

# MV

Series

**HIGH PERFORMANCE HIGH RIGIDITY VERTICAL MACHINING CENTER**





## YCM MV Series

- The YCM MV Series Vertical Machining Center is the latest developed machine tool for efficient production industries; widely adopted in automobile, aerospace, electronic and precision molds & dies; especial its large Y-axis travel design accommodates most molds & dies applications.
- The MV Series takes the high quality and strengthened MEEHANITE® castings, state-of-the-art scraper works on axial alignments ensure the best support and accuracy. This is also the most durable machine tool for its casting integrated construction.
- The axial movements are in direct transmission configuration with the best force flow performance; pretension ballscrews and the Z-axis guide-bar counter weight (on the MV86A/MV106A) all ensure the accuracy in rapid movement. Various spindle modules for different application requirements, reliable ATC unit, eco-friendly coolant-lubricant separation design and chip disposal system, and the user-friendly operation features all make the MV Series the best value for its money paid.

# High Speed, High Precision Spindle

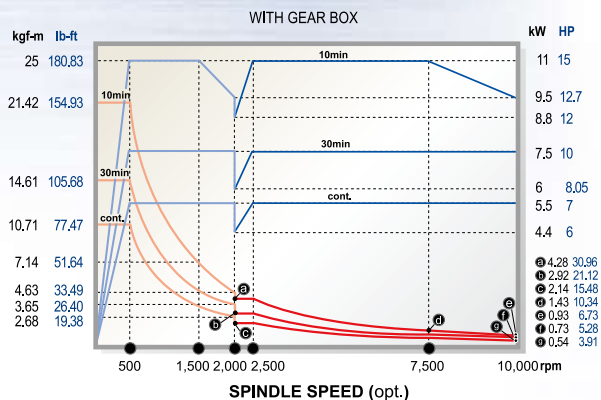
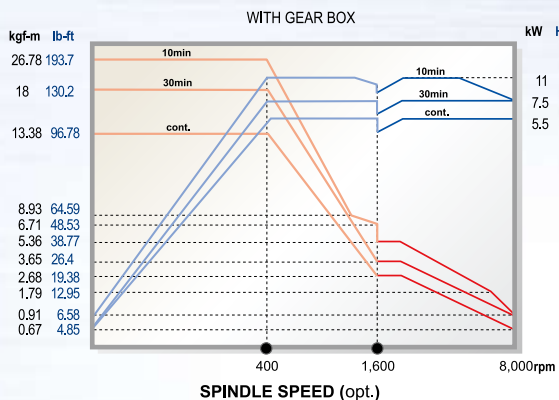
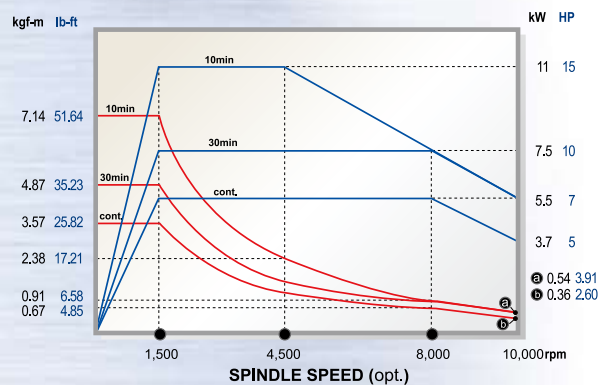
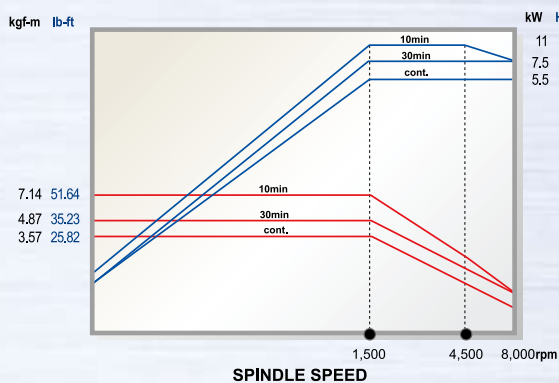
Deploy precision angular contact bearings of high speed and high precision features; the maximum speed of standard spindle reaches 8,000rpm, 10,000rpm. (opt.)

Optionally, the Hi-Lo Gear Transmission box can be offered for higher torque output requirements, and its maximum speed reaches at 8,000rpm, 10,000rpm. (opt.)

Additionally, the IDD spindle can be offered as an option for even more perfect accuracy & movement. The max. spindle speed is at 10,000rpm. (opt.)



**POWER** **TORQUE**  
 L Low Speed L Low Speed  
 H High Speed H High Speed



## Fast & Reliable ATC Unit

- Two types of ATC unit are available for different job requirements.
- The 20T carousel type arm-less system is economical, effective and safe design, as it deploys specially designed detachable holder jaws with power spring clip, and is independently posted.
- The protection lid of tool magazine is added to stop chips and dusts invading into, which assures the cleanness of tools.
- The 24T/30T arm type system (opt.) is driven by roller gear cam of fast and reliable features; it lowers the idle time and enhances the machining efficiency.



