

## Compact Machining Center Series

———— Compact Machining Center ————



English



|주| 대성하이텍  
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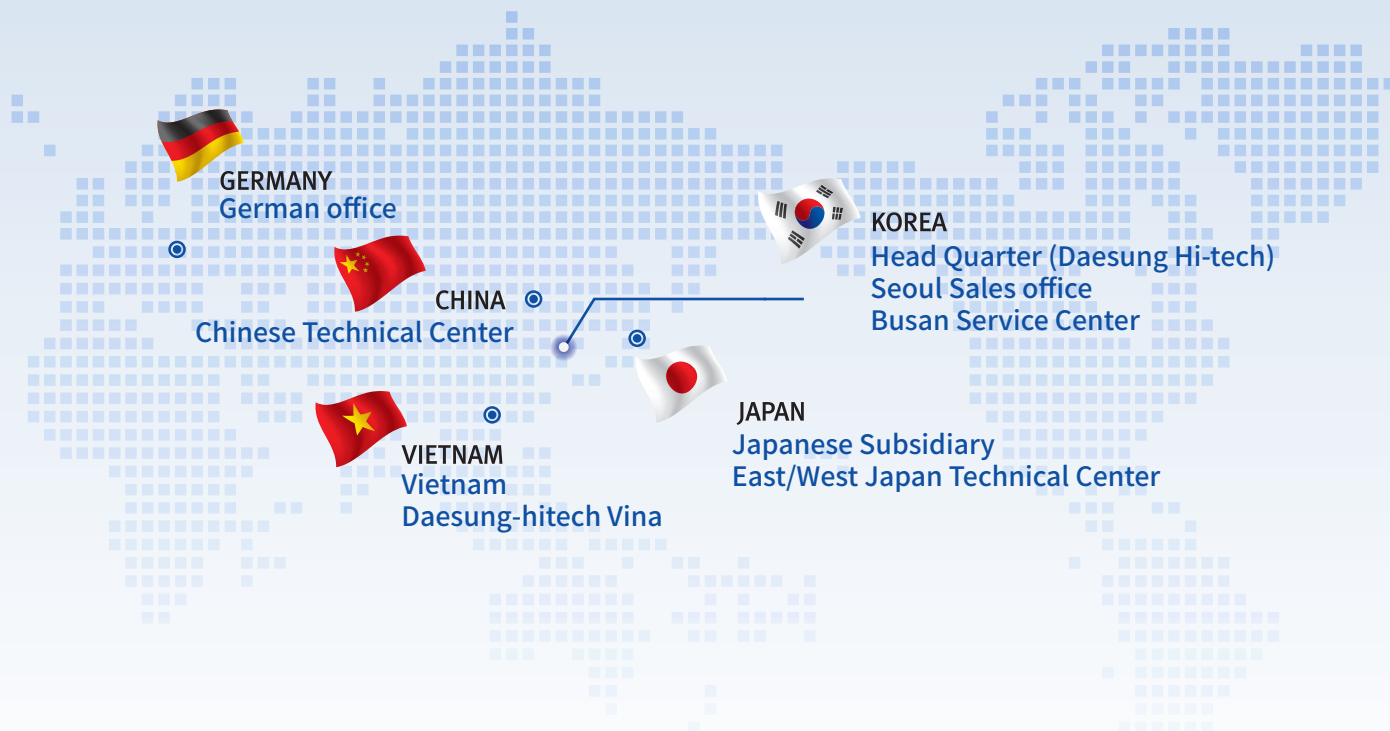
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## □ Overseas Technical Center



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## Main Spindle

Two sided high-speed spindle [BBT 30]\_Taper & Flange contact

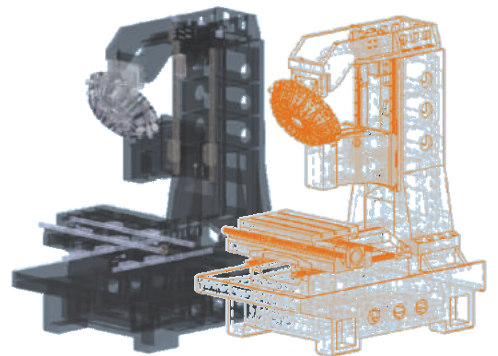


- ▶ Application of ceramic bearings and optimum bearing preload setting increase the stiffness of spindle and maintain stable precision even in high speed machining for long time

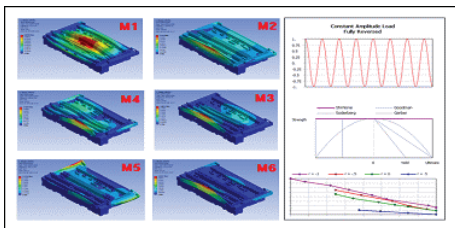
Excellent spindle rigidity compared to competitors ◀

MAX HEAD SPEED

Standard : 15,000r/min  
Option : 24,000r/min

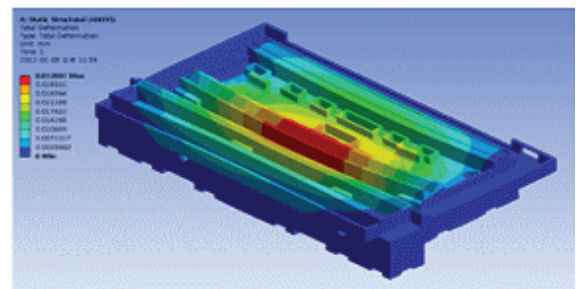


## High rigidity machine structure

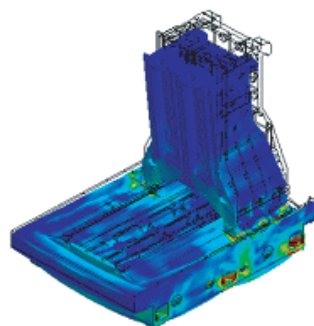


▶ CAE ANALYSIS

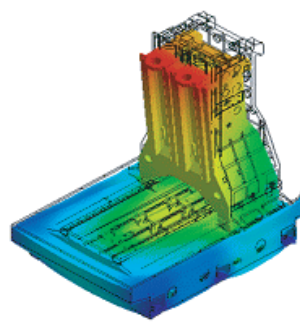
Structural design with high rigidity through FEM analysis minimizes vibration generated during cutting



