

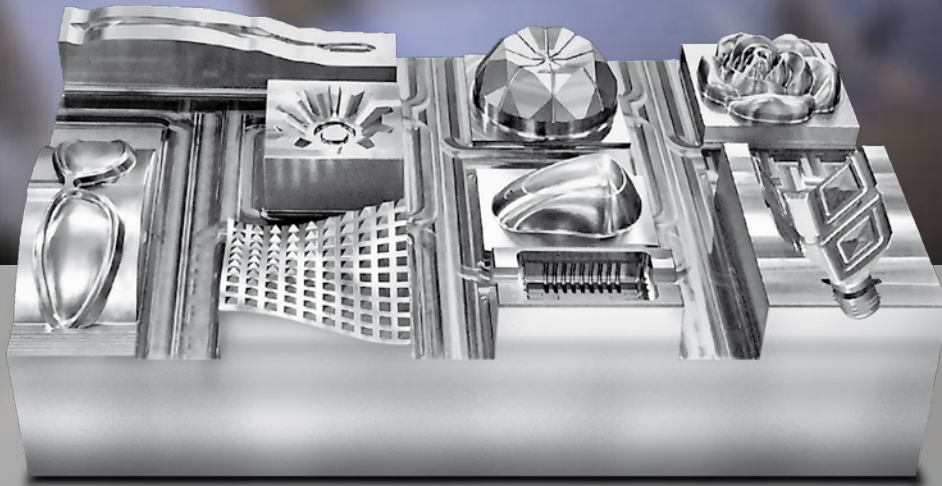
NDV Series

HIGH PRECISION DIE & MOLD VERTICAL MACHINING CENTER

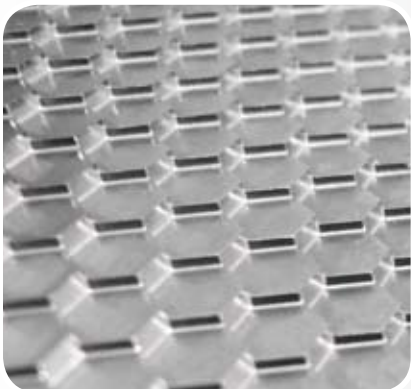


NDV Series

High Precision Die & Mold Vertical Machining Center



The brand-new NDV series is especially developed for die & mold industry that demands ultra high precision and high efficiency machining applications.



