

VMC

YCM PRODUCT LINES

Vertical Machining Center

FP Series High Precision High Performance Die Mold Vertical Machining Center / High Precision Graphite Vertical Machining Center
 FP55LX, FP66A, FP100A / FP66G

NXV Series High Performance Vertical Machining Center
 NXV560A, NXV1020A/AM, NXV1380A, NXV1680A/B

TV Series Heavy Duty Vertical Machining Center
 TV116B, TV146B, TV158B, TV188B, TV2110B, TV2610B, TV850B

NTV Series High Efficiency T-base Vertical Machining Center
 NTV158A/B

NMV Series High Performance High Rigidity Vertical Machining Center
 NMV76A, NMV106A

WV Series Ultra Wide High Performance Vertical Machining Center
 WV108A/B

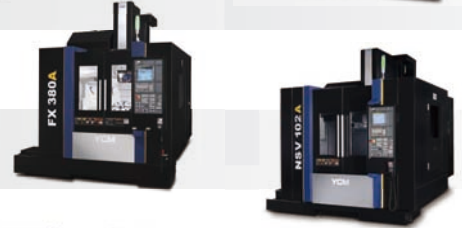
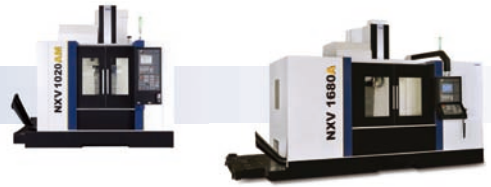
NFX Series High Performance 5-axis Vertical Machining Center
 NFX380A

NSV Series Ultra High Performance Vertical Machining Center
 NSV66A, NSV102A, NSV102AM, NSV156A

TCV Series High Performance Traveling Column Vertical Machining Center
 TCV2000A, TCV3000A, TCV3000A-5AF, TCV3000A-5AX

DCV Series Advanced Double Column Vertical Machining Center
 DCV2012A/B, DCV3016B-6035B, DCV2018A-5AX, DCV4030B-6030B-5AX, DCV4030B-5AF

NDC Series High Performance Double Column Vertical Machining Center
 NDC2016B-4016B, NDC3022B-6027B, NDC2018B-4018B-AHC, NDC3022B-6027B-AHC

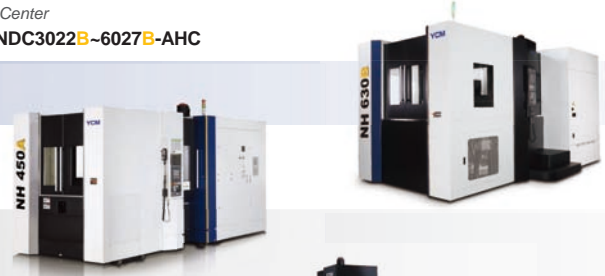


HMC

Horizontal Machining Center

H Series High Production Horizontal Machining Center
 H2612B

NH Series High Speed High Precision Horizontal Machining Center
 NH450A, NH630B, NH800B



HBM

Horizontal Boring Milling Machining Center

BMP Series High Accuracy Heavy Duty Boring Machine
 BMP1416B



CNC LATHES

CNC Turning Center

NT Series High Performance Mill/Turn Center
 NT-2000Y/SY, NT-2500Y/SY, NT-2000SY2



GT Series High Performance Geo Turning Center
 GT-200A/B/MA, GT-250A/B/MA/MB, GT-300A/B/LA/LB/MA/MB/LMA/LMB, GT-380A/B/LA/LB



TC Series High Performance High Precision CNC Lathe
 TC-16A/B/LA/LB/MA/MB/LMA/LMB, TC-26, TC-26L, TC-36, TC-36W, TC-46, TC-46M



INTEGRATION AND SOLUTIONS

Integrated Operation Control System **iOPERATION**
 Spindle Thermal Compensation System **STCPLUS**
 Remote Monitoring System **iDirect**

