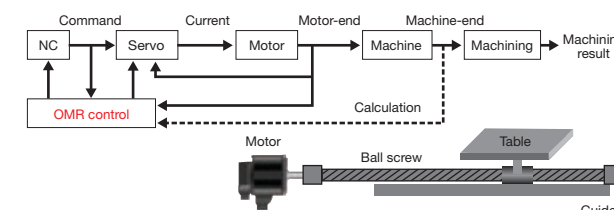


OMR Control

Optimum Machine Response

OMR
Control

Unlike conventional control, which simply matches the motor path to the commands, OMR control calculates the machine's status based on a model and applies correction to motor control in order to match not the motor position, but the machine tool position to the commands.



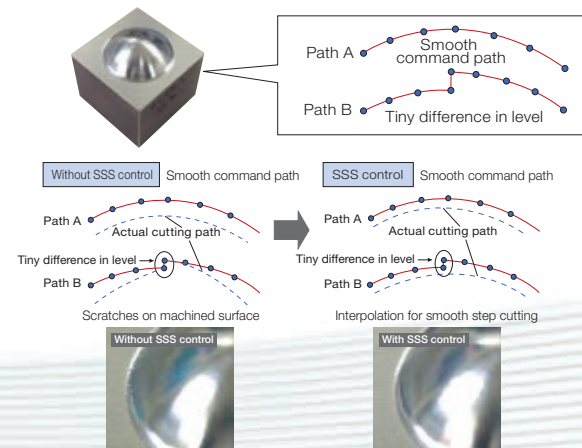
SSS Control (Machining Center System)

Super Smooth Surface

*1st part system only

SSS
Control

By judging shapes in large from commanded paths, unnecessary deceleration is reduced even when fine steps exist; thereby, realizing smooth and deviation free die-mold machining. Machining time can be shorter by 5 to 30% relative to our conventional system, especially more effective at a higher feed rate.

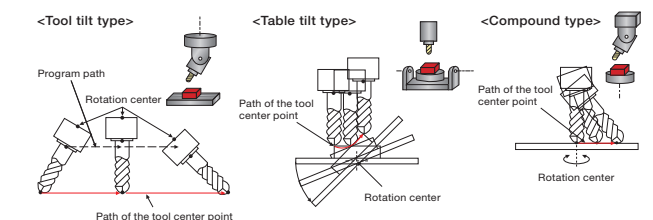


Tool Center Point Control (Machining Center System)

*M750VS, M750VW only

5 Axis
Machining
Control

Control is performed at the speed of the table coordinate system so that the tool center point traces a straight line. This function contributes to high-accuracy machining on the machining surfaces.



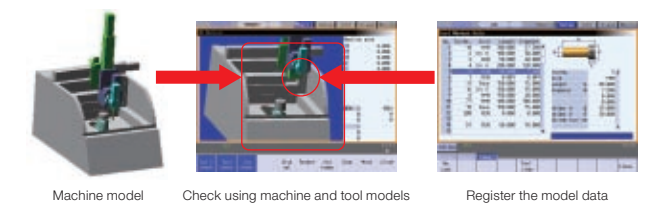
3D Machine Interference Check (Machining Center System)

*M730VW, M750VW only

5 Axis
Machining
Control

This function prevents interference on a machine model (in both manual and automatic operations) before it actually happens in the machine.

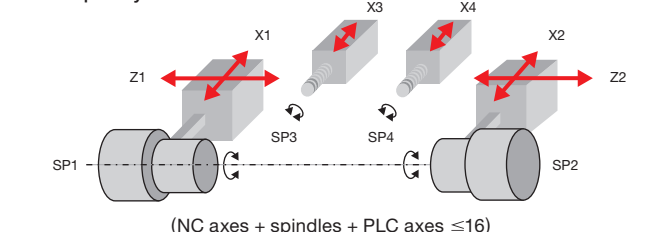
The part to interfere can be checked by moving, rotating or enlarging the models. Interference can be prevented for a tilt-type tool axis and rotating table.



Multi-axis, Multi-part System Control

Flexibly supports various compound machining from multi-part system multi-axis machining center and multi-part system multi-axis milling to hobbing.