NDV 66A • 85A • 102A

*High Precision
Die & Mold*



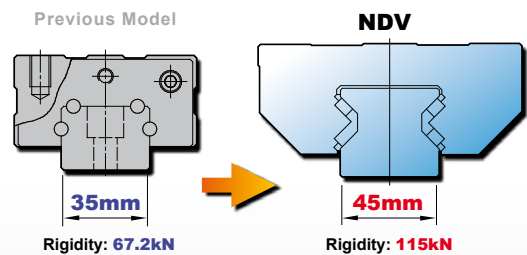
NDV

66A ■ 85A ■ 102A

High Precision Die & Mold Vertical Machining Center

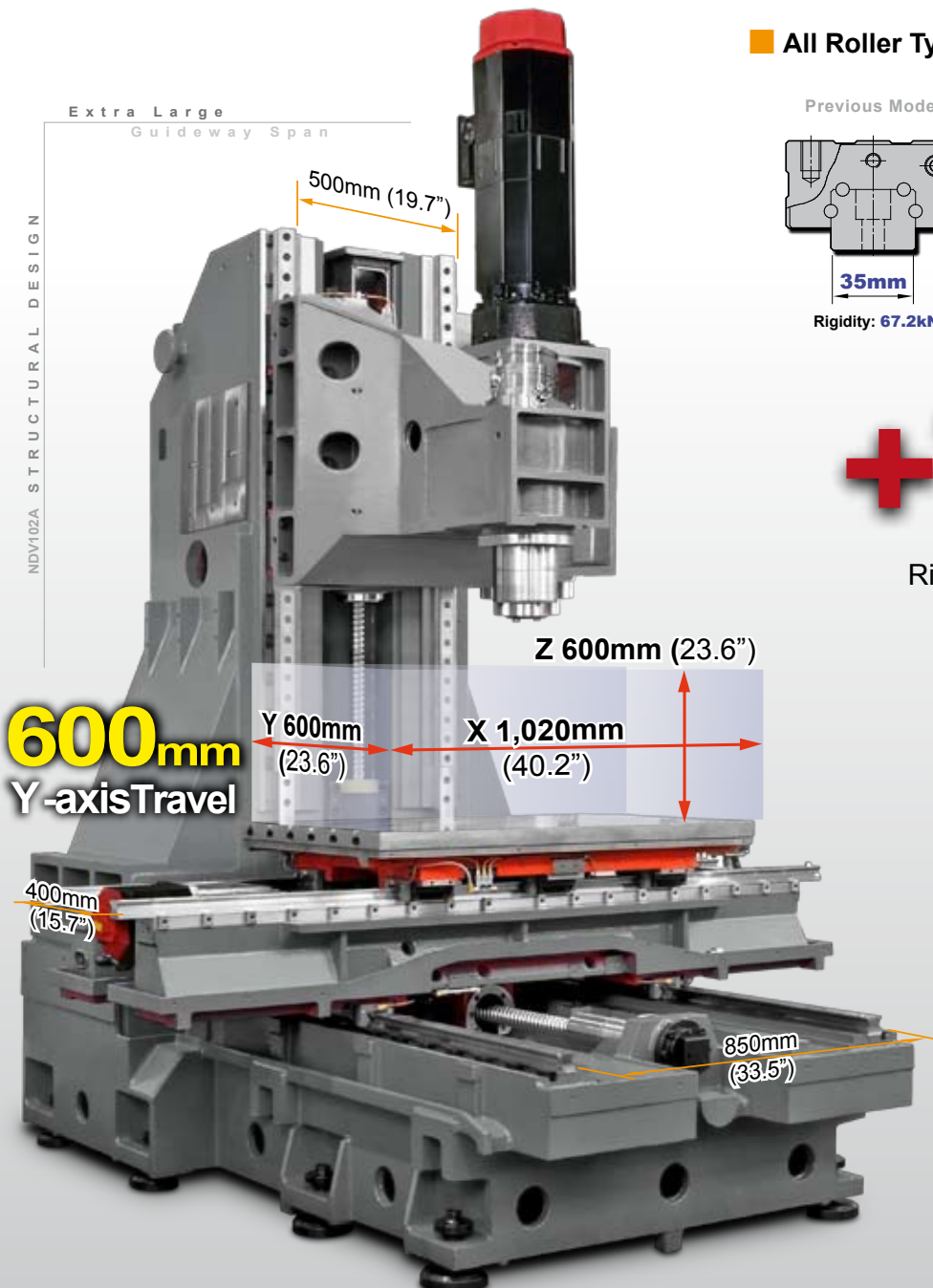
The strong mechanical structures made by MEEHANITE® casting provide the best rigidity and stability. Three axes are equipped with oversize roller type guideways, high precision ball screws, and direct driven servo motors for low vibration during machining. The NDV series provides superb cutting accuracy through optimal structural design with high damping capacity. The exclusive high performance machining mode of the NDV series enables the fastest machining efficiency and optimal accuracy. Definitely, the NDV series is the best choice for die & mold industry.