Automation Solutions



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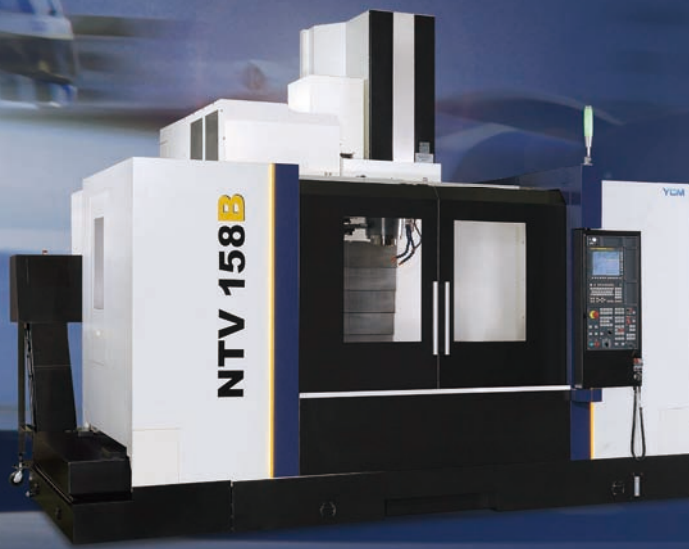
Email: sales@YCMCNC.COM



201707-E05-2000

NTV Series

High Efficiency T-base Vertical Maching Center



YCM®

NTV 158A/B

High Efficiency T-base Vertical Machining Center

Superb Body Structure

- With the unique T-base structure, the machine footprint can be reduced effectively.
- Overhang-free table movement is supported by high-rigidity base to ensure the best dynamic accuracy.
- Dual screw-type chip augers efficiently elevate chip removal rate.



YCM In-house IDD Spindle

- Reduces noise, backlash and vibration issues and maximizes spindle accuracy and life.
- YCM's uniquely designed IDD Spindle ensures direct transmission and is proven to maximize both spindle and tool life under harsh working environment.
- The cooling system for spindle motor seat and spindle makes real time control of spindle temperature.
- The oil-air lubrication system ensures long-term high-speed operation.

High Reliability Axial Movement

- All axes are equipped with roller type linear guideways to ensure higher dynamic accuracy, durability and rigidity.
- Preload high precision ball screws are directly driven by servo motor will efficiently eliminate axial backlash and vibrations.
- X-axis with 6 guideway blocks fully supports the saddle and efficiently releases loading from the table.
- Y-axis is designed with 3 guideways maintaining exceptional dynamic accuracy.

Efficiency-friendly Design

- The casting rigidity is enhanced through FEM analysis.
- Roller type guideways provides low friction which reduces energy waste.