Multi-part system multi-axis lathe



M70V Series

Global standard Mitsubishi CNC pursuing high speed and accuracy

Enhanced Machining Accuracy and Reduced Tact Time

- The minimum command unit of 0.1μm and minimum internal interpolation unit of 1nm allow highly accurate and smooth machining
- High-speed error compensation function is incorporated in spindle and servo controls, which enables high-speed and high-accuracy tapping, etc
- The high-speed PLC engine enhances the operation speed, contributing to cycle time reduction

Easy and Advanced Operation Contributing to Setup Time Reduction

- This CNC is equipped with pop-up screens that prevent operators from being bothered with screen hierarchy, and guiding function that displays guidance on operations, programs and alarms
 - Ethernet interface is installed as standard; thus, program management can be easily realized
 - A compact flash installed in front of the display allows storing of large-capacity NC programs and easy management of maintenance data
 - Simple programming functions NAVI MILL and NAVI LATHE are installed
- (Note) CompactFlash is a trademark of SanDisk Corporation in the United States and other countries.

Compact Size Achieved

- Unit dimensions have been downsized by integrating a display with CNC control part, contributing to downsizing of control panel
- High visibility TFT color LCD is used. 8.4-type and 10.4-type displays are available



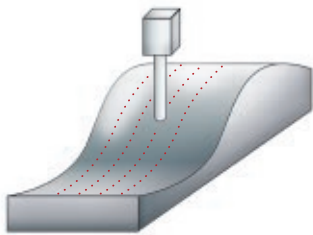
Main Specifications

Specifications		Machining center system		Lathe system	
		M70V TypeB	M70V TypeA	M70V TypeB	M70V TypeA
Number of control axes	Maximum number of control axes (NC axes + PLC axes + spindle)	9	11	9	11
	Maximum number of NC axes (in total for all the part systems)	5	8	4	9
	Maximum number of spindles	2	2	2	4
	Maximum number of PLC axes	6	6	6	6
	Maximum number of simultaneous contour control axes	4	4	4	4
Maximum number of part systems		1	2	1	2
Least command increment		0.1μm			
Least control increment		1nm			
Maximum program capacity		500kB [1,280m]	2,000kB [5,120m]	500kB [1,280m]	2,000kB [5,120m]
Maximum PLC program capacity		20,000 steps	32,000 steps	20,000 steps	32,000 steps
Display		8.4-type/10.4-type/10.4-type touch panel (selectable)			
Keyboard		Sheet keys/clear keys (selectable)			
HMI customization function		NC Designer			
Enhanced PLC engine		—	Available	—	Available
MITSUBISHI CNC machine operation panel		Compatible			

(Note) Maximum specifications including optional specifications are listed.

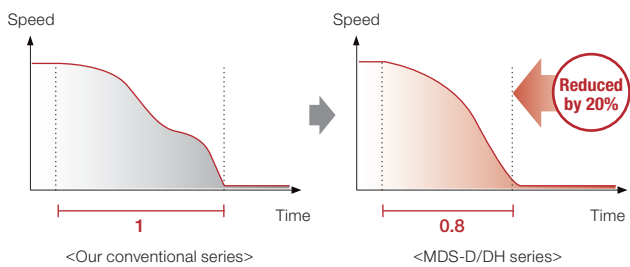
High-speed Machining Mode (Machining Center System)

By reading ahead some blocks in a program that contains successive fine travel distances, the program can be rapidly executed at up to 33.7k blocks/minute. (8.4k blocks/minute for TypeB)



High-speed Spindle Orientation

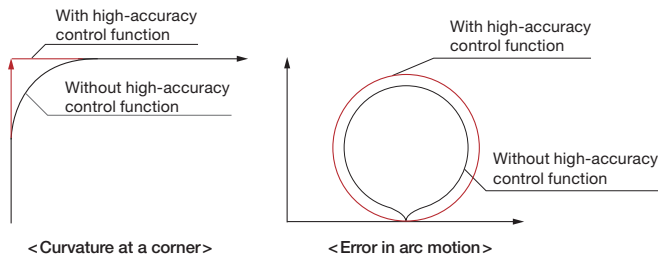
Deceleration is performed with the maximum torque to minimize the spindle orientation time.