■ All Roller Type Guideways



+70%

Rigidity Increased by

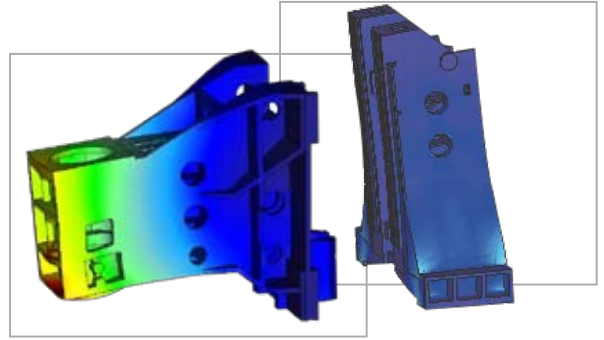


NDV Series Rapid Feedrate

X	24m/min.	945ipm
Y	24m/min.	945ipm
Z	24m/min.	945ipm

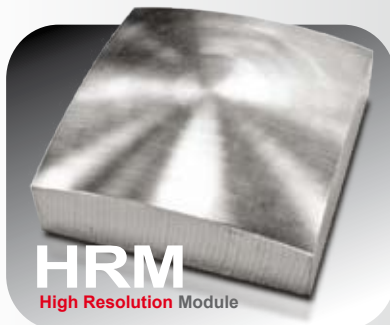
Advanced Structure

Advanced design with reinforced body structure through FEM analysis, the NDV series offers superb cutting rigidity and low vibration to meet die & mold machining demand.



HIGH RESOLUTION

By combining the exceptional high performance hardware and our exclusive sophisticated software, YCM has lifted up the level of precision and craftsmanship for various die & mold applications.



HRM HIGH RESOLUTION MODULE

Ultra fine and smooth movement for the high precision cutting performance.



M 300

HIGH PERFORMANCE MACHINING MODE

High performance mode with 5 settings achieves the best machining results.



STC PLUS

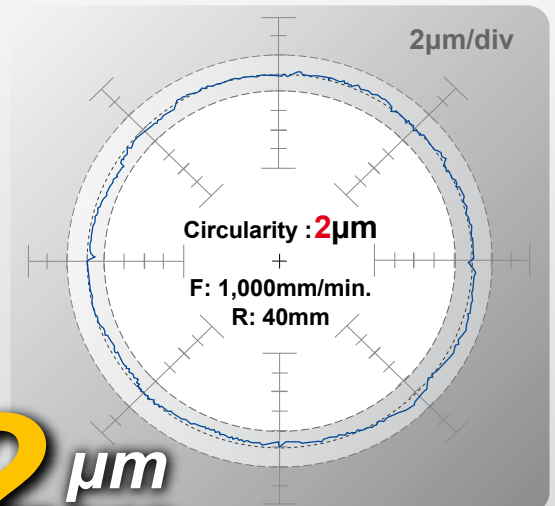
SPINDLE THERMAL COMPENSATION

Compensation through artificial intelligence maintains spindle growth within only 20μm.

20 less than μm Guarantee



- Double Nuts Ball Screw.
- Roller Type Guideways with Heavy Frame.



- By going through a well-thought-out examine, the NDV series is able to maintain a perfect circularity during cutting.

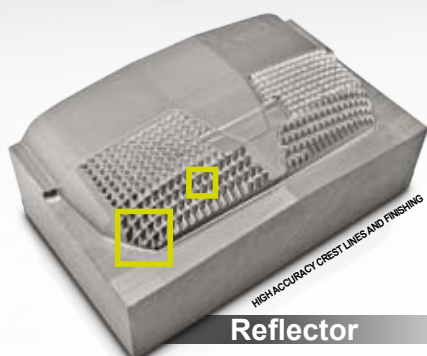
NDV Series		ACCURACY	
Standard		ISO 10791-4	JIS B 6338
Tolerances			
Axial Travel		Full Length	300mm
Positioning	A	0.010mm (0.00039")	0.003mm (0.00012")
Repeatability	R	0.007mm (0.00027")	±0.002mm (±0.00008")

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

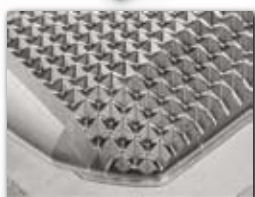
■ Unique IDD Spindle

The unique IDD spindle offers low vibration and optimal heat isolation that results in excellent surface finish while maximizing both spindle and tool life under hard milling conditions.