20T (opt.)



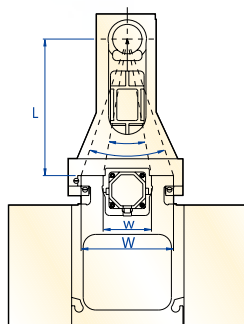
24T (std.) / 30T (opt.)



# MV Series 66A - 76A

## High Rigidity Feed System of the Best Force Flow Design

- The wide span 650mm 25.59" Y-axis base with rigid dual-wall saddle and the V-rib designed base of 860mm 33.86" anchor bolt pitch fully support the X-axis movement for the most dynamic accuracy.
- The no counter weight design Z-axis makes the rapid peck drilling and Z-axis rapid movement at extreme smoothness, and assures the utmost machining accuracy.
- The 510mm 20.1" Y-axis stroke meets most molds & dies machining operation and job shop requirements.
- Various spindle modules, standard with 8,000rpm, 10,000rpm (opt.), and option with high-low gear transmission box enhances the machining possibility.
- Eco-friendly design separates completely the lubricant and coolant to save the operation and maintenance costs.
- The machine can be loaded within standard HQ container in transportation to save the ocean freight, and enhance the competitiveness.



### The Z-axis is outside support design

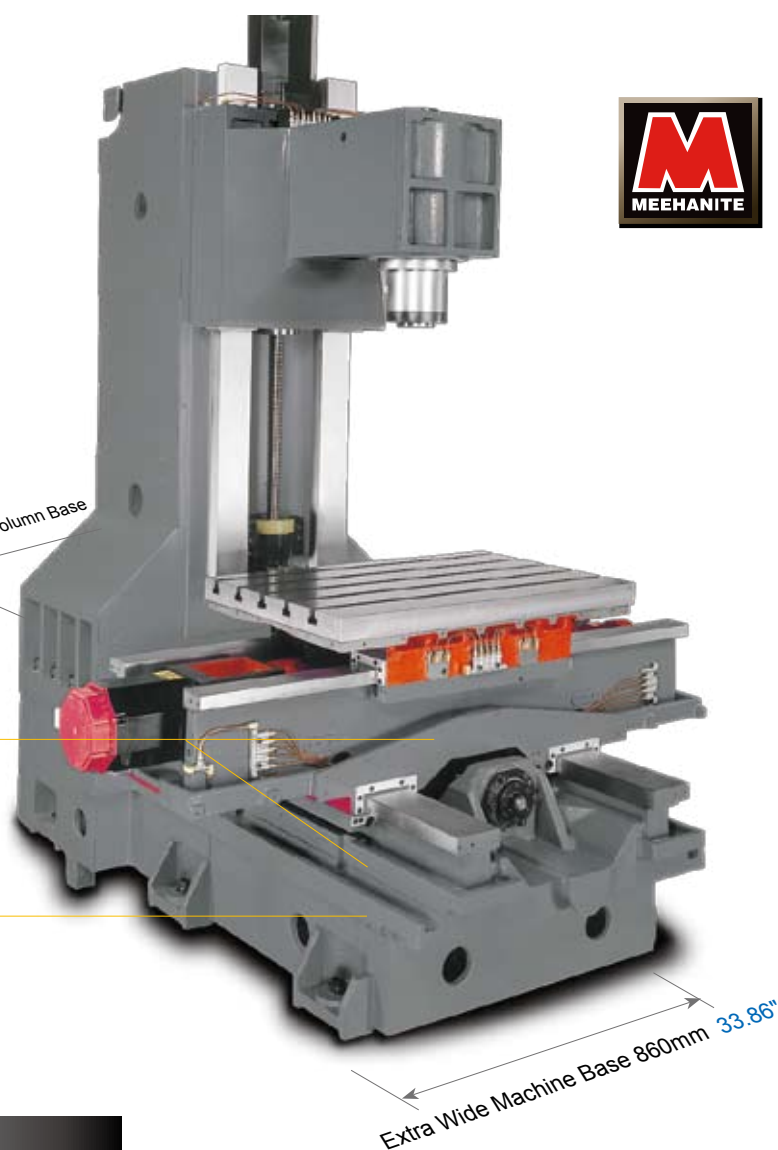
- 1) The best L/W ratio.
- 2) Secure the utmost cutting rigidity.
- 3) The Z-axial movement is very smooth.

### Lubricant Trough

The lubricant from 3-axis slide ways will be collected through the designed route, and drained to the used lubricant tank at the rear side of machine.

### Coolant Trough

To prevent the coolant from leaking through the joint of cover and the base, the coolant is drained to the front coolant collecting tank.