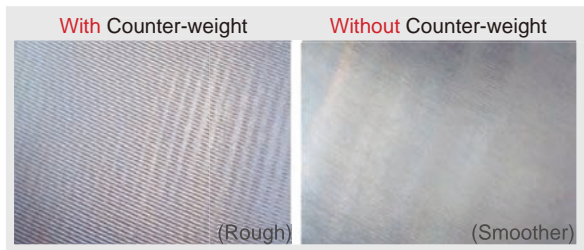


NTV 158A

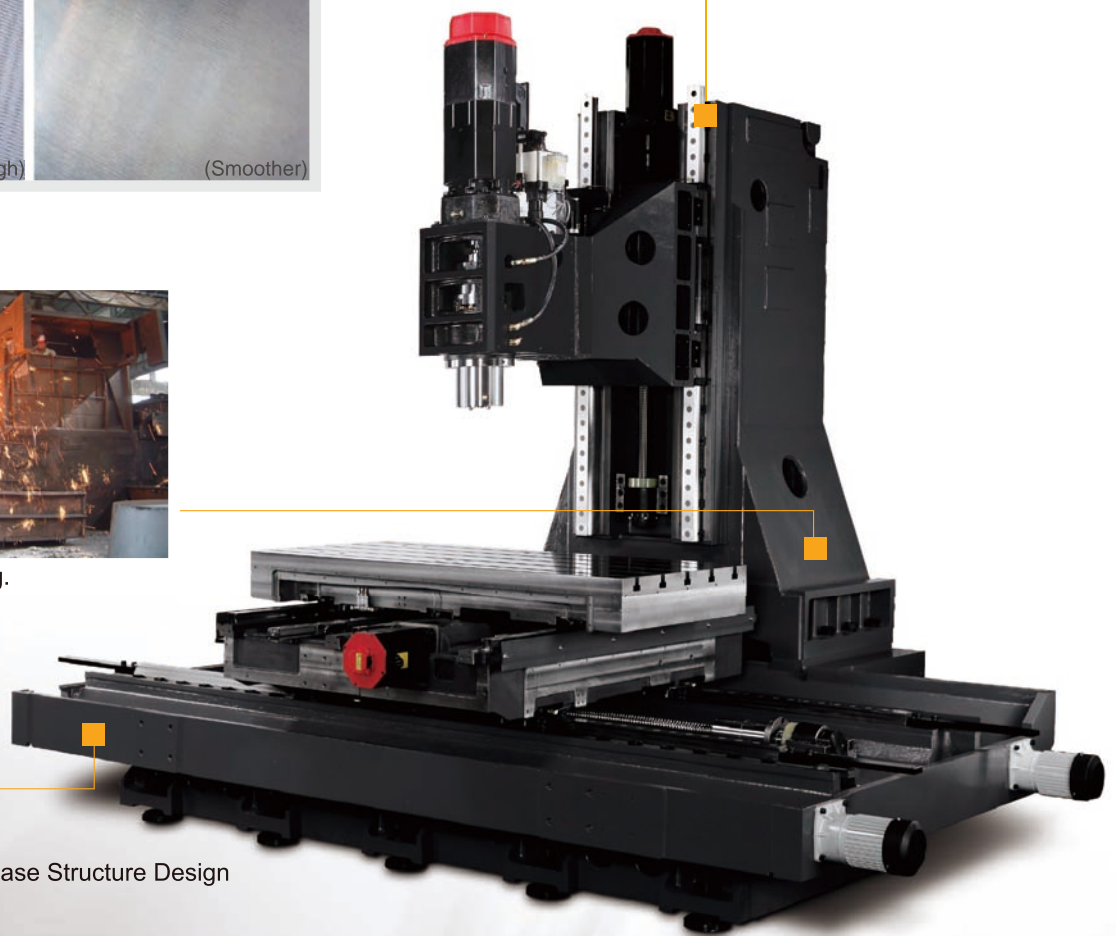
NTV 158A offers a high rapid feedrate with large Y-axis which provides mold maker and job shop an excellent machine selection.