The oversize angular ceramic contact bearings generate very little heat and with the efficient oil-air lubrication system, the IDD spindle provides excellent radial and axial rigidity for strict roughing, drilling, and tapping operations.



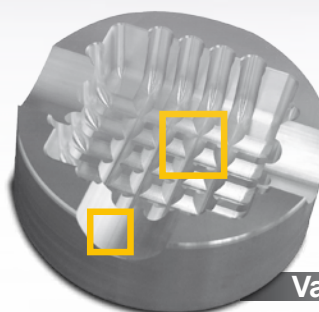
Reflector



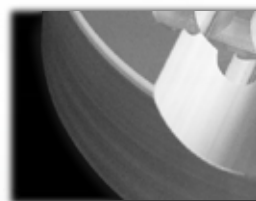
Material NAK-80 (HRC-40°)
Pre-hardened mold steel

Size W : 92mm
D : 56mm
H : 26mm

Tooling Speed R0.5-BEN
15,000rpm
Feed 1,500mm/min.
Time **112min.**



Vacuum Mold



Material P20

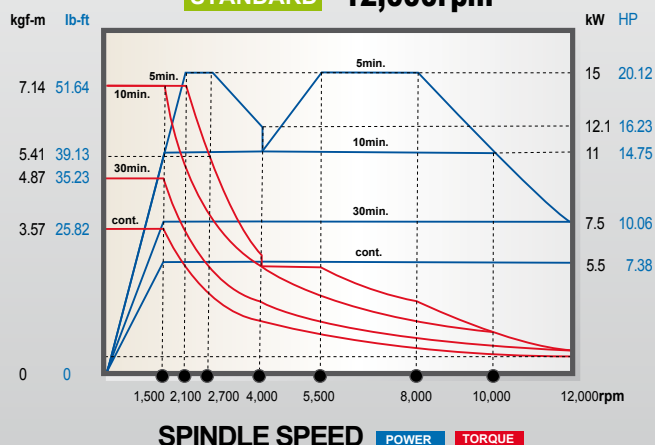
Size ø100 x 35mm

Tooling Speed R1.5-BEN
20,000rpm
Feed 1,200mm/min.
Time **240min.**



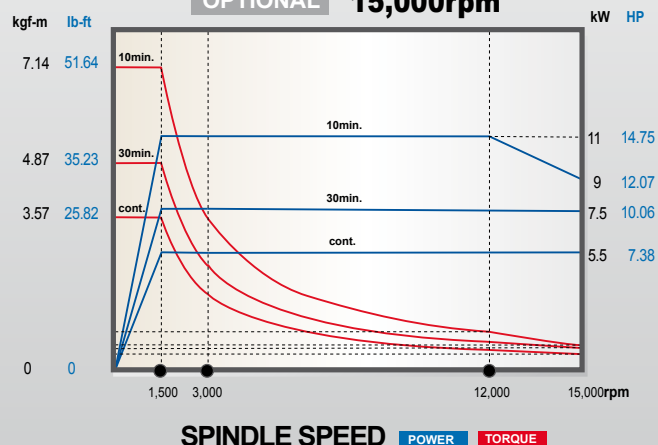
IDD Spindle

STANDARD 12,000rpm



IDD Spindle

OPTIONAL 15,000rpm



Low Winding

NDV

66A ■ 85A ■ 102A

High Precision Die & Mold Vertical Machining Center

HIGH SPEED BUILT-IN Motorized Spindle

Special spindle collet system protects bearings from distortion and prolongs bearings lives.

Micro oil-air lubrication system minimizes thermal deformation during high speed machining.

The double-faced dynamic balance provides the best cutting quality.