High-accuracy Control Function (Machining Center System)

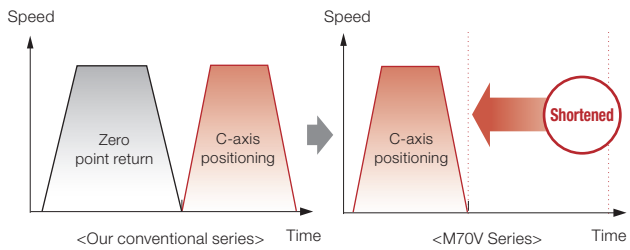
*1st part system only

- At a corner that consists of straight lines, sharp interpolation control is performed, allowing the commanded path to be followed by correcting curvature.
- Inward deviation error in arc motion is reduced for even higher-accuracy in following the command values.



Spindle/C-axis Control

The spindle's constant position loop control has eliminated the zero point return time when switching from the spindle to C-axis.



MITSUBISHI CNC Machine Operation Panel



Example when combined with an 8.4-type display

- PLC program samples have been prepared for the basic key layout, enabling the creation of suitable PLC programs for your machine simply by adding interface components with machine.
- These are available with M700V/M70V Series.
- Product line:
 - Machine operation panel A (Standard specifications) Key switch 55 points, LED 55 points MITSUBISHI standard key layout
 - Machine operation panel B Rotary switches (spindle override, cutting override) Select switch (memory protection) Emergency stop push-button

Refer to the product brochure for details.

User-friendly

for M700V Series & M70V Series

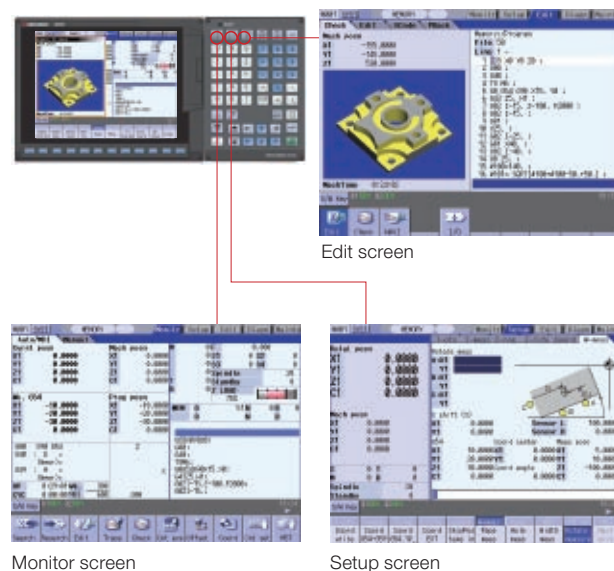
Human Machine Interface allowing easier and more visible use

HMI for Easier and More Visible Use

(HMI: Human Machine Interface)

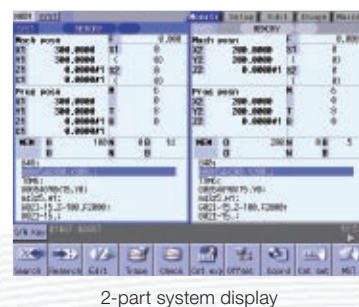
Screen structure linking to the operation processes

Operation processes are divided into three steps, "Monitor", "Setup" and "Edit", and necessary information is aggregated into three screens. These screens can be displayed by touching a single button on the keyboard.



2-part system display

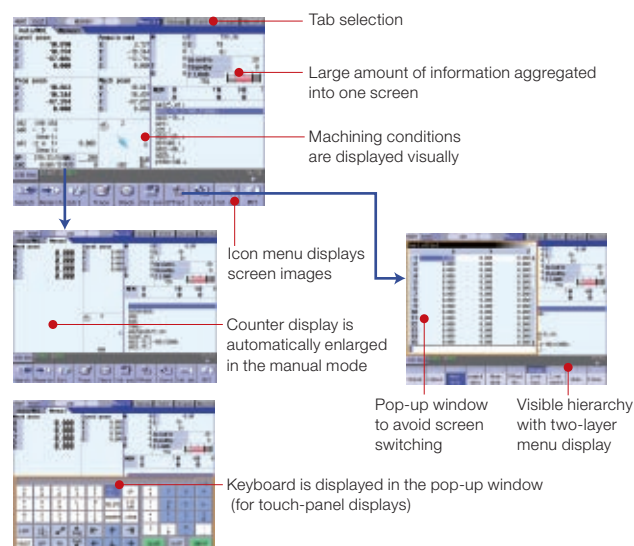
The Monitor screen of the 2nd part system can be displayed together with the 1st part system. Switching screens is not necessary.