### MV 66A / 76A ACCURACY

	Standard	ISO 10791-4	JIS B 6338 (1985)
<b>Tolerances</b>			
<b>Axial Travel</b>		Full Length	—
<b>Positioning</b>	A	0.010mm (0.0039")	0.004/300mm (0.00016"/11.81")
<b>Repeatability</b>	R	0.007mm (0.0027")	±0.003mm (±0.00012")

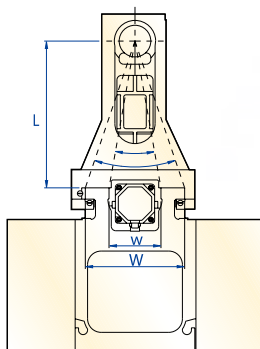
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R.  
All values shown above are measured for machine in good air conditioned environments.

### Axial Rapid Feedrate

X	30m/min. 1,181ipm
Y	30m/min. 1,181ipm
Z	24m/min. 945ipm

## High Rigidity Feed System of the Best Force Flow Design

- The wide span 800mm 31.50" Y-axis base with rigid dual-wall saddle and the V-rib designed base of 1,030mm 40.55" anchor bolt pitch fully support the X-axis movement for the most dynamic accuracy.
- The no counter weight design Z-axis makes the rapid peck drilling and Z-axis rapid movement at extreme smoothness, and assures the utmost machining accuracy.
- The 600mm 23.6" Y-axis stroke meets most molds & dies machining operation and job shop requirements.
- Various spindle modules, standard with 8,000rpm, 10,000rpm (opt.), and option with high-low gear transmission box enhances the machining possibility.
- Eco-friendly design separates completely the lubricant and coolant to save the operation and maintenance costs.
- The machine can be loaded within standard HQ container in transportation to save the ocean freight, and enhance the competitiveness.



### The Z-axis is outside support design

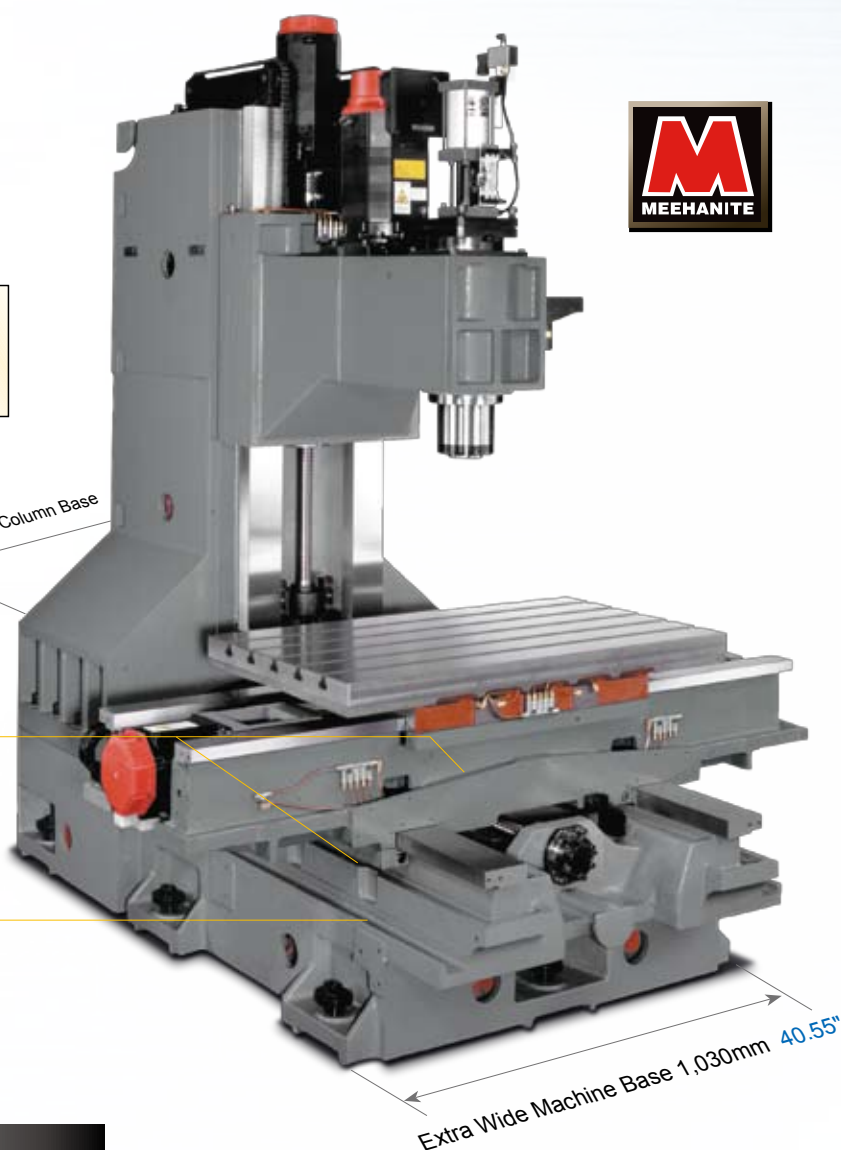
- 1) The best L/W ratio.
- 2) Secure the utmost cutting rigidity.
- 3) The Z-axial movement is very smooth.

### Lubricant Trough

The lubricant from 3-axis slide ways will be collected through the designed route, and drained to the used lubricant tank at the rear side of machine.