Without Counter-weight Design

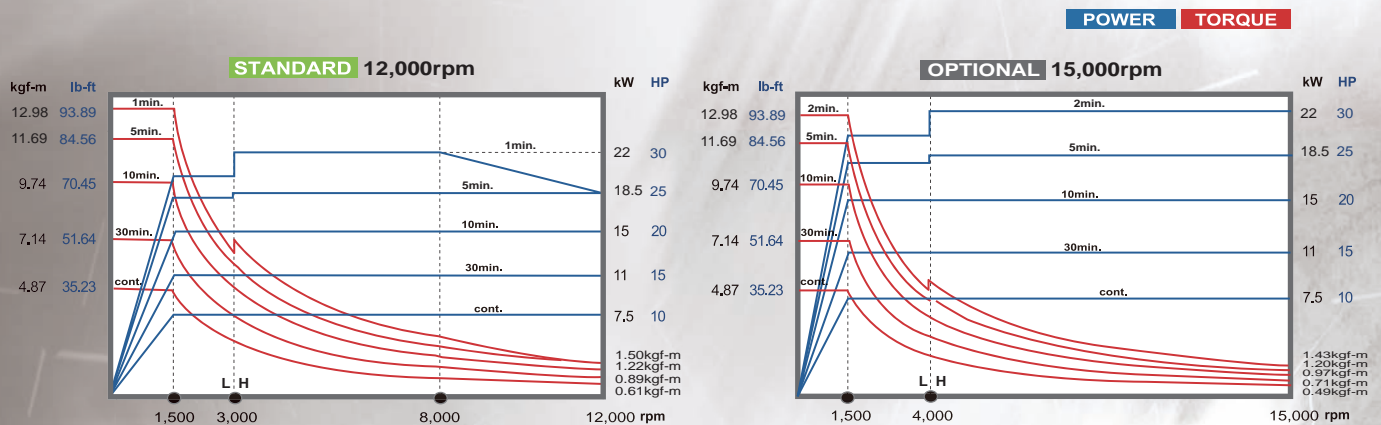
- High response axial control provides smooth movement.
- Low inertia avoids vibration during high speed feedrate.