2-part system display

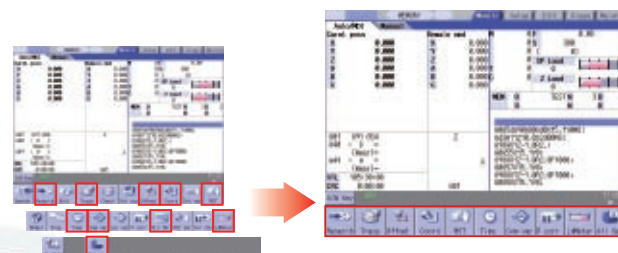
Pop-up screens

Tabs allow the user to select necessary operations from the operation menu, and pop-up screens allow the user to access desired information while the original screen remains displayed. For displays with a touch panel, a keyboard can be displayed on the screen.



Menu customization function

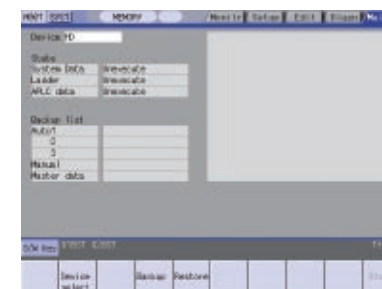
Menu keys on the bottom of the screen can be freely arranged. Frequently used menu keys can be put together on the first page.



Operation Support

Manual/Automatic backup function

- Batch-backup of the NC data into the memory card inserted in the front interface of the display is possible. For the built-in hard disk type M700V Series, backup in the hard disk is also possible.
- Data is automatically backed-up at a certain interval set by the parameter.



Manual/automatic backup function

Guidance function

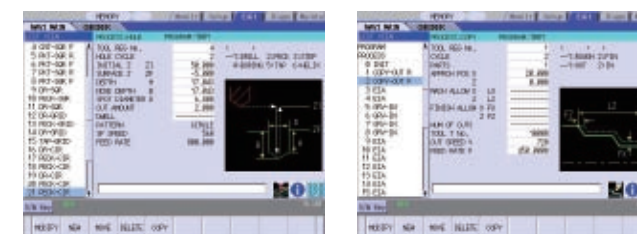
By pressing the help button, guidance (operation procedure /parameter descriptions/ alarm descriptions/G code format) regarding the currently displayed screen will be shown.



Simple Programming Functions with Simple Machining Menu

NAVI MILL (Machining center system) / NAVI LATHE (Lathe system)

- Programs are automatically created for each process when an operator selects machining process and inputs data on screen. A tool path can be graphically drawn for the program check.
- This function also supports inclined surface machining.

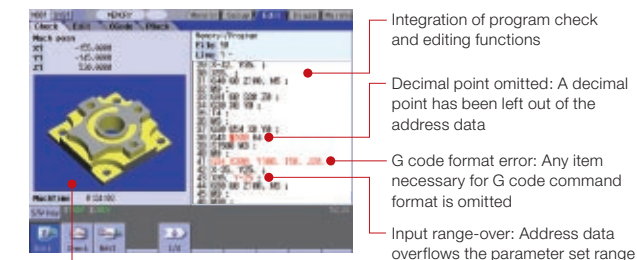


NAVI MILL (Machining center system)

NAVI LATHE (Lathe system)

Program input error warning function

- The added 3D solid model check function allows more realistic cutting check.*
- This function helps an operator to input and check programs. Errors are indicated when a decimal point is omitted, an input value overflows the range, or G code input error is found.

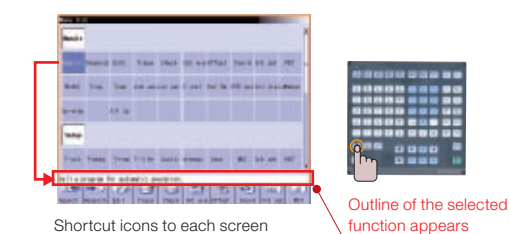


Program check based on a 3D solid model

*Available with M700V Series (M System) only.
For M70V TypeA (M System), the function is under development.

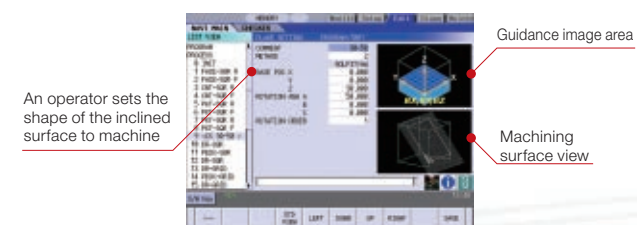
Menu list

Menu list buttons are newly introduced. With these buttons, the screen desired for display can be called up directly. The selected screen's function outline is also displayed.