### Coolant Trough

To prevent the coolant from leaking through the joint of cover and the base, the coolant is drained to the front coolant collecting tank.



## MV 86A / 106A ACCURACY

	Standard	ISO 10791-4	JIS B 6338 (1985)
Tolerances			
Axial Travel		Full Length	—
Positioning	A	0.010mm (0.0039")	0.004/300mm (0.00016"/11.81")
Repeatability	R	0.007mm (0.0027")	±0.003mm (±0.00012")

VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R.  
All values shown above are measured for machine in good air conditioned environments.

### Axial Rapid Feedrate

X	30m/min. 1,181ipm
Y	30m/min. 1,181ipm
Z	24m/min. 945ipm

# High Efficiency Utmost Performance Integration, Solution & Automation

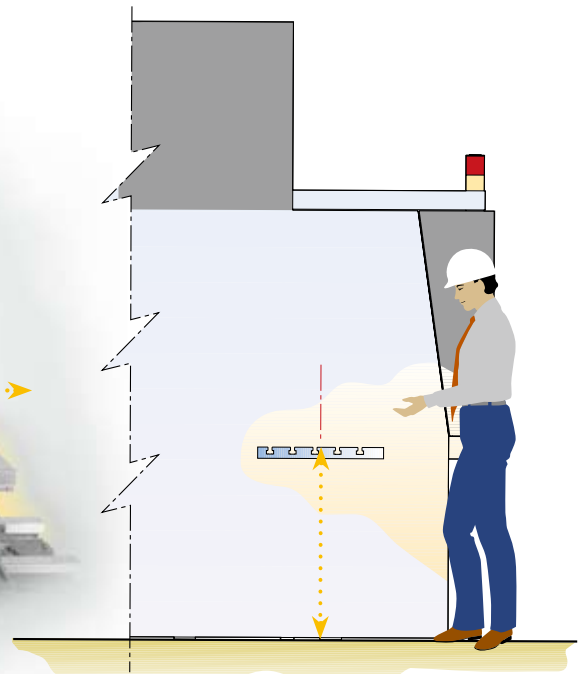
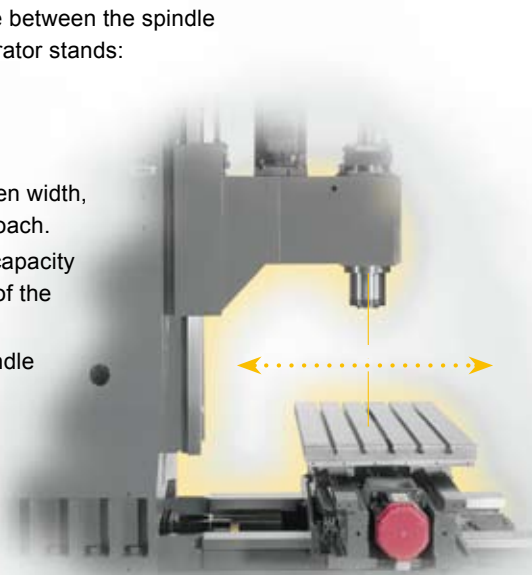
## User-friendly Operation Panel

- The swivel operation panel of appropriate height and clear modular switches lineup is easily operated and conforms to the highest safety compliance.
- All signals and operation messages are clearly displayed for immediate attention and easy maintenance.
- The installation of detachable MPG hand wheel is convenient to job set-up operation and trials.



## Easy-to-approach design of great benefits

- The shortest possible distance between the spindle center line and where the operator stands:  
MV66/76A 820mm 32.28"  
MV86/106A 900mm 35.43"
- The most appropriate door open width, table height, and spindle approach.
- The extra large Y-axis stroke capacity outweighs the other products of the same specifications.
- The distance between the spindle center line and column front:  
MV66/76A 527mm 20.75"  
MV86/106A 617mm 24.29"
- Accommodate widely and variously in machining applications.