■ MEEHANITE® casting.



■ Unique One-piece T-base Structure Design

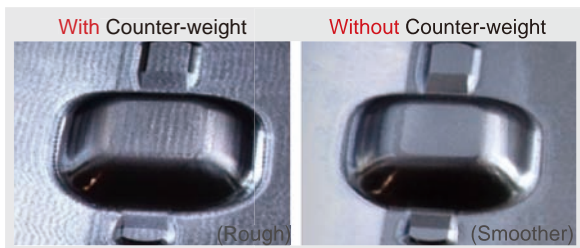


NTV 158B

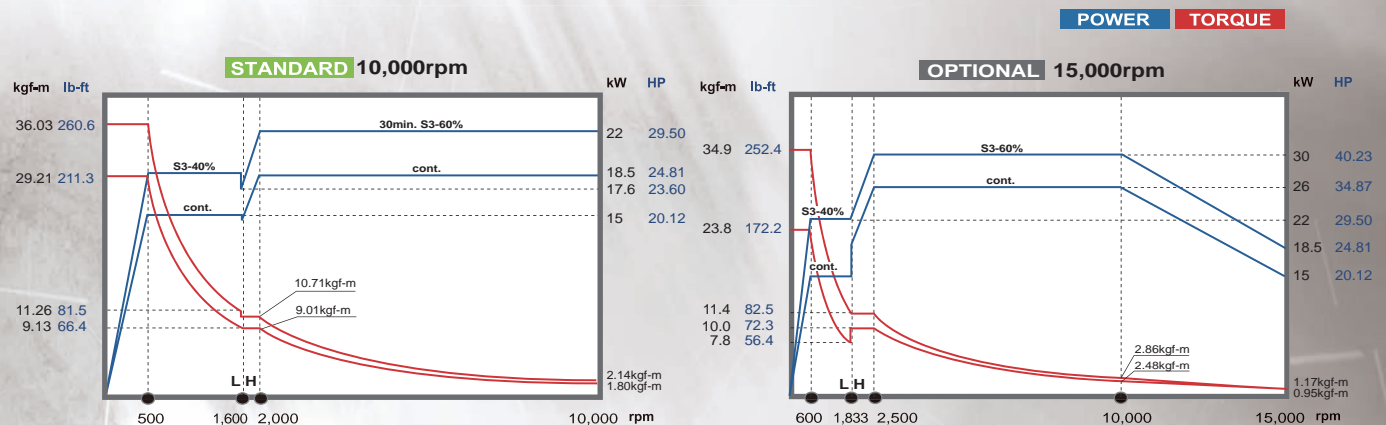
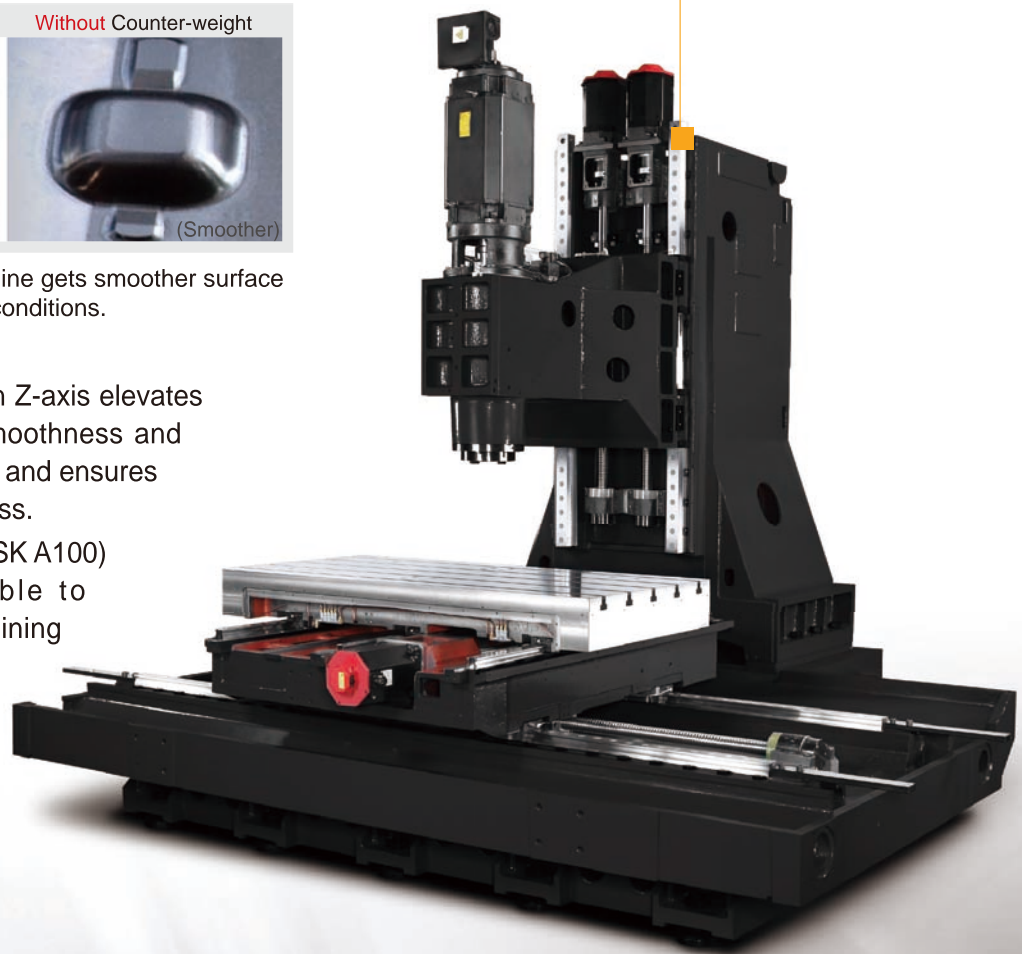
NTV 158B is specially developed for die & mold industry. The Z-axis dual drive system and roller type guideways on all axes ensure perfect rapid feedrate which is suitable for various heavy cutting applications.