Natural frequency analysis ▲



<Structure Analysis-Stress>

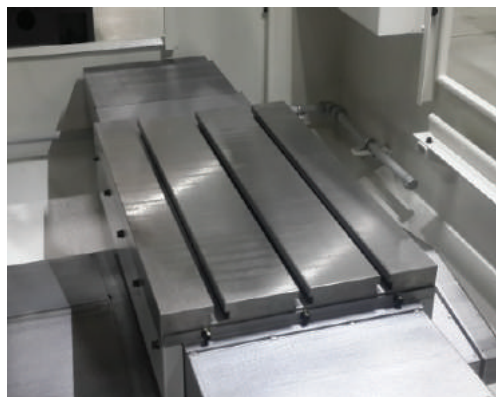


<Structure Analysis-Deformation>

# Table

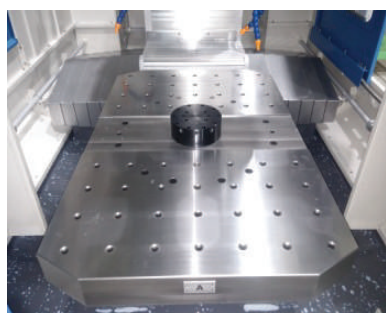
Wide working area and perfect sealing  
structure blocks chip & coolant on all guide surfaces

## ► Table Size

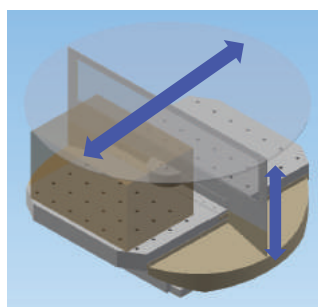


|          |       |                 |
|----------|-------|-----------------|
| DST-40A  | ..... | 650 X 400mm     |
| DST-40L  | ..... | 850 X 400mm     |
| DST-40DS | ..... | 750 X 400mm     |
| DST-40DL | ..... | 1060 X 400mm    |
| DST-50A  | ..... | 2 - 500 X 350mm |

# Dual table - [Applied to DST 36D] [High speed automatic pallet changer]



- Turning Diameter  
Max. 1,100mm
- Work Height  
Max. 320mm
- Loading capacity  
Max. 2x250kg



- Turn Table  
Change Time  
4.5 sec
- Turn Table Size  
2 - 650 x 400

- Improved workability by applying a dual table in a standard way.  
Table rotation is precisely rotated 180 degrees by Rack & Pinion.  
Apply Curic Coupling or Location pin type for accurate positioning

# ATC & MAGAZINE [High productivity automatic tool changer]



Armless Type

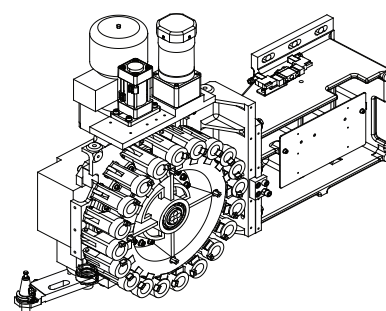


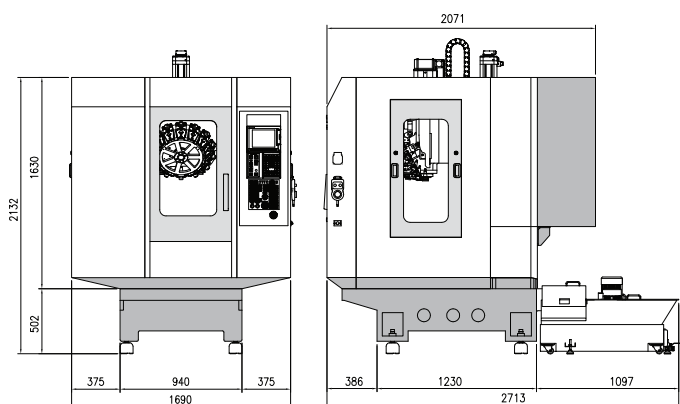
- Number of tools [STD]  
14/21 Tool
- Tool change time [T-T/C-C]  
1.4 sec / 2.1 sec