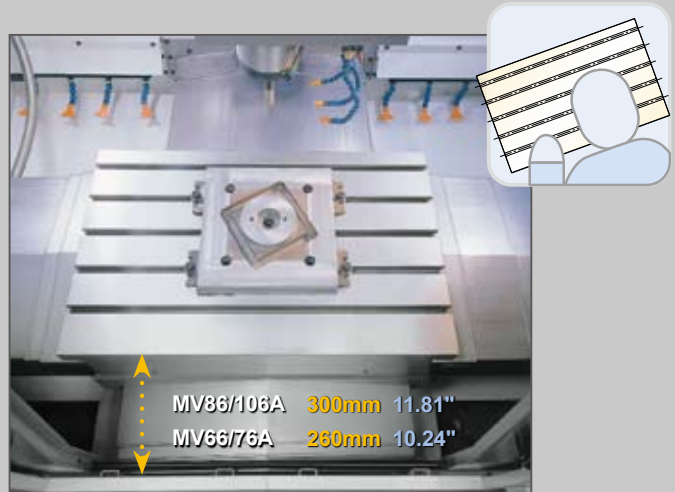
## Large Y-axis Travel

**MV66A/76A 510mm 20.08"**  
**MV86A/106A 600mm 23.62"**

**MV66A/76A 900mm 35.43"**  
**MV86A/106A 880mm 34.65"**



■ MV series Door Opening

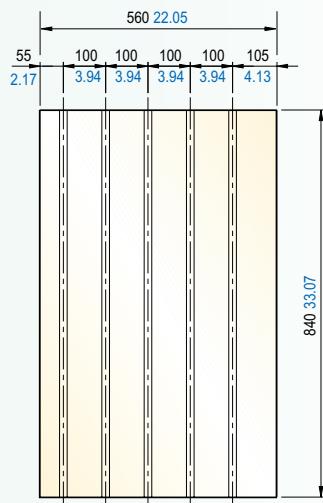


■ MV series Easy-to-approach

# MV *Series* **66A** DIMENSIONS

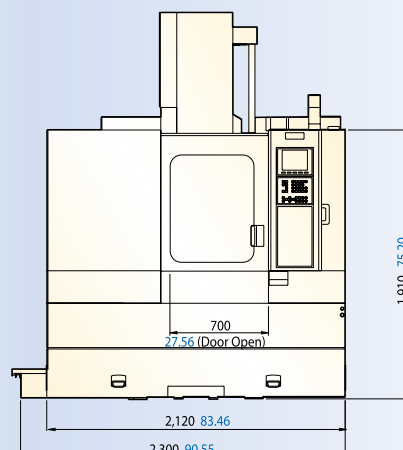
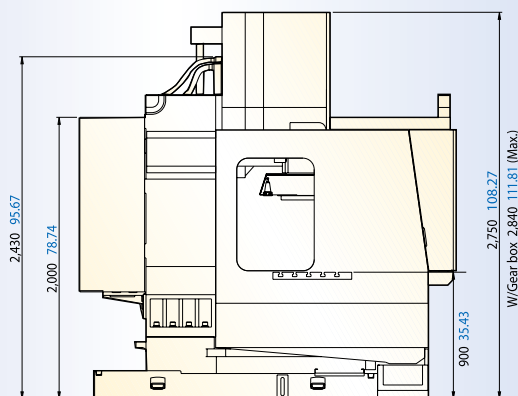
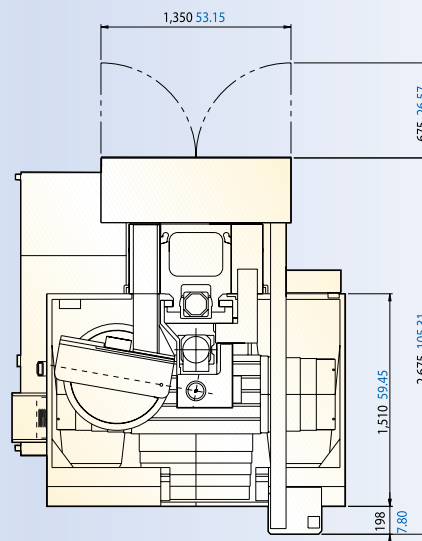
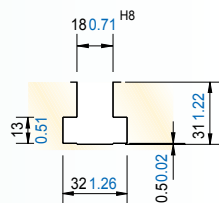


The appearance of the machines will be diverse due to different model and selectivity of controllers.



## TABLE SIZE

## T-SLOTS



The above diagram shows the dimensions of a machine with 20T magazine; The same dimensions fit for a machine with 24T/30T magazine, but only the magazine looks different.