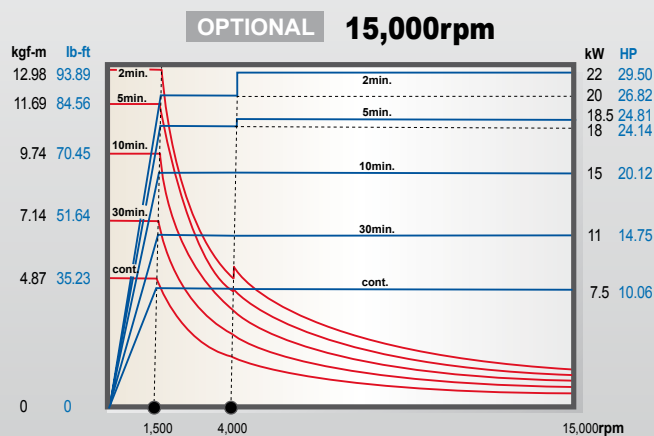
BBT design for tool taper fitting ensures perfect spindle rigidity.

Floating design of rear bearing greatly improves thermal problem.



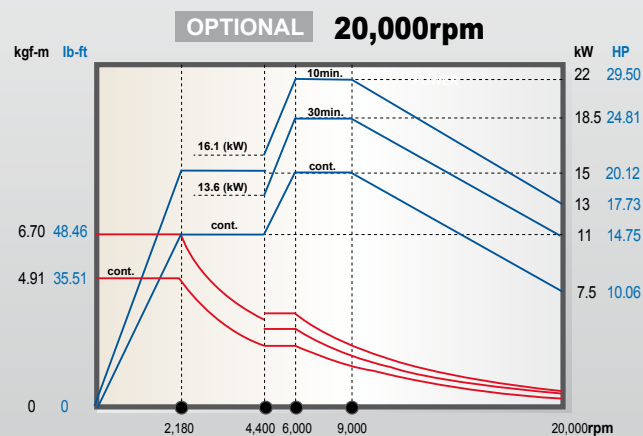
IDD Spindle

Built-in Motorized Spindle



SPINDLE SPEED POWER TORQUE

High Winding

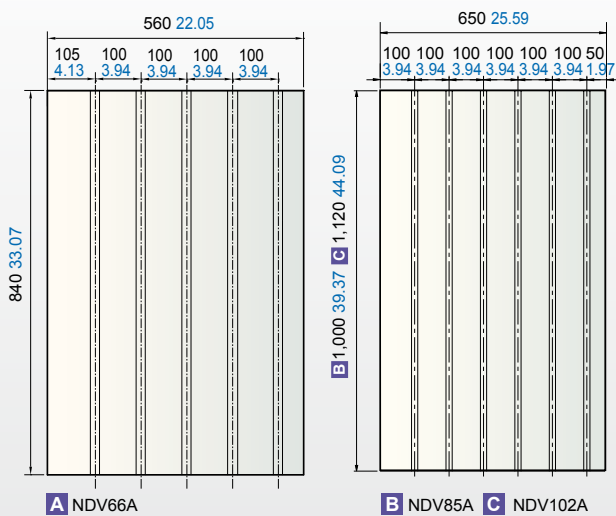


SPINDLE SPEED POWER TORQUE

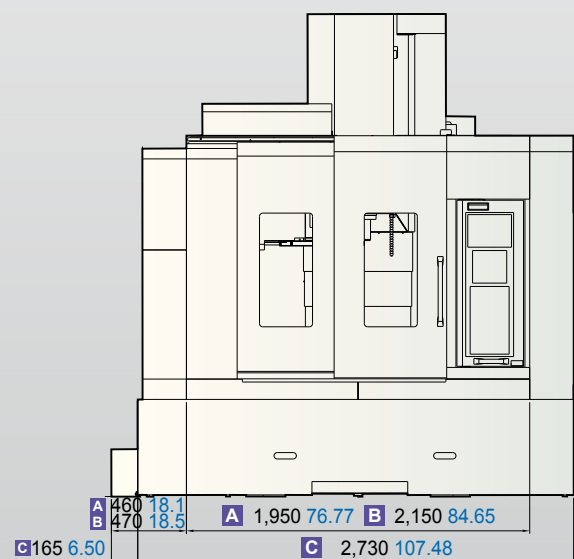