Z-axis Dual Driven

- Increases the feedrate and acceleration/deceleration.
- High response axial control provide smooth movement.
- Low inertia avoids vibration during high speed feedrate.



- No counter-weight machine gets smoother surface under the same cutting conditions.
- Dual drive system on Z-axis elevates exceptional axial smoothness and machining efficiency, and ensures fine surface roughness.
- Up to 15,000 rpm (HSK A100) spindle is available to meet different machining demands.



Cutting Capacity

NTV158A **BBT40** 12,000 rpm

FACE MILL S45C Steel

Depth of Cut
4
mm



Tool $\varnothing 63$ mm x 6T
Spindle Speed 760 rpm
Feedrate 456 mm/min.
Width of Cut 60 mm

FACE MILL S45C Steel

Material Removal Rate
522
cc/min.



Tool $\varnothing 63$ mm x 6T
Spindle Speed 2,100 rpm
Feedrate 3,780 mm/min.
Width of Cut 60 mm
Depth of Cut 2.3 mm

U-DRILL S45C Steel

Cutter Diameter
 $\varnothing 34$
mm



Tool $\varnothing 34$ mm x 1T
Spindle Speed 1,500 rpm
Feedrate 225 mm/min.
Depth of Cut 10 mm

TAP S45C Steel

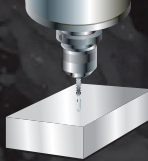
Tapping
M24



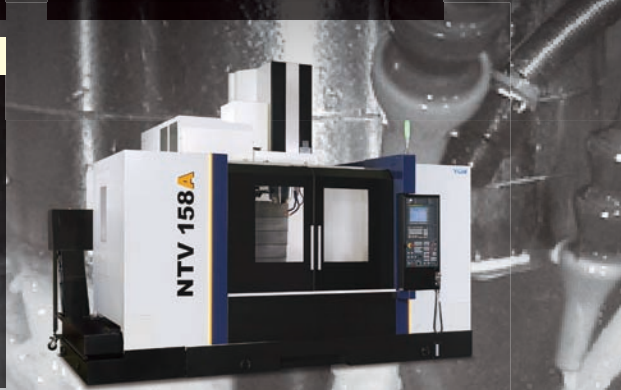
Tool M24 x 3P
Spindle Speed 60 rpm
Feedrate 180 mm/min.
Depth of Cut 25 mm

RIGID TAP A6061 Aluminum

Tapping
#0-80UNF
equals to M1.6



Tool #0-80UNF
Spindle Speed 1,200 rpm
Feedrate 381 mm/min.
Depth of Cut 4 mm



NTV158B **BBT50** 10,000 rpm

FACE MILL S45C Steel

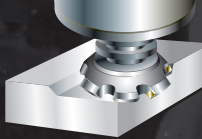
Depth of Cut
9
mm



Tool $\varnothing 160$ mm x 10T
Spindle Speed 500 rpm
Feedrate 360 mm/min.
Width of Cut 125 mm

FACE MILL S45C Steel

Material Removal Rate
693
cc/min.



Tool $\varnothing 160$ mm x 10T
Spindle Speed 550 rpm
Feedrate 1,232 mm/min.
Width of Cut 125 mm
Depth of Cut 4.5 mm

U-DRILL S45C Steel

Cutter Diameter
 $\varnothing 49$
mm



Tool $\varnothing 49$ mm x 1T
Spindle Speed 715 rpm
Feedrate 172 mm/min.
Depth of Cut 20 mm

NTV158B **HSK A100** 15,000 rpm

FACE MILL S45C Steel

Depth of Cut
4
mm



Tool $\varnothing 125$ mm x 8T
Spindle Speed 382 rpm
Feedrate 305 mm/min.
Width of Cut 120 mm

FACE MILL S45C Steel

Material Removal Rate
720
cc/min.



Tool $\varnothing 125$ mm x 8T
Spindle Speed 600 rpm
Feedrate 2,400 mm/min.
Width of Cut 120 mm
Depth of Cut 2.5 mm

U-DRILL S45C Steel

Cutter Diameter
 $\varnothing 44$
mm



Tool $\varnothing 44$ mm x 1T
Spindle Speed 600 rpm
Feedrate 150 mm/min.
Depth of Cut 24 mm

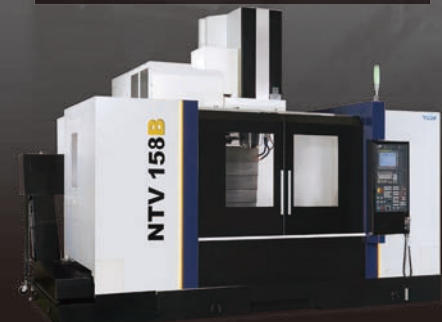
TAP S45C Steel

Tapping
M33



Tool M33 x 3P
Spindle Speed 48 rpm
Feedrate 144 mm/min.
Depth of Cut 33 mm

Note :
Internal cutting test data are just for reference.
This is tested for the max. machining capability
of the machine, but not for the optimum tool
life conditions.