Shortcut icons to each screen

Outline of the selected function appears



An operator sets the shape of the inclined surface to machine

Guidance image area

Machining surface view

C70 Series

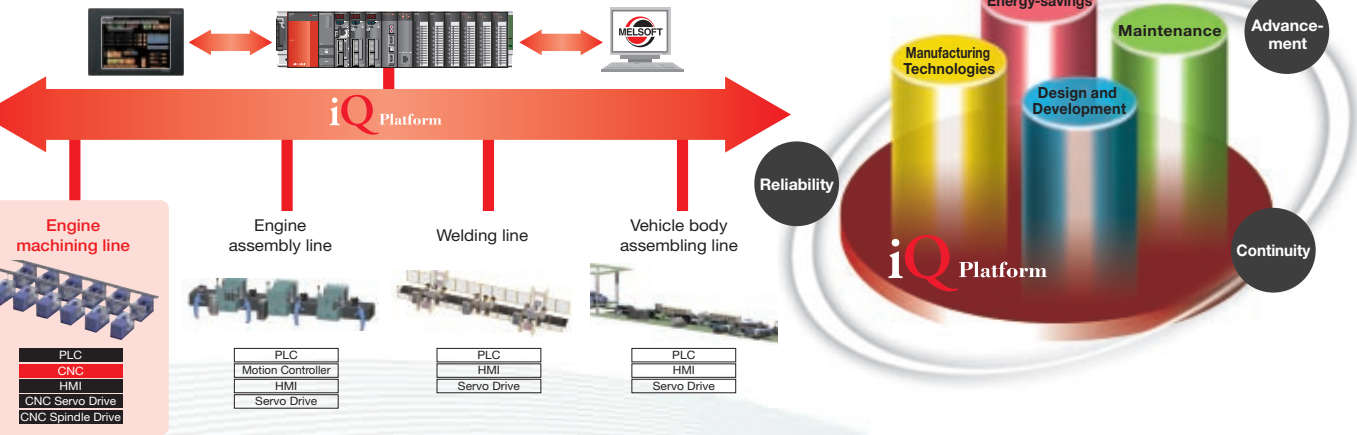
iQ Platform-compatible CNC, providing the largest effect on TCO reduction

- A CNC structured in building block method on iQ Platform
- Compact and high-speed CNC CPU module "Q173NCCPU" equipped with the multi-axis and multi-part system control
- Ultrahigh-speed connection between ultrahigh-speed PLC CPU module MELSEC QnUD (H) CPU and CNC CPU
- Variety of modules for power supply, input/output interface, network and measurement are available
- "Mitsubishi Graphic Operation Terminal", an easily customizable HMI with high performance and multiple functions
- Compatible with MELSOFT, easy-to-use engineering tools with multiple functions



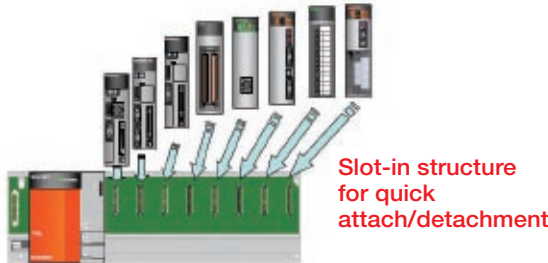
Main Specifications			Model name		C70	
Specifications					Machining center system	Lathe system
Number of control axes	Number of basic control axes (NC axes)		3	2		
	Maximum number of control axes (NC axes + spindles + PLC axes)		16	16		
	Maximum number of NC axes (total for part systems)		16	16		
	Maximum number of spindles		7	4		
	Maximum number of PLC axes		8	8		
	Maximum number of simultaneous contour control axes		4	4		
	Maximum number of NC axes per part system		8	8		
Number of control part systems	Standard number of part systems		1	1		
	Maximum number of part systems		7	3		
PLC function	Program capacity [k steps]		Select from among 30/40/60/130/260			
	Maximum number of files to store		124/252			
	Number of input/output points		4,096			

iQ Platform makes it possible to structure optimum controllers for various lines.