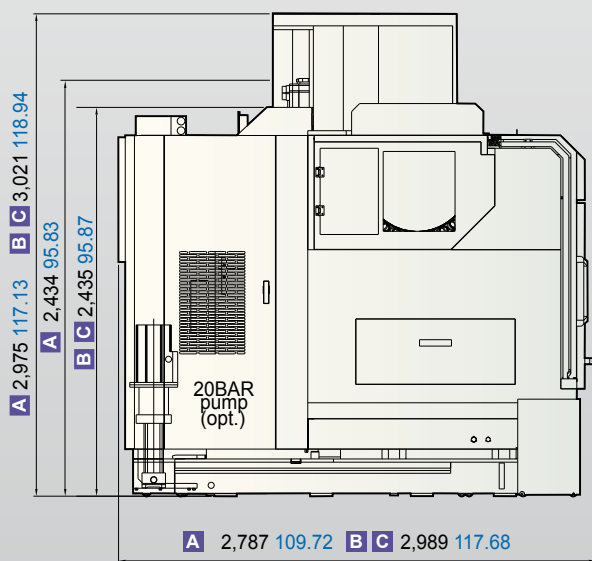
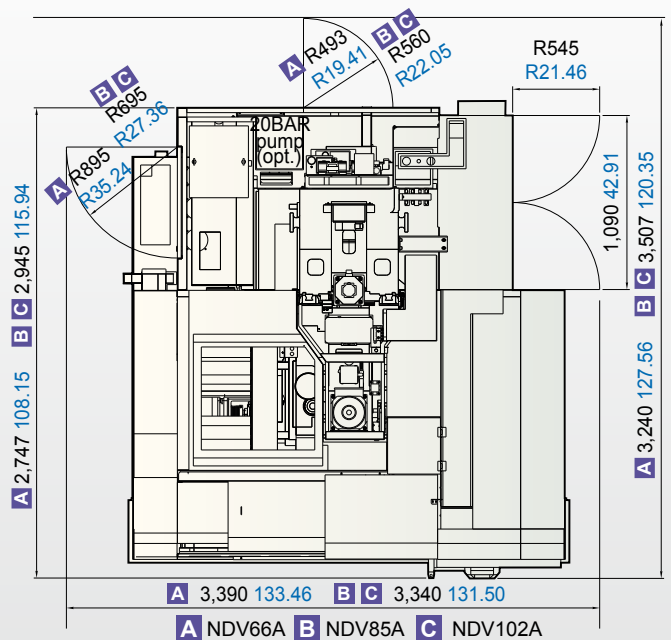
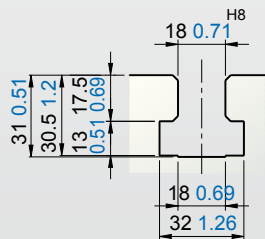
DIMENSIONS & TABLE SIZE

NDV66A/85A/102A

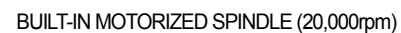
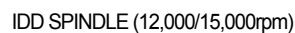
TABLE SIZE



T-SLOTS



PULL STUD AND SHANK



(YCM Supply)

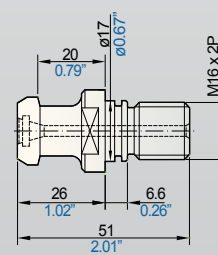
(Special Order)

(YCM Supply)

DIN69871(#40)

(Special Order)

(YCM Supply)