Twin Arm Type

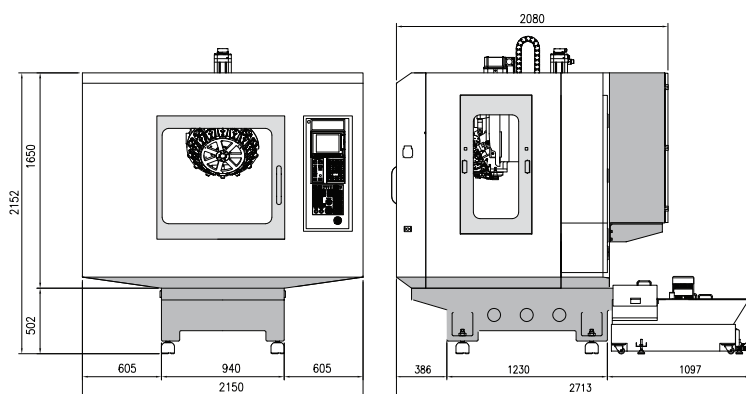
- Number of tools [STD] ◀  
20/24 Tool

- Tool change time [T-T/C-C] ◀  
1.1 sec / 1.9 sec

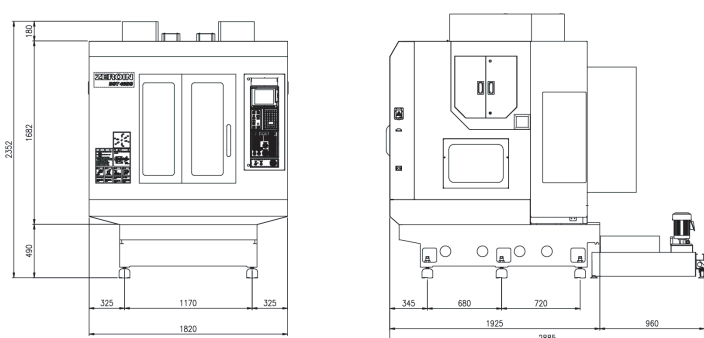




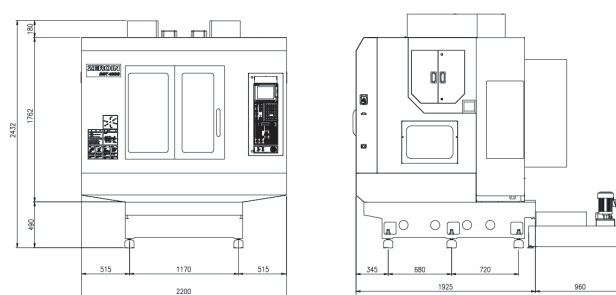
**DST 40A**



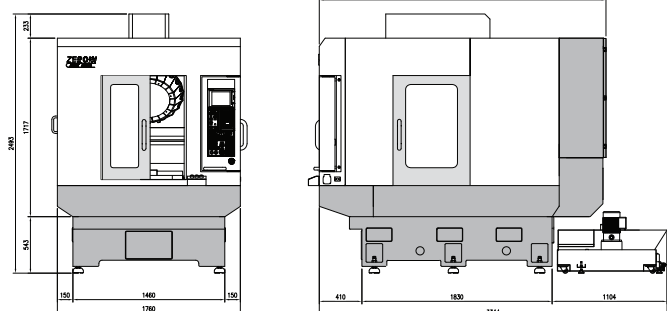
**DST 40A (L)**



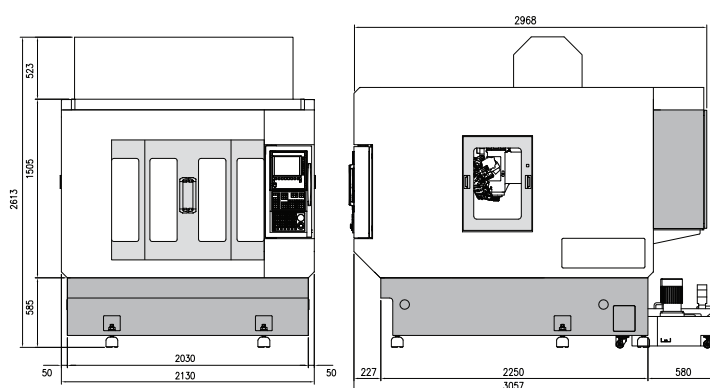
**DST 40DS**



**DST 40DL**



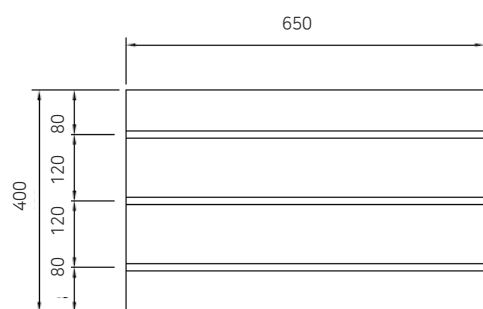
**DST 36D**



**DST 50A**

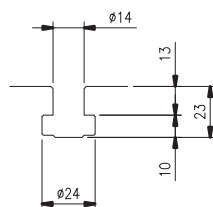
# 04 Table Dimension

TAPPING Series

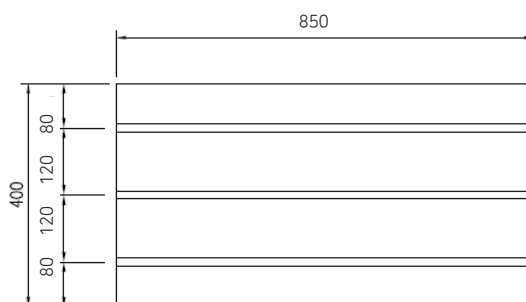


Table

**DST 40A**

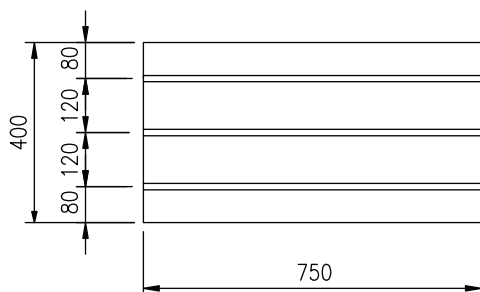


T-SLOT

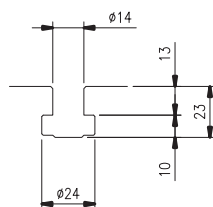


Table

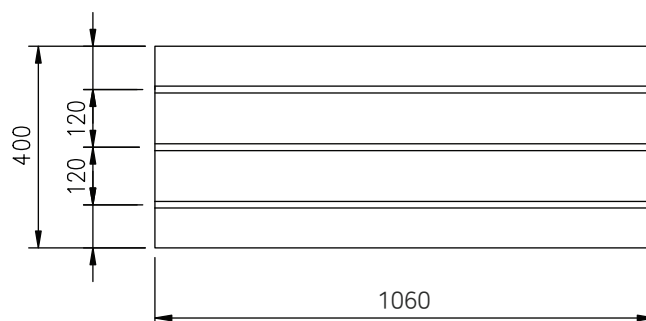
**DST 40L**



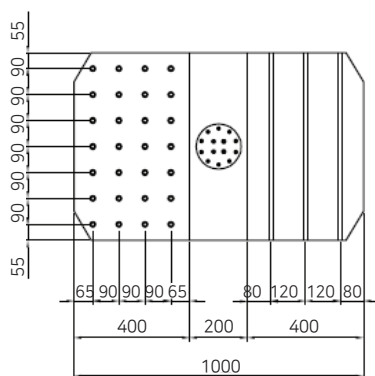
**DST 40DS**



T-SLOT

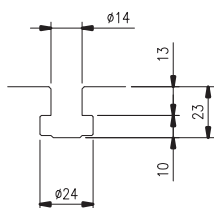


**DST 40DL**



Turn table

**DST 36D**



T-SLOT

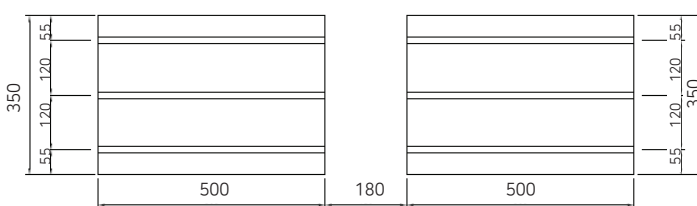
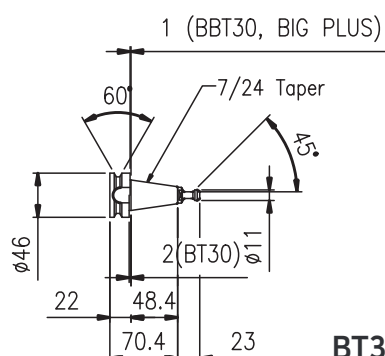
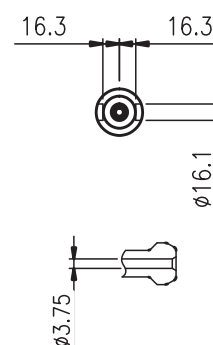


Table  
(2EA)