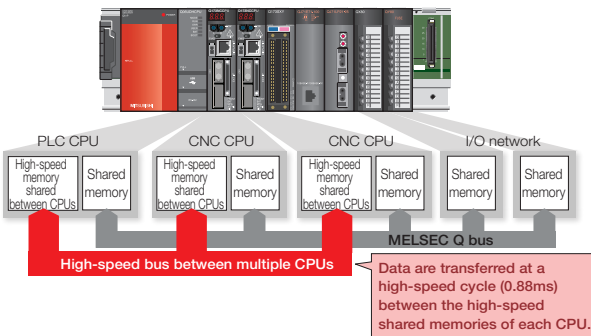
Building Block Type

- Variety of network modules for Mitsubishi PLC MELSEC-Q Series are available.
- Motion controllers and robots are compatible with iQ Platform, enabling system expansion.



Ultrahigh-speed network between CNC CPUs and PLC CPUs

For data transfer between CNC CPUs and PLC CPUs, we have newly developed a dedicated high-speed bus. Data are transferred at a high-speed cycle (0.88ms) between the high-speed shared memories of each CPU, so each CPU speed can be fully utilized.



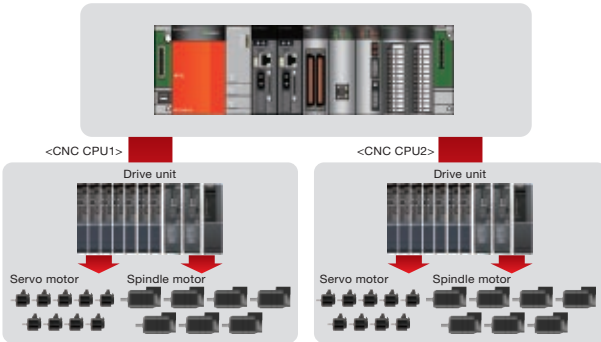
New Model Q PLC

Sequence processing time is widely accelerated, including 3.5 times faster basic instruction performance compared to our conventional one. Reduced scan time also reduces the tact time.

Basic command performance	New model Q PLC	Approx. 3.5 times
	Conventional PLC	
Floating-point arithmetic performance	New model Q PLC	Approx. 13 times
	Conventional PLC	
PCMIIX value	New model Q PLC	Approx. 6 times
	Conventional PLC	

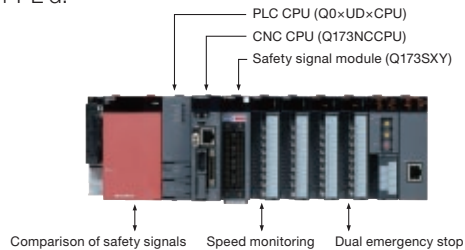
Multi-axis, Multi-part System Control

One CNC CPU module up to 7 part systems and 16 axes. Up to two CNC CPU modules can be installed on iQ Platform.



Safety Observation Function

This function enables safety signal comparison, speed observation and duplexed emergency stop. This function complies with the requirement of European safety standard EN ISO 13849-1 PL d.



GOT 1000 Series Displays

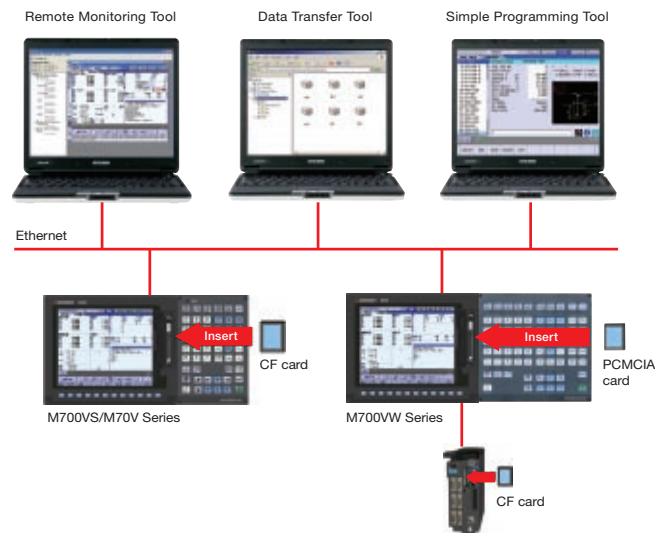
- Customized screens can be easily developed with the GOT screen creation tool (GT Designer). It is possible to operate a machine via a touch panel instead of a conventional machine operation panel.
- NC Monitor is installed in SVGA and XGA models as standard, which enables setting of each NC data and editing of machining programs, etc.