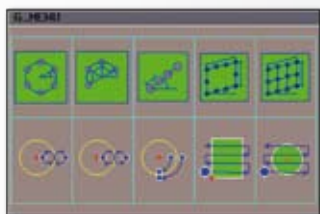




MXP-200 FB/FC

YCM CONTROL
by **FANUC**

- High performance AC digital servo & spindle drives
- High resolution 10.4" color LCD monitor with dynamic graphic display
- Manual guide i conversational function greatly reduces programming and setup time
- Built-in AICC II and high speed JERK function
- Auto switching on/off high speed high accuracy machining control function
- High speed rigid tapping, helical interpolation, custom macro B, and tool path graphics
- Combined uses of many high performance microprocessors, high speed memory and the adoption of Multi-CPU system for super high speed control processing
- Large program capacity with 1,280 meters of memory
- Program management by program folders and file names
- Power failure module
- Full alphanumeric keyboard allows easy program editing
- PCMCIA slot for easy file transfer and memory expansion
- Dynamic display language switching function
- RS-232C interface ready for fast program transfer
- Powerful servo motors with super precision absolute positioning encoders (opt.)
- Editing and operation of a memory card and data server (opt.)
- FANUC program transfer tool (opt.)
- Tool management functions (opt.)
- Learning control for parts cutting and rigid tapping (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



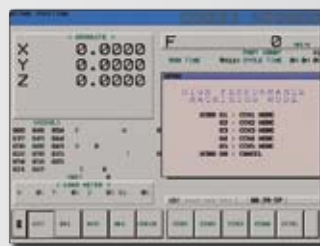
- **Easy Shop-floor Programming Manual Guide i**
Easy to use conversational software offers convenience of part programming right on the shop-floor with 3D graphical display and full simulation function



- **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*

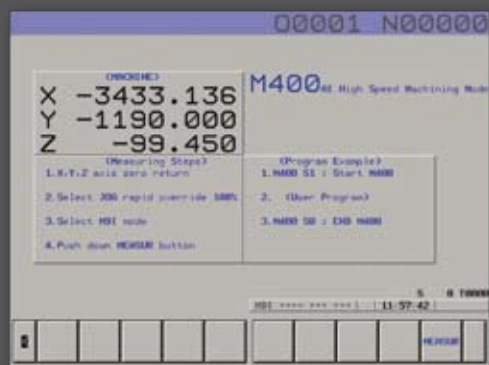
Software enhancement exclusively from YCM



Multi-function Display

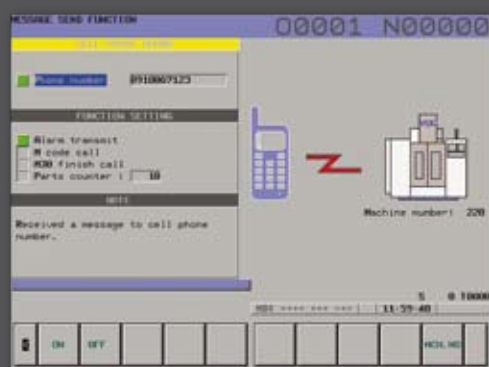
Easily select multiple windows from the following list of display for your monitoring needs.

- | | | |
|----------------------------|---------------------|--------------------|
| ■ 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 |