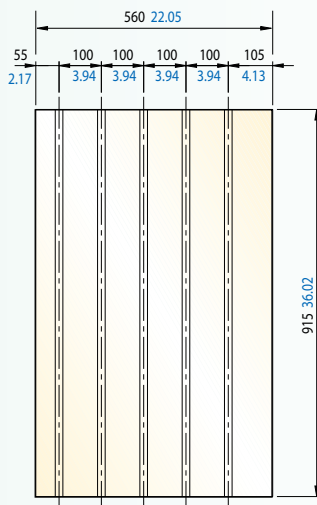
Unit : mm inch



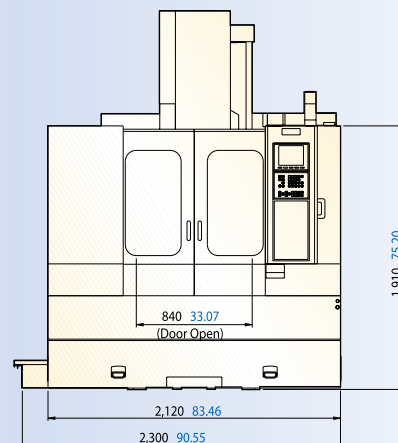
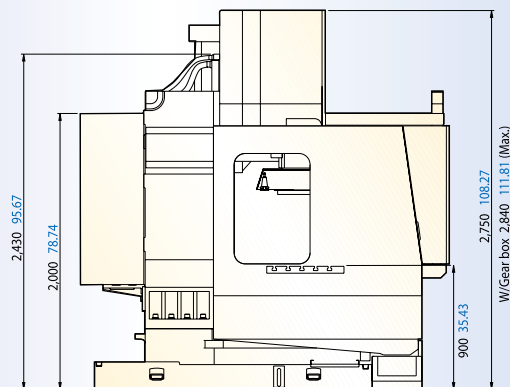
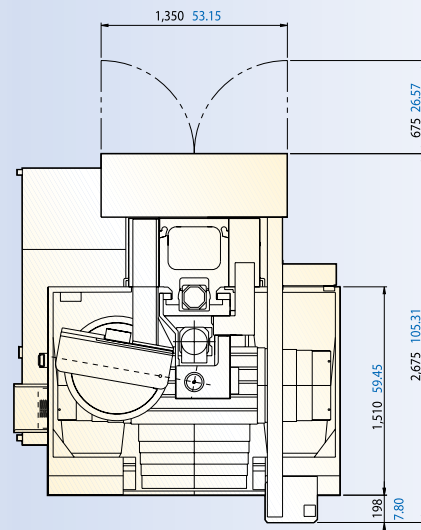
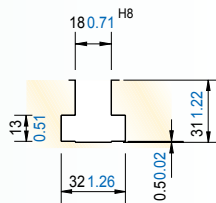
# MV Series 76A DIMENSIONS



The appearance of the machines will be diverse due to different model and selectivity of controllers.



## T-SLOTS



The above diagram shows the dimensions of a machine with 20T magazine; The same dimensions fit for a machine with 24T/30T magazine, but only the magazine looks different.

Unit : mm inch



# MV

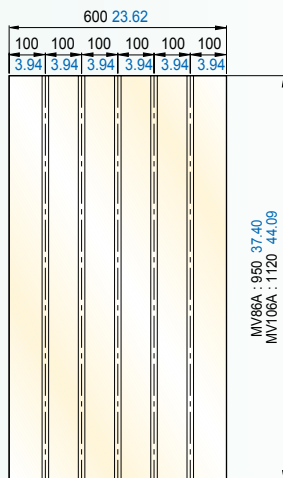
Series

# 86A - 106A

## DIMENSIONS

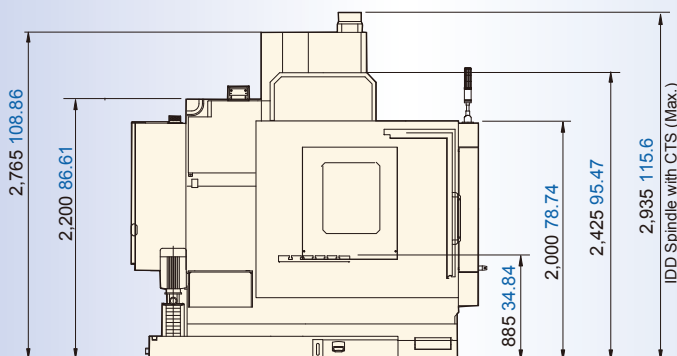
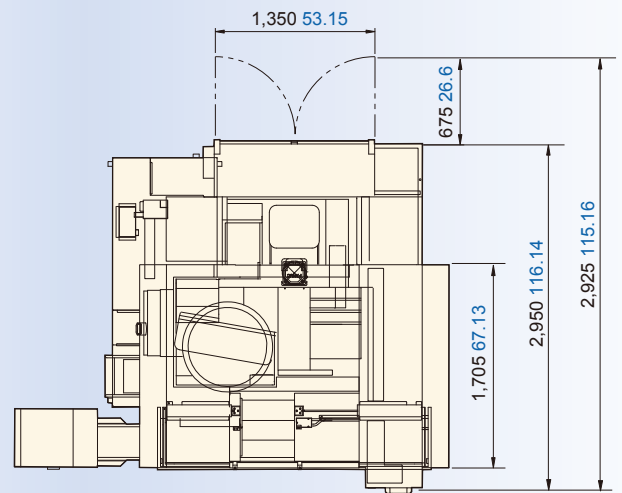
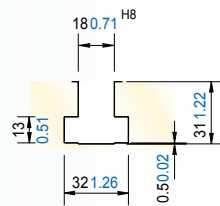


The appearance of the machines will be diverse due to different model and selectivity of controllers.

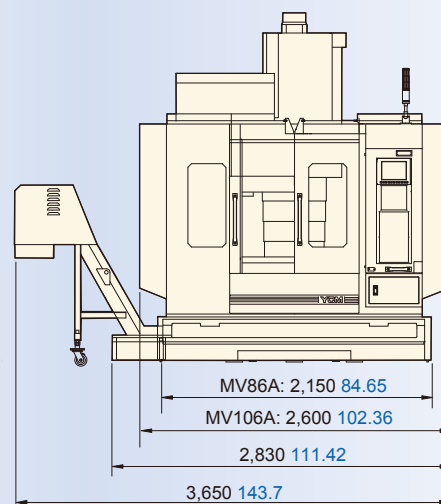


### TABLE SIZE

### T-SLOTS



The above diagram shows the dimensions of a machine with 20T magazine; The same dimensions fit for a machine with 24T/30T magazine, but only the magazine looks different.