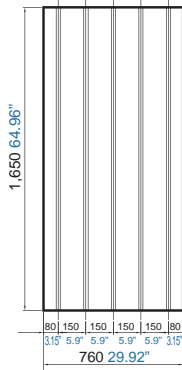


DIMENSIONS

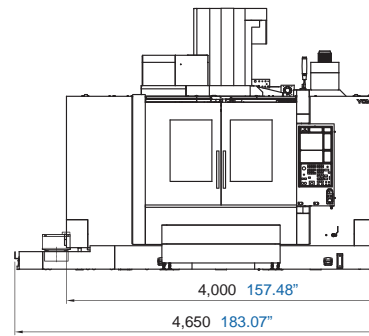
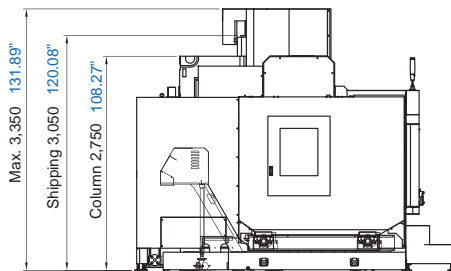
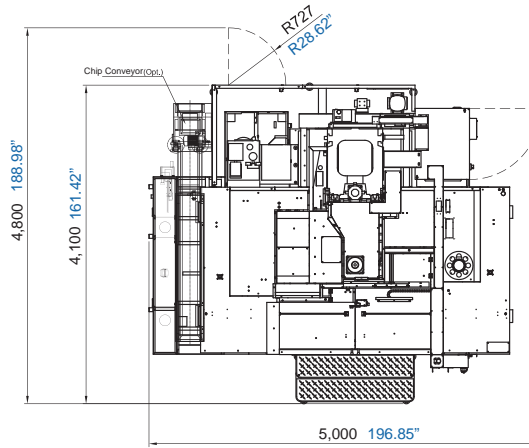
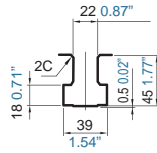
NTV 158A

Unit : mm inch

Table Size

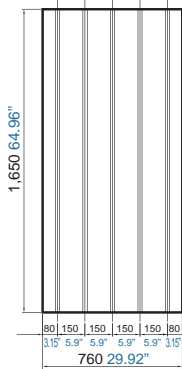


T-slots

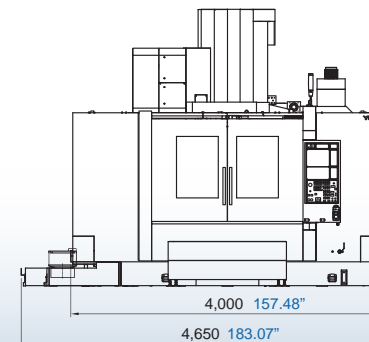
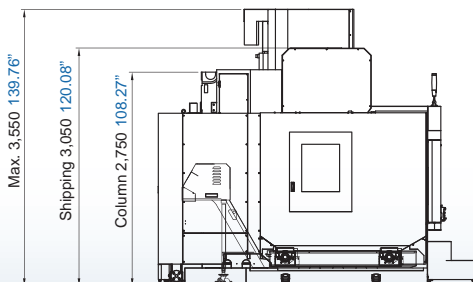
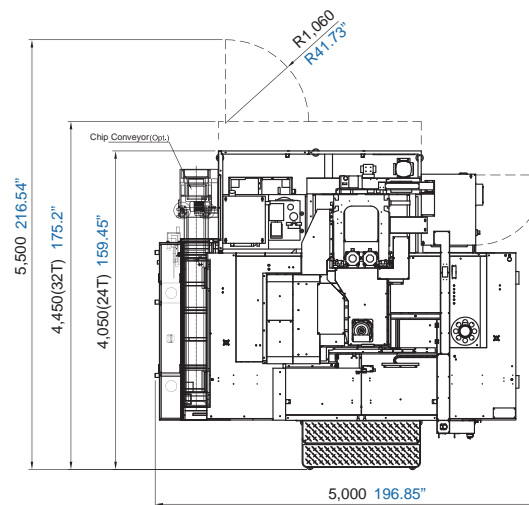
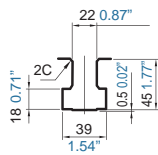