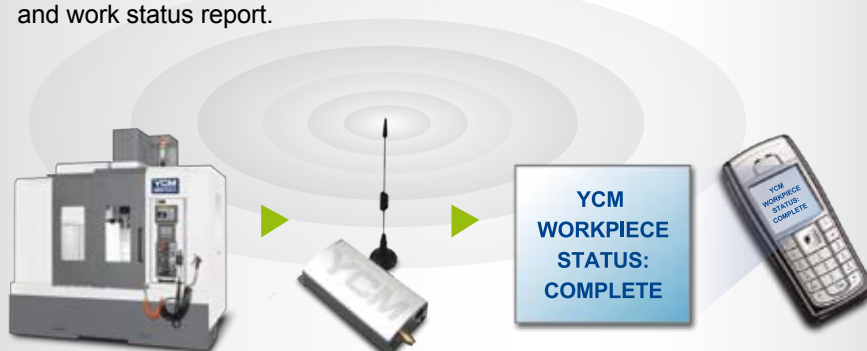
High Performance Machining Mode: M300

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

		NDV66A	NDV85A	NDV102A
SPINDLE				
Spindle Speed/Power	12,000rpm	5.5/7.5/11/15kW 7/10/15/20HP (cont./30min./10min./5min.)		
Spindle Speed/Power (opt.1)	15,000rpm	5.5/7.5/11kW 7/10/15HP (cont./30min./10min.)		
Spindle Speed/Power (opt.2)	15,000rpm	7.5/11/15/18.5/22kW 10/15/20/25/30HP (cont./30min./10min./5min./2min.)		
Spindle Speed/Power (opt.3)	20,000rpm	15/18.5/22kW 20/25/30HP (cont./30min./10min.)		
Spindle Taper	BBT40			
TRAVEL				
X-axis Travel	660mm 25.98"	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	100~660mm 3.94~25.98"	100~700mm 3.94~27.56"		
TABLE				
Table Size	840 x 560mm 33.07 x 22.05"	1,000 x 650mm 39.37 x 25.59"	1,120 x 650mm 44.09 x 25.59"	
No. T-slots x Size x Pitch	5 x 18mm x 100mm 5 x 0.71" x 3.94"	6 x 18mm x 100mm 6 x 0.71" x 3.94"		
Max. Load on Table	500kg 1,102.3 lb	1,000kg 2,204.6 lb		
FEEDRATE				
Rapid Feedrate X/Y/Z	24/24/24 m/min. 945ipm			
Cutting Feedrate	1~10,000mm/min. 0.04~393.7ipm			
ACCURACY				
	ISO 10791-4		JIS B 6338	
Positioning A	0.010mm 0.00039"	0.003mm 0.00012"/300mm		
Repeatability R	0.007mm 0.00027"	±0.002mm ±0.00008"		
ATC				
Tool Magazine Capacity	30T			
Max. Tool Weight (Per Piece)	6kg 13.2 lb			
Max. Tool Dimensions	ø76 x 300mm ø2.99 x 11.81"			
Max. Tool Dimensions (W/O Adjacent Tools)	ø125mm x 300mm ø4.92 x 11.81"			
Tool Change Time (Tool to Tool)	2.5 Sec.			
Tool Changer Method	Arm Type			
Tool Selection Method	Random			
GENERAL				
Pneumatic Supplier	5.5kg/cm ² 78.2psi			
Power Consumption (opt.1/opt.2/opt.3)	30kVA (30/33/39kVA)			
Transformer (opt.1/opt.2/opt.3)	30kVA (30/40/40kVA)			
Machine Weight	6,500kg 14,330 lb	6,800kg 14,991 lb	7,000kg 15,432 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
- Guideway Cover (X,Y,Z)
- Coolant Equipment System
- Chip Augers (On Both Sides of Y-axis)
- Spindle Air Seal
- Spindle Air Blast
- Cutting Air Blast
- Spindle Cooling System
- Full Chip Enclosure
- Leveling Blocks and Foundation Bolts
- Central Lubrication System
- Rigid Tapping
- Air Gun
- Heat Exchanger for Electrical Cabinet
- Mechanical, Electrical & Operating Manuals
- CNC Control: MXP-200FB

OPTIONAL ACCESSORIES

- Optical Scale
- Foundation Bolts
- Chip Conveyor
- Chips Flush Coolant System
- Oil-mist Coolant System
- Oil-mist Collector
- Oil Hole Holder Function
- Oil Skimmer
- A/C. Cooler for Electrical Cabinet
- Coolant Through Spindle System
- 4th Axis Rotary Table
- Heavy Duty Coolant Pump
- Workpiece Measurement System
- Auto Tool Length Measurement System
- Circular Coolant Nozzle
- STC Plus
- STC Super
- CNC Control: HEIDENHAIN iTNC-530
- CNC Control: FANUC 18i-MB

ACCESSORIES

■ Standard ■ Optional



■ Air Gun & Coolant Gun



■ M.P.G. Handwheel



■ Oil Skimmer



■ Workpiece Measurement System



■ Auto Tool Length Measurement System



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