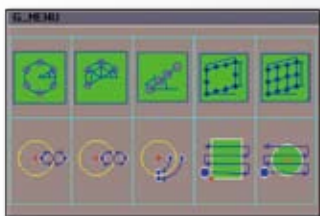
Unit : mm inch

# MXP-200 FB/FC

YCM CONTROL

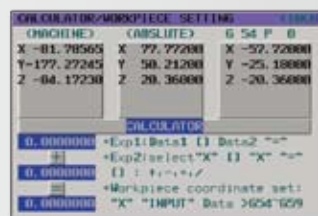
by FANUC

- High Performance AC Digital Servo & Spindle Drives with Super Precision Absolute Positioning Encoders
- AI NANO CNC Controller for High Precision Operation in Nanometers and Acknowledged HRV Control
- AICC II High Speed High Accuracy JERK Function & Auto Switching on/off Machining Control Function
- High Speed High Accuracy Rigid Tapping, Helical Interpolation, Custom Marco B, and Tool Path Graphics
- Manual Guide i with Big & Double Screen Display (MXP-200FC, opt.)
- Program File Management for Easy Program Classifying
- USB Drive Port for Easy Parameters & CNC Programs Transfer
- Large Program Capacity with 1,280 Meters of Memory
- High Speed Positioning Function (MXP-200FC, opt.)
- Memory Card Program Edit & Operation (opt.)
- 3D Interference Check (opt.)
- NANO Smooth (opt.)



## ■ G-menu Function

User-friendly G-menu function provides multiple machining cycles that greatly simplifies programming steps



## ■ Calculator Function

Convenient calculator function provides fast calculation and setting of workpiece offsets



## ■ Easy Shop-floor Programming Manual Guide i

Easy to use conversational software offers convenience of part programming right on the shop-floor with 3D graphical display and full simulation function



## ■ Counter Function

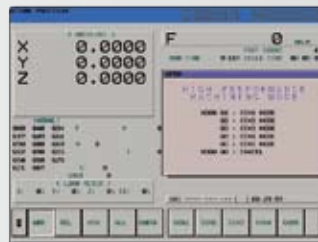
Allows user to easily keep track on number of workpieces with:

- Main Counter
- Periodical Counter
- Daily Counter
- Over Cycle Alarm



## ■ Intelligent Tool Data Management

Comprehensive tool data management function allows operators to monitor and manage all positions in tool magazine



## ■ High Speed Machining Mode: M400

Combined with artificial intelligence, M400 provides users more convenient and easier ways of operation and achieves fast cycle time for the best machining result.



## ■ Pop-up Alarm Display

Detailed troubleshooting procedures will be automatically displayed when machine alarm occurs that allows users to restore machine status and minimize down time



## ■ Intelligent Maintenance Reminder

Pre-set maintenance schedules are programmed to remind operators to inspect periodically prolonging machine life



## ■ Automatic Tool Length Measurement

Pre-set macros and graphical procedure are provided for automatic tool length measurement function



## ■ Manual Tool Length Measurement

Easy setup of tool length measurement provides convenient setting of tool offsets data from one tool to another



# *i* OPERATION *Plus*

Software enhancement exclusively from YCM



## Multi-function Display

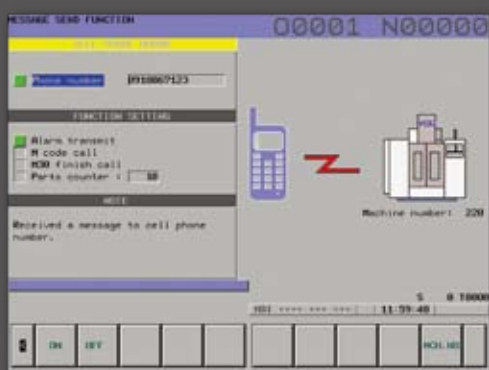
Easily select multiple windows from the following list of display for your monitoring needs.

- |                            |                     |                    |
|----------------------------|---------------------|--------------------|
| ■ G-code Status            | ■ Feedrate          | ■ Parts Count      |
| ■ M-code Status            | ■ Tool Data         | ■ Machining Hours  |
| ■ Spindle Status           | ■ Work Coordination | ■ Date and Time    |
| ■ Controller Running Hours | ■ Spindle Load      | ■ Function Display |



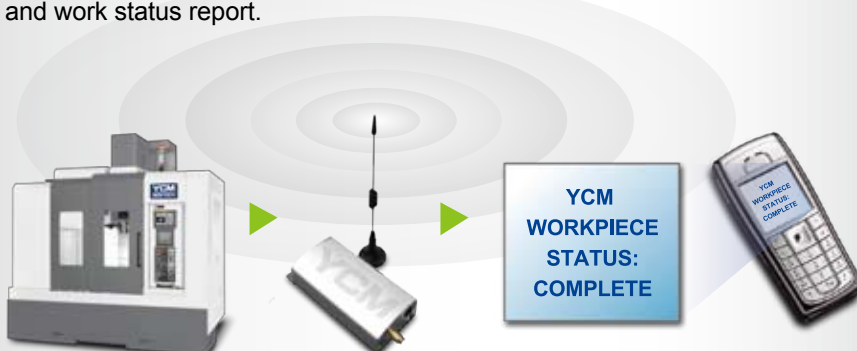
## High Performance Machining Mode: M300

High performance mode with 5 settings allows users to select for the best machining results.