**DST 50A**



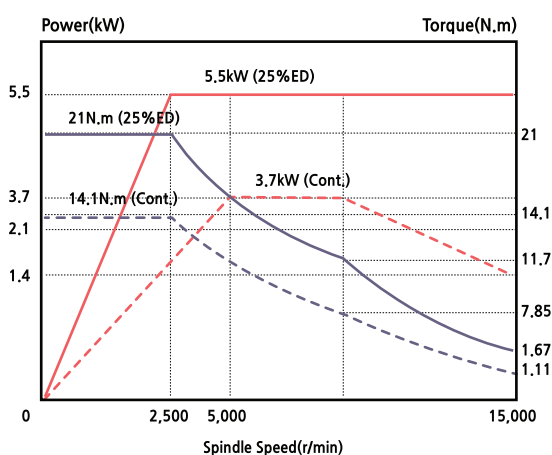
**BT30 Tool**



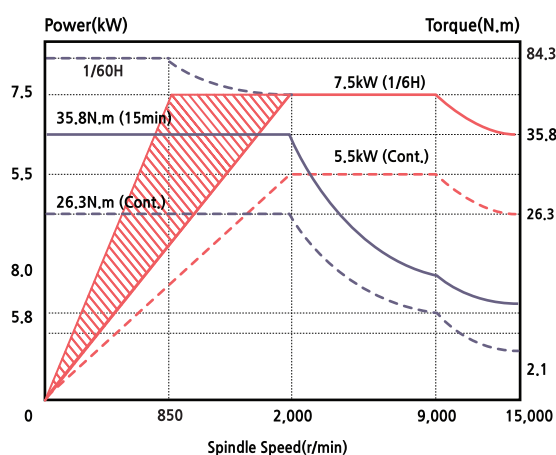
**Thru' Coolant**

## MITSUBISHI

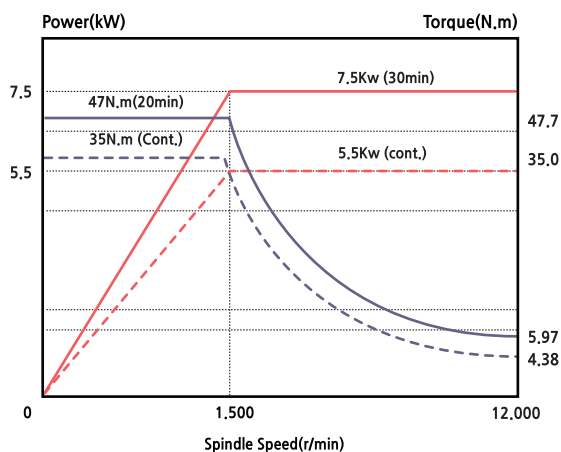
### M-15,000r/min



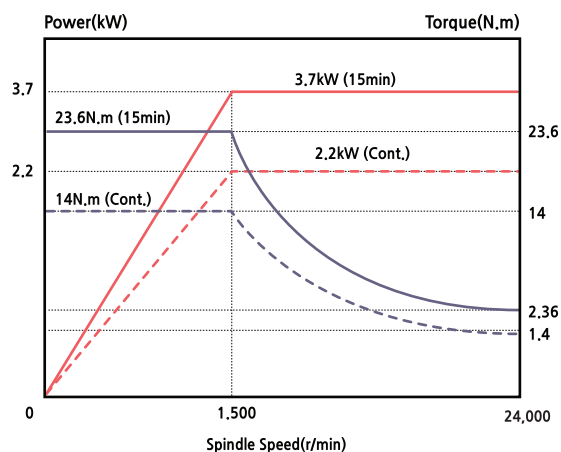
### M-15,000r/min High Torque



### M-12,000r/min



### M-24,000r/min



# TAPPING Series n6 Machine Specification

## DST-40A\_40L\_36D

| ITEM         |                                                               |        | UNIT    | DST-40A                                        | DST-40L     | DST-36D                                        |
|--------------|---------------------------------------------------------------|--------|---------|------------------------------------------------|-------------|------------------------------------------------|
| Travel       | Feed Distance                                                 | X-Axis | mm      | 520                                            | 720         | 520                                            |
|              |                                                               | Y-Axis | mm      | 400                                            |             | 360                                            |
|              |                                                               | Z-Axis | mm      | 350                                            |             | 350                                            |
|              | Distance from the tip of the spindle to the top of the table. |        | mm      | 500(150)                                       |             | 550(200)                                       |
|              | Distance from the tip of the spindle to the column            |        | mm      | 444                                            |             | 444                                            |
| Rapid Travel | X-Axis                                                        |        | m/min   | 60                                             |             | 48                                             |
|              | Y-Axis                                                        |        | m/min   | 60                                             |             | 48                                             |
|              | Z-Axis                                                        |        | m/min   | 60                                             |             | 60                                             |
|              | Cutting feedrate                                              |        | m/min   | 20                                             |             | 20                                             |
| Table        | Table Size                                                    |        | mm      | 650X400                                        | 850X400     | 2-650X400                                      |
|              | Table allowable load                                          |        | Kg      | 200                                            | 250         | 2-250                                          |
|              | Table Type                                                    |        |         | T-Slot                                         |             | Bolt (T-Slot)                                  |
| Spindle      | Max Speed (k=1,000rpm)                                        |        | rpm     | 15k (24k)                                      |             | 15k (24k)                                      |
|              | Power                                                         |        | kw      | 5.5/3.7(3.7/2.2)                               |             | 7.5/5.5(3.7/2.2)                               |
|              | Max. Torque                                                   |        | N.m/rpm | 21/2,500(23.6/1,500)                           |             | 35.8/2,000(23.6/1,500)                         |
| ATC          | ATC Type                                                      |        | -       | Armless(Twin Arm)                              |             | Armless(Twin Arm)                              |
|              | Tool Storage                                                  |        | ea      | 14 (21)                                        |             | 14 (21)                                        |
|              | Tool Shank                                                    |        | -       | BBT30                                          |             | BBT30                                          |
|              | Max. Tool Dia.                                                |        | mm      | Φ80                                            |             | Φ80                                            |
|              | Tool To Tool Time                                             |        | sec     | 1.4                                            |             | 1.4                                            |
|              | Chip TO Chip Time                                             |        | sec     | 2.1                                            |             | 2.1                                            |
| Machine      | Flood Space (L X W)                                           |        | mm      | 1,690X2,080                                    | 2,150X2,080 | 1,760X2,757                                    |
|              | Weight                                                        |        | kg      | 2,700                                          | 3,100       | 5,000                                          |
| Controller   | NC                                                            |        |         | Mitsubishi M-70AV<br>(Siemens-828D, Fanuc-0iF) |             | Mitsubishi M-70AV<br>(Siemens-828D, Fanuc-0iF) |