*Customized screen image

User Support Tools

Network Support Tools Provide an Improved CNC Environment

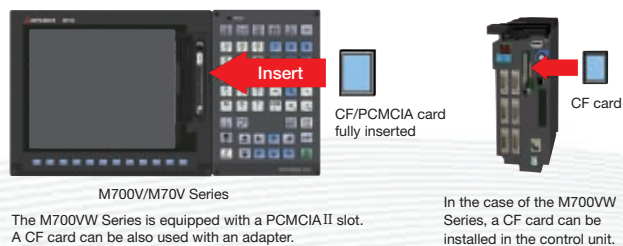


Ethernet Communication Function (supports: M700V, M70V, C70)

A 10/100Mbps Ethernet communication function is installed as standard, enabling large-capacity program input/output and interaction/operation of high-speed program server.

Program Operation (supports: M700V, M70V)

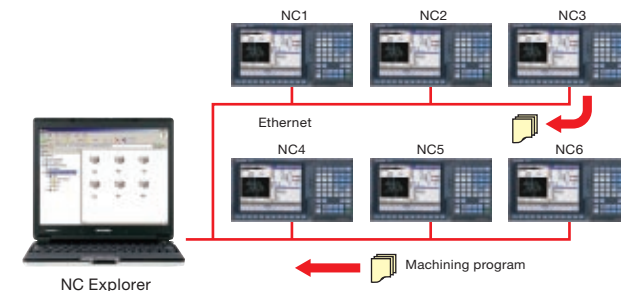
- Machining programs in the memory card or in the hard disk (for M700VW Series) can be directly searched and run. Direct edit is also available.
- Sub-program call is available from machining programs stored in the memory card or hard disk.
- The program format is unlimited.



NC Explorer (supports: M700V, M70V)

Data Transfer Tool

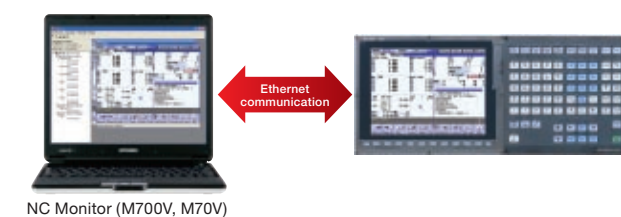
By connecting the NC and host personal computer via Ethernet, data such as machining programs can easily be shared. This tool can be downloaded from MELFANSweb free of charge.



NC Monitor (supports: M700V, M70V)/Remote Monitor Tool (supports: C70)

Remote Monitoring Tool

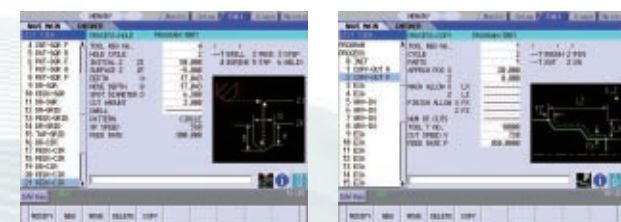
An identical NC display screen can be displayed on a personal computer. By connecting a personal computer to the NC unit when necessary, various data can be checked and set using the same HMI as the standard NC screen. Remote Monitor Tool (C70) can be downloaded from MELFANSweb free of charge.



NAVI MILL on PC/NAVI LATHE on PC (supports: M700V, M70V)

PC Version of Simple Programming Functions

Simple programming functions "NAVI MILL" and "NAVI LATHE" are available on a personal computer. The programs made by these tools can be forwarded to NC by using NC Explorer and can be executed.



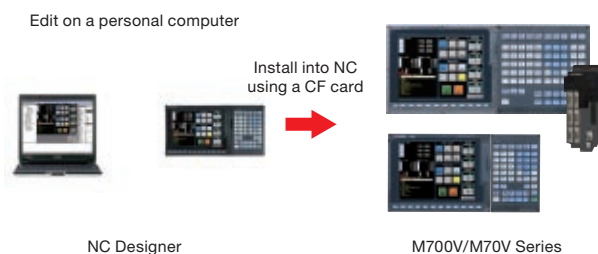
Development Tools

Rich Development Tools Help Bring out the Uniqueness of CNCs

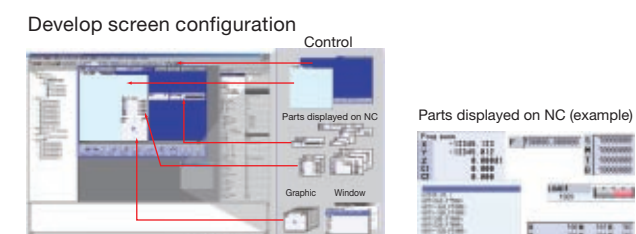
NC Designer (supports: M700V, M70V)