## Wireless Message Notification (opt.)

Integrating GSM communication and CNC technology, YCM developed the WMN system for wireless notification of machine and work status report.





# SPECIFICATIONS

	MV66A	MV76A	MV86A	MV106A
SPINDLE				
Spindle Speed/Power (std.)	8,000rpm 5.5/7.5/11kW 7.5/10/15HP (cont./30min./10min.)			
Spindle Speed/Power (opt.)	10,000rpm 7.5/11/15kW 10/15/20 HP (cont./30min./10min.)			
Spindle Taper	BT40		BT40 (IDD Spindle: BBT40)	
Front Bearing Diameter	ø70mm ø2.76"			
TRAVEL				
X-axis Travel	660mm 25.98"	762mm 30"	850mm 33.46"	1,020mm 40.16"
Y-axis Travel	510mm 20.08"		600mm 23.62"	
Z-axis Travel	560mm 22.05"		600mm 23.62"	
Distance Between Spindle Nose & Table Top	120~680mm 4.72"~26.77"		80~680mm 3.15"~26.77"	
TABLE				
Table size	840mm × 560mm 33.07" × 22.05"	915mm × 560mm 36.02" × 22.05"	950mm × 600mm 3.74" × 23.62"	1,120mm × 600mm 44.09" × 23.62"
T-Slots × Size × Pitch	5 × 18mm × 100mm 5 × 0.71" × 3.94"			
Max. Load on Table	500kg 1,102 lb		800kg 1,764 lb	
FEEDRATE				
Rapid Feedrate	30/30/24m/min. 1,181/1,181/945ipm			
Cutting Feedrate	1~10,000mm/min. 0.04~394ipm			
ATC				
Tool Magazine Capacity (opt.)	24T (20/30T)			
Max. Tool Weight	6kg/pc 13.23 lb/pc			
Pull Stud	MAS-P40T-1			
Max. Tool Dimensions	20T: ø95mm × 300mm ø3.74" × 11.81" 24T: ø90mm × 300mm ø3.54" × 11.81" 30T: ø76mm × 300mm ø2.99" × 11.81"			
Max. Tool Dimensions (Without adjacent tools)	20T/30T: ø125mm ø4.92" 24T: ø140mm ø5.51"			
Tool Changer Method	20T: Armless Type 24/30T: Arm Type			
Tool Selection Method	20T: Sequence 24/30T: Random			
GENERAL				
Pneumatic Supplier	5.5kg/cm² 78.2psi			
Power Consumption (Transformer)	34kVA (40kVA)			
Machine Weight	5,000kg 11,023 lb	5,100kg 11,243 lb	6,450kg 14,220 lb	6,500kg 14,330 lb

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

## STANDARD ACCESSORIES

- Tool Kit
- Work Lamp
- Pilot Lamp
- Safty Door
- Coolant Gun
- Coolant Equipment System
- Guideway Cover(X,Y,Z)
- Cutting Air Blast
- Spindle Air Blast
- Spindle Air Seal
- Chip Enclosure (MV66A/76A)
- Full Chip Enclosure (MV86A/106A)
- Leveling Blocks and Bolts
- Central Lubrication System
- Rigid Tapping
- Heat Exchanger for Electrical Cabinet
- Mechanical, Electrical & Operating Manuals
- Oil Skimmer
- Air Gun
- Automatic Tool Change
- CNC Controller: MXP-200FB

## OPTIONAL ACCESSORIES

- Coolant Through Spindle System
- Foundation Bolts
- Oil-Mist Coolant System
- Oil Hole Holder Function
- Chips Flush Coolant System
- Chip Conveyor
- Workpiece Measurement System
- Automatic Power Off Device
- A/C. Cooler for Electrical Cabinet
- Optical Scale
- Automatic Door
- 4th Axis Rotary Table
- Spindle Cooling System
- Heavy Duty Coolant Pump
- Auto Tool Length Measurement System
- Circular Coolant Nozzle
- Oil-Mist Collector
- Hi-Low Gear Transmission
- Machine Height 250mm More (MV86A,MV106A)
- CNC Controller: HEIDENHAIN iTNC-530
- CNC Controller: MXP-200FC



**YEONG CHIN MACHINERY INDUSTRIES CO., LTD.**  
888 HOMU RD., HSINCHUANG ■ SHENGANG, TAICHUNG, TAIWAN  
Web Page: [WWW.YCMCNC.com](http://WWW.YCMCNC.com) ■ Email: [sales@YCMCNC.com](mailto:sales@YCMCNC.com)



**Tel : +886-4-2562-3211**  
**Fax: +886-4-2562-6479**