## DST-40DS\_40DL\_50A

| ITEM         |                                                               |        | UNIT  | DST-40DS                          | DST-40DL<br>(Gantry Type)         | DST-50A                         |
|--------------|---------------------------------------------------------------|--------|-------|-----------------------------------|-----------------------------------|---------------------------------|
| Travel       | Feed Distance                                                 | X-Axis | mm    | 540                               | 700                               | 1,200                           |
|              |                                                               | Y-Axis | mm    | 400                               | 400 (+200)                        | 350                             |
|              |                                                               | Z-Axis | mm    | 400                               | 480                               | 300                             |
|              | Distance from the tip of the spindle to the top of the table. |        | mm    | 550(150)                          | 630(150)                          | 475(175)                        |
|              | Distance from the tip of the spindle to the column            |        | mm    | 444                               |                                   | 444                             |
| Rapid Travel | X-Axis                                                        |        | m/min | 60                                |                                   | 48                              |
|              | Y-Axis                                                        |        | m/min | 60                                |                                   | 60                              |
|              | Z-Axis                                                        |        | m/min | 60                                |                                   | 60                              |
|              | Cutting feedrate                                              |        | m/min | 20                                |                                   | 20                              |
| Table        | Table Size                                                    |        | mm    | 750X400                           | 1,060X400                         | 2-500X350                       |
|              | Table allowable load                                          |        | Kg    | 300                               | 400                               | 150                             |
|              | Table Type                                                    |        |       | T-Slot                            |                                   | T-Slot                          |
| Spindle      | Max Speed (k=1,000rpm)                                        |        | rpm   | 12k (15k, 24k)                    | 12k (15k, 24k)                    | 15k (24k)                       |
|              | Power                                                         |        | kw    | 5.5/3.7(3.7/2.2)                  | 7.5/5.5(3.7/2.2)                  | 6.2/5.2                         |
| ATC          | ATC Type                                                      |        | -     | Twin Arm                          |                                   | Armless                         |
|              | Tool Storage                                                  |        | ea    | 24(20)                            | 20(24)                            | 21                              |
|              | Tool Shank                                                    |        | -     | BBT30                             |                                   | BBT30                           |
|              | Max. Tool Dia.                                                |        | mm    | Φ60                               | Φ80                               | Φ80                             |
|              | Tool To Tool Time                                             |        | sec   | 1.1                               |                                   | 1.2                             |
|              | Chip TO Chip Time                                             |        | sec   | 1.9                               |                                   | 1.8                             |
| Machine      | Flood Space (L X W)                                           |        | mm    | 1,820 x 2,260                     | 2,200x2,460                       | 2,130X2,968                     |
|              | Weight                                                        |        | kg    | 4,500                             | 5,500                             | 6,000                           |
| Controller   | NC                                                            |        |       | Mitsubishi M-80<br>(Siemens-828D, | Mitsubishi M-80<br>(Siemens-828D, | Siemens-828d(840sl)<br>(M-70AV) |

[● : STD] [○ : Option] [X : Not applicable] [☆ : Technical support required] [ - : None]