Screen Design Tool

- By laying out ready-made standard parts, you can easily create original screens without programs.
- When using a touch-panel display, a machine operation panel can be built on the NC display.
- Events of the standard parts can be described using macros.
- Using the C language source generation function of NC Designer, customized functions can be added by programming in C language. (Dedicated development environment necessary)



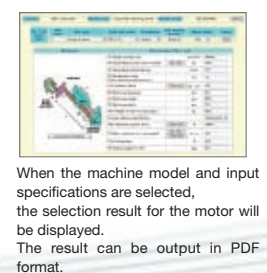
- Simply by locating parts of various functions on the screen, it is possible to create custom screens easily.
- It is possible to check the performance of custom screens on a personal computer.



Servo Selection Tool

By selecting the machine configuration model and inputting the machine specifications, the optimal servo motor meeting specifications can be selected. Other selection functions which fully support drive system selection are also available. This tool can be downloaded from MELFANSweb free of charge.

<Main functions>
Servo motor capacity selection, regenerative resistor capacity selection, spindle acceleration/deceleration time calculation, power supply capacity selection, power supply facility capacity calculation, etc.

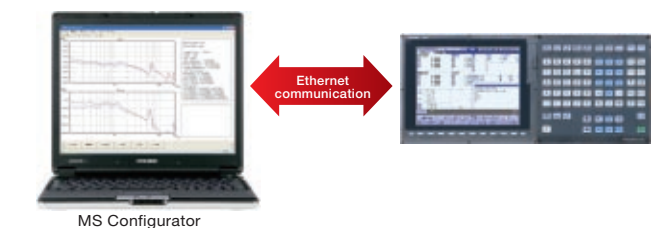


MS Configurator (supports: M700V, M70V, C70)

Servo Adjustment Support Tool

Servo parameters can be automatically adjusted by activating the motor using machining programs for adjustment or vibration signals, and measuring/analyzing the machine characteristics. This tool can be downloaded from MELFANSweb free of charge.

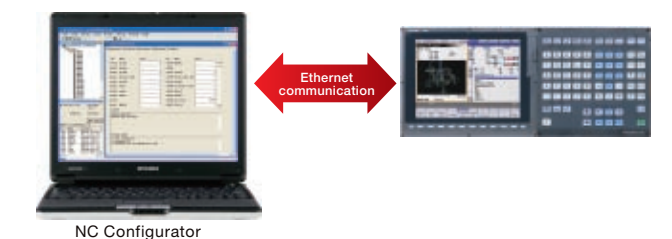
<Main functions>
Bode diagram measurement display, speed loop gain adjustment, position loop gain adjustment, notch filter setting, acceleration/deceleration time constant adjustment, circularity adjustment and servo waveform measurement



NC Configurator (supports: M700V, M70V, C70)

Parameter Setup Support Tool

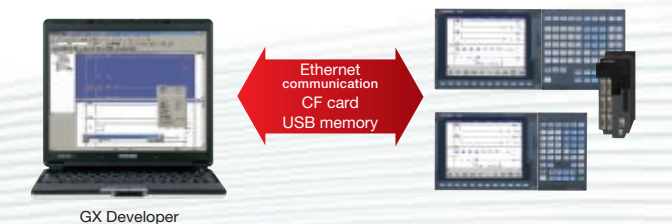
The NC data file necessary for NC control and machine operation (such as parameters, tool data and common variables) can be edited on a personal computer. The edited data can be transferred to the NC via Ethernet.



GX Developer (supports: M700V, M70V, C70)

PLC Programming Tool

The MELSEC programming tool, offering a wide array of functions and easy use, allows for convenient program design and debugging. Linking with a simulator or other utility allows for the efficient creation of desired programs.



Overseas Service Network

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Safety Warning

To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

Mitsubishi Electric Corporation Nagoya Works is a factory certified for ISO14001 (standards for environmental management systems) and ISO9001 (standards for quality assurance management systems)



for a greener tomorrow

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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