|                                                                      |                        | DST-40A(L) | DST-36D | DST-50A | DST-40DS | DST-40DL |                                                         |              | DST-40A(L) | DST-36D | DST-50A | DST-40DS | DST-40DL |
|----------------------------------------------------------------------|------------------------|------------|---------|---------|----------|----------|---------------------------------------------------------|--------------|------------|---------|---------|----------|----------|
| Spindle                                                              |                        |            |         |         |          |          | Tool ID Manager                                         |              | ○          | ○       | ○       | ○        | ○        |
| 12,000RPM (5.5/3.7kw)-Mitsubishi                                     |                        | ○          | -       | -       | ●        | -        | Correction function of spindle thermal displacement     |              | ☆          | ☆       | ☆       | ☆        | ☆        |
| 12,000RPM (7.5/5.5kw)-Mitsubishi                                     |                        | X          | X       | X       | X        | ●        | Spindle warm-up function                                |              | ☆          | ☆       | ☆       | ☆        | ☆        |
| 15,000RPM (5.5/3.7kw)-Mitsubishi                                     |                        | ●          | ○       | ○       | ○        | ○        | Electric Device                                         |              |            |         |         |          |          |
| 15,000RPM (7.5/5.5kw)-Mitsubishi                                     |                        | ○          | ●       | ☆       | ○        | ○        | 3 Stages Patrol                                         | 3 Stages     | ●          | ●       | ●       | ●        | ●        |
| 24,000RPM (3.7/2.2kw)-Mitsubishi                                     |                        | ○          | ○       | ○       | ○        | ○        | 3 Stages Patrol & Buzzer                                | 3 Stages     | ○          | ○       | ○       | ○        | ○        |
| 15,000RPM (6.2/5.2kw)-Siemens                                        |                        | ○          | ○       | ●       | ○        | ○        | Work Light                                              |              | ●          | ●       | ●       | ●        | ●        |
| 12,000RPM (7.5/5.5kw)-Fanuc                                          |                        | ○          | ○       | ○       | ○        | ○        | Control Box light                                       |              | ○          | ○       | ○       | ○        | ○        |
| System                                                               |                        |            |         |         |          |          | MPG                                                     | Mitsubishi   | ●          | ●       | ●       | ●        | ●        |
| MITSUBISHI-M70 (M80)                                                 |                        | ●          | ●       | ○       | ●        | ●        |                                                         | Fanuc        | ○          | ○       | ○       | ○        | ○        |
| SIEMESN-828D                                                         |                        | ○          | ○       | ●       | ○        | ○        |                                                         | Siemens      | ○          | ○       | ○       | ○        | ○        |
| FANUC-0I-MF                                                          |                        | ○          | ○       | ○       | ○        | ○        | 3 Axis MPG                                              | Mitsubishi   | ○          | ○       | ○       | ○        | ○        |
| ATC                                                                  |                        |            |         |         |          |          |                                                         | Fanuc        | ○          | ○       | ○       | ○        | ○        |
| 14/21T                                                               | (Armless/Servo)        | ●          | ●       | ●       | X        | X        |                                                         | Siemens      | ○          | ○       | ○       | ○        | ○        |
| 20/24T                                                               | (Twin Arm)             | ○          | ○       | X       | ●        | ●        |                                                         | Work Counter | Digital    | ○       | ○       | ○        | ○        |
| Tool Shank Type                                                      | BBT30                  | ●          | ●       | ●       | ●        | ●        | Total Counter                                           | Digital      | ○          | ○       | ○       | ○        | ○        |
| Stud Bolt Collet Change                                              | 45°                    | ●          | ●       | ●       | ●        | ●        | Tool Counter                                            | Digital      | ○          | ○       | ○       | ○        | ○        |
|                                                                      | 60°                    | ○          | ○       | ○       | ○        | ○        | Multi Counter                                           | 6ea          | ○          | ○       | ○       | ○        | ○        |
|                                                                      | 90°                    | X          | X       | X       | X        | X        |                                                         | 9ea          | ○          | ○       | ○       | ○        | ○        |
| Table & Column                                                       |                        |            |         |         |          |          | Circuit Breaker                                         |              | ○          | ○       | ○       | ○        | ○        |
| APC                                                                  | Rotary Turn            | -          | ●       | -       | -        | -        | AVR (Auto Voltage Regulator)                            |              | ○          | ○       | ○       | ○        | ○        |
| T-Solt Table                                                         |                        | ●          | ○       | ●       | ●        | ●        | Transformer                                             |              | ○          | ○       | ○       | ○        | ○        |
| NC Rotart Table                                                      |                        | ○          | ○       | ○       | ○        | ○        | Auto Power Off                                          | Mitsubishi   | ●          | ●       | ●       | ●        | ●        |
| Hi Column                                                            | 150mm                  | ○          | ☆       | ☆       | ☆        | ☆        |                                                         | Fanuc        | ○          | ○       | ○       | ○        | ○        |
|                                                                      | 250mm                  | ○          | ☆       | ☆       | ☆        | ☆        |                                                         | Siemens      | ○          | ○       | ○       | ○        | ○        |
| Coolant System                                                       |                        |            |         |         |          |          | Module for Power failure back-up                        |              | ○          | ○       | ○       | ○        | ○        |
| Std. Coolant (Nozzle)                                                |                        | ●          | ●       | ●       | ●        | ●        | Flash Memory Card (4G)                                  |              | ●          | ●       | ●       | ●        | ●        |
| Bed Flushing Coolant                                                 |                        | ●          | ●       | ●       | ●        | ●        | Measuring Device                                        |              |            |         |         |          |          |
| Spindle Thru Coolant                                                 | 20bar                  | ○          | ○       | ○       | ○        | ○        | Air Gap Sensor                                          | SMC          | ○          | ○       | ○       | ○        | ○        |
|                                                                      | 30bar                  | ○          | ○       | ○       | ○        | ○        |                                                         | TACO         | ○          | ○       | ○       | ○        | ○        |
|                                                                      | 70bar, 15ℓ             | ○          | ○       | ○       | ○        | ○        | Automatic workpiece measuring device                    |              | ○          | ○       | ○       | ○        | ○        |
|                                                                      | 70bar, 30ℓ             | ○          | ○       | ○       | ○        | ○        | Automatic tool measuring device (Renishaw/Bloom/Marpos) | Touch        | ○          | ○       | ○       | ○        | ○        |
| Jet Coolant                                                          |                        | ○          | ○       | ○       | ○        | ○        | Tool breakage detection device                          | Laser        | ○          | ○       | ○       | ○        | ○        |
| Gun Coolant                                                          |                        | ○          | ○       | ○       | ○        | ○        |                                                         |              | ○          | ○       | ○       | ○        | ○        |
| Air Gun                                                              |                        | ○          | ○       | ○       | ○        | ○        | Linear Scale                                            |              | ○          | ○       | ○       | ○        | ○        |
| Spindle Air Blow                                                     |                        | ●          | ●       | ●       | ●        | ●        | Coolant level sensor (when applying chip conveyor)      |              | ○          | ○       | ○       | ○        | ○        |
| Spindle Cleaning Device                                              |                        | ○          | ○       | ○       | ○        | ○        | Enviornment                                             |              |            |         |         |          |          |
| Tool measurement Air blow (when selecting tool measuring instrument) |                        | ○          | ○       | ○       | ○        | ○        | Air Conditioner                                         |              | ○          | ○       | ○       | ○        | ○        |
| Spindle through MQL device (MQL not included)                        |                        | ○          | ○       | ○       | ○        | ○        | dehumidifier                                            |              | ○          | ○       | ○       | ○        | ○        |
| Coolant Tank                                                         |                        | ●          | ●       | ●       | ●        | ●        | Oil Mist Collector                                      |              | ○          | ○       | ○       | ○        | ○        |
| Coolant Cooling System                                               |                        | ○          | ○       | ○       | ○        | ○        | Oil Skimmer                                             |              | ○          | ○       | ○       | ○        | ○        |
| Power Coolant Sysetm (For Automation)                                |                        | ○          | ○       | ○       | ○        | ○        | Fixture & Automation                                    |              |            |         |         |          |          |
| Chip processing                                                      |                        |            |         |         |          |          | Auto Door                                               |              | ○          | ○       | ○       | ○        | ○        |
| Coolant Tank (200ℓ)                                                  |                        | ●          | ●       | ●       | ●        | ●        | Auto Shutter(When applying automation)                  |              | ○          | ○       | ○       | ○        | ○        |
| Chip Conveyor (Hinge/Scraper)                                        | Side Hinge             | ○          | ○       | ○       | ○        | ○        | SUB Operator Panel                                      |              | ○          | ●       | ○       | ○        | ○        |
|                                                                      | Back Hinge             | ○          | ○       | ○       | ○        | ○        | NC Rotary Table/F                                       | Single       | ○          | ○       | ○       | ○        | ○        |
|                                                                      | Side Scraper           | ○          | ○       | ○       | ○        | ○        |                                                         | Channel      | ☆          | ☆       | ☆       | ☆        | ☆        |
|                                                                      | Back Scraper           | ○          | ○       | ○       | ○        | ○        | Additional axis control                                 | 1-Axis       | ○          | ○       | ○       | ○        | ○        |
| Chip Conveyor (Drum Filter)                                          |                        | ○          | ○       | ○       | ○        | ○        |                                                         | 2-Axis       | ○          | ○       | ○       | ○        | ○        |
| Chip Box                                                             | Standard (180ℓ)        | ○          | ○       | ○       | ○        | ○        | Add external M-CODE                                     | 8            | ○          | ○       | ○       | ○        | ○        |
|                                                                      | Swing (200ℓ)           | ○          | ○       | ○       | ○        | ○        |                                                         | 20           | ○          | ○       | ○       | ○        | ○        |
|                                                                      | Large Type (200ℓ)      | ○          | ○       | ○       | ○        | ○        | Automation interface 20                                 |              | ○          | ○       | ○       | ○        | ○        |
|                                                                      | For customer reponse   | ☆          | ☆       | ☆       | ☆        | ☆        | I/O Expansion (IN/OUT)                                  | 16 Contracts | ○          | ○       | ○       | ○        | ○        |
| Safety Device                                                        |                        |            |         |         |          |          |                                                         | 32 Contracts | ○          | ○       | ○       | ○        | ○        |
| Splash Guard (Top Cover)                                             |                        | ●          | ●       | ●       | ●        | ●        | Hyd. Device                                             |              |            |         |         |          |          |
| Door Lock                                                            |                        | ●          | ●       | ●       | ●        | ●        | Std. Hyd. Unit                                          | 40bar/30ℓ    | ○          | ●       | ○       | ○        | ○        |
| Etc                                                                  |                        |            |         |         |          |          |                                                         | 2 x 2 Port   | ○          | ○       | ○       | ○        | ○        |
| Adjustment tool and tool box                                         |                        | ●          | ●       | ●       | ●        | ●        | Central hydraulic supply                                | 2 x 3 Port   | ○          | ○       | ○       | ○        | ○        |
| Custom Color                                                         |                        | ☆          | ☆       | ☆       | ☆        | ☆        |                                                         | 2 x 5 Port   | ○          | ○       | ○       | ○        | ○        |
| CAD/CAM Software                                                     |                        | ○          | ○       | ○       | ○        | ○        | Simple central hydraulic supply                         | 2 x 2 Port   | ○          | ○       | ○       | ○        | ○        |
| S/W                                                                  |                        |            |         |         |          |          |                                                         | 2 x 3 Port   | ○          | ○       | ○       | ○        | ○        |
| NC guidance                                                          |                        | ●          | ●       | ●       | ●        | ●        | Tooth type hydraulic unit                               | 45bar        | ○          | ○       | ○       | ○        | ○        |
| HWTM(Tool Monitoring System)                                         |                        | ○          | ○       | ○       | ○        | ○        |                                                         | 70bar        | ○          | ○       | ○       | ○        | ○        |
| DNC Software (2m cable included)                                     |                        | ○          | ○       | ○       | ○        | ○        |                                                         |              |            |         |         |          |          |
| Interactive Program                                                  | Mitsubishi (Navi Mill) | ●          | ●       | ●       | ●        | ●        |                                                         |              |            |         |         |          |          |
|                                                                      | Fanuc                  | ○          | ○       | ○       | ○        | ○        |                                                         |              |            |         |         |          |          |
|                                                                      | Siemens                | ○          | ○       | ○       | ○        | ○        |                                                         |              |            |         |         |          |          |

## Standard Accessories



▶ Indicator Light



▶ Auto Lubricator Unit

LED Work Light ▶



Bed Shower ▶



▶ Portable MPG



▶ Coolant Tank



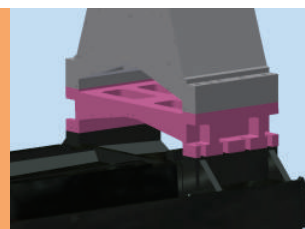
## Option Accessories



▶ Spindle Through [TSC]



▶ Auto Door



▼ High Column

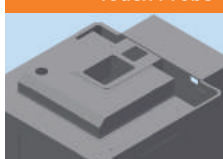
Touch Probe ▶



Rotary Table ▶



▶ Top Cover



▶ Chip Conveyor



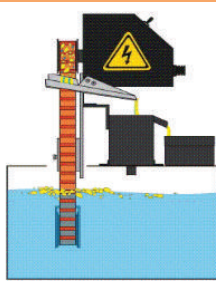
▶ Oil Mist



▶ Transformer



▶ Oil Skimmer



# Mitsubishi M70V | M700 | M80

Machine Models : DST-40A | DST-36D | DST-40DS

## STANDARD SPECIFICATIONS

| 1) AXES CONTROL                    |                                                    |  |
|------------------------------------|----------------------------------------------------|--|
| - Controlled axes                  | 3 ( X,Y,Z )                                        |  |
| - Simultaneously controllable axes |                                                    |  |
|                                    | Positioning(G00)/Linear interpolation(G01): 3 axes |  |
|                                    | Circular interpolation(G02, G03) : 2 axes          |  |
| - Least command increment :        | 0.001mm / 0.0001"                                  |  |
| - Least input increment :          | 0.001mm / 0.0001"                                  |  |
| - Machine lock                     | all axes / Z axis                                  |  |
| - Emergency stop / overtravel      |                                                    |  |
| - Stored stroke check 1/2          | Overtravel controlled by software                  |  |
| - Backlash compensation            |                                                    |  |
| - Stored pitch error compensation  | Pitch error offset compensation for each axis      |  |

| 2) INTERPOLATION & FEED FUNCTION                     |                               |   |
|------------------------------------------------------|-------------------------------|---|
| - Positioning                                        | G00                           |   |
| - Linear interpolation                               | G01                           |   |
| - Circular interpolation (center/radius designation) | G02, G03                      |   |
| - Helical interpolation                              |                               |   |
| - Cylindrical interpolation                          |                               |   |
| - Exact stop check                                   | G09, G61(mode)                |   |
| - Skip function                                      | G31                           |   |
| - Dwell                                              | G04                           |   |
| - Reference point return                             | G27, G28, G29                 |   |
| - 2nd /3rd / 4th reference point return              | G30                           |   |
| - Rapid traverse override                            | F0 (fine feed), 25 / 50 / 100 | % |
| - Cutting feed override (10% increments)             | 0 - 200                       | % |
| - Override cancel                                    | M48 / M49                     |   |
| - Manual handle feedrate                             | 0.1/0.01/0.001mm              |   |
| - Feed per minute                                    | mm / min                      |   |
| - Automatic acc./dec.                                |                               |   |
| - Manual handle feed(1 unit)                         | Potable                       |   |

| 3) SPINDLE & M-CODE FUNCTION              |          |        |
|-------------------------------------------|----------|--------|
| - Spindle speed command                   | S5       | digits |
| - Spindle speed override (10% increments) | 10 - 150 | %      |
| - Spindle orientation                     |          |        |
| - M- code function                        | M 3      | digits |

| 5) TOOL FUNCTION           |                                                   |        |
|----------------------------|---------------------------------------------------|--------|
| - Tool number command      | T2                                                | digits |
| - Tool length compensation | G43, G44, G49                                     |        |
| - Cutter compensation      | G40, G41, G42                                     |        |
| - Tool offset memory       | Geometry / Wear and Length / Radius offset memory |        |
| - Number of tool offsets   | 400                                               | EA     |
| - Tool life management     |                                                   |        |

| 6) PROGRAMMING & EDITING FUNCTION              |                                |                          |
|------------------------------------------------|--------------------------------|--------------------------|
| - part program editing                         |                                |                          |
| - Tape code                                    | ISO / EIA                      | Automatic discrimination |
| - Part program storage                         | 500KB                          | (1280m)                  |
| - Registered programs                          | 1000                           | EA                       |
| - Program protect                              |                                |                          |
| - Background editing                           |                                |                          |
| - Program stop / end                           | M00 / M02,M30                  |                          |
| - Optional stop                                | M01                            |                          |
| - Optional block skip                          |                                |                          |
| - Maximum command value                        | ±99999.999mm                   | (±9999.9999 inch)        |
| - Program number                               | O4-digits                      |                          |
| - Absolute / Incremental programming           | G90 / G 91                     |                          |
| - Decimal point input                          |                                |                          |
| - Auto. Coordinate system setting              |                                |                          |
| - Circular interpolation by radius programming |                                |                          |
| - Sub program                                  | Up to 4 nesting                |                          |
| - Work coordinate system                       | G54 - G59                      |                          |
| - Additional work coordinate system            | G54.1 P1 - 48                  | ( 48 pairs )             |
| - Automatic corner override                    | G62                            |                          |
| - Rigid tapping                                | G84, G74                       |                          |
| - Canned cycle for drilling                    | G73, G,74, G76, G80 - G89, G99 |                          |
| - Special canned cycle                         |                                |                          |
| - Coordinate rotation                          |                                |                          |
| - Circular cutting                             |                                |                          |
| - Inch / metric conversion                     | G20 / G21                      |                          |
| - Custom macro                                 |                                |                          |
| - Mirror image by G-code                       | Reverse axis movement          |                          |
| - Programmable parameter input                 |                                |                          |
| - Input/output interface                       | RS - 232 - C                   |                          |
|                                                | Front IC card I/F              |                          |
|                                                | Ethernet I/F                   |                          |
|                                                | USB Memory I/F                 |                          |

| 8) OTHERS FUNCTIONS (Operation, Setting & Display, etc) |                                         |  |
|---------------------------------------------------------|-----------------------------------------|--|
| - MDI / CRT unit                                        | 8.4" LCD TFT, Keyboard                  |  |
| - Operation functions                                   | Tape / Memory / MDI / Manual            |  |
| - Search function                                       | Sequence NO. / Program NO.              |  |
| - Single block                                          |                                         |  |
| - Cycle start / Feed hold                               |                                         |  |
| - Run hour display                                      |                                         |  |
| - Self - diagnostic function                            |                                         |  |
| - Display of PLC alarm message                          | Message display when PLC alarm occurred |  |
| - Clock function                                        |                                         |  |
| - Help function                                         |                                         |  |
| - Loadmeter display                                     |                                         |  |
| - NC Alarm display                                      |                                         |  |
| - Servo setting screen                                  |                                         |  |
| - Graphic display                                       | Tool path drawing                       |  |
| - Input/output interface                                |                                         |  |

# CNC Controller

Mitsubishi CNC M700V / M70V Series



- High cost performance to realize high performance of machine

|                                  |                                                                                                    |                              |                                                                                                                     |
|----------------------------------|----------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>High Speed</b><br>Performance | [High Speed]<br>High machining control performance for shortening cycle time                       | <b>OMR</b><br>Correct        | [High precision]<br>High-speed, high-precision tapping with high-speed correction control of the spindle and servo. |
| <b>Multi Axis</b><br>Machining   | [Multi-Axis]<br>Multi-axis control and two-system system for various machines                      | <b>NAVI</b><br>Navigation    | [Easy Operation]<br>Simple programming system for machining centers and lathes.                                     |
| <b>NANO</b><br>Control           | [Nano Interpolation]<br>1 nano meter positional interpolation provides a smooth machining surface. | <b>Custom CNC</b><br>Factory | [Customize]<br>Development tools that provide CNC customization solutions                                           |

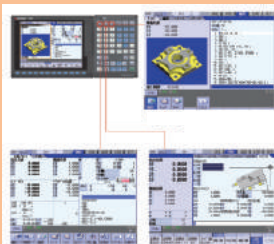
## Human Machine Interface for Easier and Visible Use

Easy & Convenient Use  
HMI

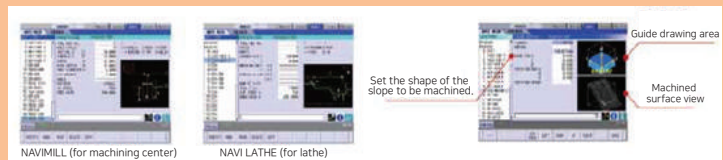
**NAVI** Simple programming function of machining menu.  
NAVI MILL (for machining center) / Navi lathe (for lathe)

### Screen configuration linked with operation

The work processes are classified into [Operation] [Setup] [Edit], and necessary information display is gathered in three screens. It can be displayed by one touch of the keyboard.



By selecting the machining process on the screen and inputting the data, the program for each process automatically created. If you register the tool and cutting condition first, you can check the tool path by graphic. It can also be used for slope machining.



MEMORY CARD  
USB MEMORY INTERFACE

DATA SERVER OPERATION

ETHERNET NETWORK FUNCTION

Compact Flash memory card (CF card) and USB memory interface are used in front of the indicator. In the case of a CF card, the cover can be completely closed, preventing entry of foreign matter.



The CF card inserted in the indicator or the part program in the hard disk (M700VW) can be installed and operated directly. You can also edit it directly



Subprogram call from part program of memory card / hard disk is possible. There is no limit to the program format.

Equipped with 10 / 100Mbps Ethernet communication function, it can cope with large program input / output and cooperative operation with high speed program server.



# High speed and High accuracy

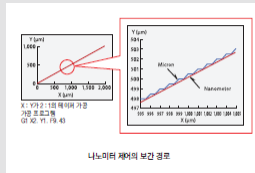
Mitsubishi CNC M700V | M70V Series



High-precision machining  
by nano-control

Full Nano Control

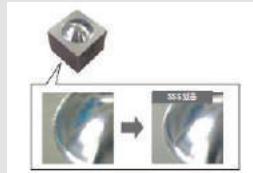
Complete nano control that processes everything from NC operation to servo processing in nano units.  
Advanced machining control technology supports next-generation ultra precision machining.



High-quality processing  
with balanced accuracy and speed

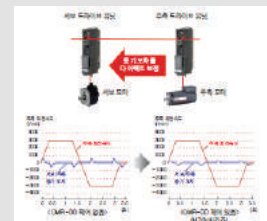
SSS(Super Smooth Surface) Control

Achieve stable high-quality processing without being affected by shape or speed. Even when fine step is included, it is possible to realize a smooth machined surface that is not prone to deviations, and the process time can be shortened by 5-30%.



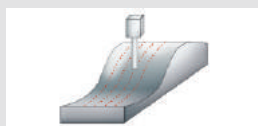
OMR-DD CONTROL  
High-speed sync tab

The control of the main axis and the servo is equipped with a high-speed correction function of error, so that tap processing can be performed at high speed and high accuracy.



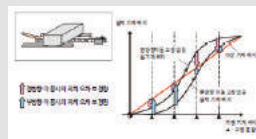
High-speed machining mode  
Machining center system

By predicting multiple blocks, a program with a small amount of movement can be executed at high speed up to 33.7k blocks / minute.  
(TYPE B : Max 8.4K blocks/minute)



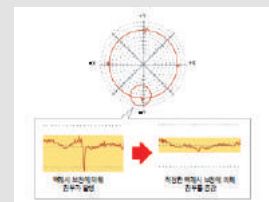
Bidirectional pitch error correction

By predicting multiple blocks, a program with a small amount of movement can be executed at high speed up to 33.7k blocks / minute.  
(TYPE B : Max 8.4K blocks/minute)



Backlash correction in incremental position-dependent form

By improving the pitch error correction function, it is possible to perform correction for each direction by setting the correction amount for forward movement and for forward movement separately.





 **NOMURADS**



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-Specifications maybe subject to change without prior notice (for the purpose of quality improvement and function)