NTV 158B

Table Size



T-slots



SPECIFICATIONS

	NTV158A	NTV158B
SPINDLE		
Spindle Speed (opt.)	12,000 rpm (15,000 rpm)	10,000 rpm (15,000 rpm)
Spindle Power (opt.)	22 kW (22 kW) 30 HP (30 HP)	22 kW (30 kW) 30 HP (40 HP)
Spindle Taper (opt.)	BBT40	BBT50 (HSK A100 for 15,000 rpm)
TRAVEL		
X-axis Travel	1,530 mm 60.2"	
Y-axis Travel	762 mm 30"	
Z-axis Travel	700 mm 27.6"	
Distance Between Spindle Nose & Table Top	150~850 mm 5.91"~33.46"	200~900 mm 7.87"~35.43"
TABLE		
Table Size	1,650 x 760 mm 64.96" x 29.9"	
No. T-slots x Size x Pitch	5 x 22 mm x 150 mm 5 x 0.87" x 5.91"	
Max. Load on Table	2,000 kg 4,409 lb	
FEEDRATE		
Rapid Feedrate	30 / 30 / 24 m/min. 1,181/1,181/945 ipm	
Cutting Feedrate	1~10,000 mm/min. 0.04~393.7 ipm	
ATC		
Tool Magazine Capacity (opt.)	24T (30 / 48T)	24T (32 / 40T)
Max. Tool Weight (per piece)	6 kg 13.2 lb	20 kg 44 lb
Max. Tool Dimensions	24T : ø90 x 300 mm ø3.54" x 11.81" 30 / 40T : ø76 x 300 mm ø2.99" x 11.81"	24T : ø110 x 350 mm ø4.33" x 13.78" 32 / 40T : ø120 x 350 mm ø4.72" x 13.78"
Max. Tool Dimensions (W/O Adjacent Tools)	24T : ø140 x 300 mm ø5.51" x 11.81" 30 / 40T : ø125 x 300 mm ø4.92" x 11.81"	24T : ø190 x 350 mm ø7.48" x 13.78" 32 / 40T : ø240 x 350 mm ø9.45" x 13.78"
Tool Changer Method	Arm Type	
Tool Selection Method	Random	
GENERAL		
Pneumatic Supplier	5.5 kg/cm ² 78.2 psi	
Power Consumption (Transformer)	37.4 kVA (45 kVA)	67 kVA (80 kVA)
Machine Weight	14,170 kg 31,293 lb	15,500 kg 34,171 lb

Note: Above specifications may vary depending on the machine and the surrounding environment. The manufacturer reserves the right to modify the design, specifications, mechanisms, etc., to improve the performance of the machine without notice. The test data provided in this catalog is performed under specific test procedures and environmental conditions.

ACCESSORIES

● : Standard ○ : Optional

NTV		158A	158B
Spindle Cooling System		●	●
CTS (Coolant through Spindle)		○	○
Guideway Covers (Telescopic)		●	●
Coolant Pump		●	●
Spindle Air Blast		●	●
Spindle Air Seal		●	●
Circular Coolant Nozzle		●	●
Oil-mist Cutting System		○	○
Oil-mist Collector		○	○
Cutting Air Blast		●	●
Automatic Power Off Device		●	●
Automatic Lubrication		●	●
Screw Type	Dual-Chip Auger	●	●
Chip Conveyor	Scraper Type	○	○
	Chain Type	○	○
Chip Removal Direction	Rear Side	●	●
Shower Coolant		●	●
Air Gun		●	○
Coolant Gun		●	●
Automatic Tool Length Measurement System		○	○
Automatic Workpiece Measurement System	RENISHAW	○	○
	BLUM	○	○
Linear Encoder	X/Y/Z-Axis	○	○
Oil Skimmer		●	●
Work Lamp (LED)	1 Units	●	●
Work Light	2 Units	●	●
Pilot Lamp		●	●
A/C Cooler for Electrical Cabinet		○	○
Heat Exchanger for Electrical Cabinet		●	●
Safety Door		●	●
Automatic Door		○	○
ATC Door		●	●
Full Chip Enclosure with Top		●	●
Leveling Blocks & Screws		●	●
Foundation Bolts		○	●
Mechanical, Electrical & Operation Manuals		●	●
Tool Kit		●	●
CNC Control (FANUC)	MXP-200FB	●	●
	MXP-200FC	○	○

ACCURACY

	NTV series	
	ISO 10791-4	YCM*
Axial Travel	Full Length	
Positioning (X/Y/Z) A	0.032 / 0.025 / 0.025 mm 0.00126" / 0.00098" / 0.00098"	0.014 / 0.010 / 0.010 mm 0.00055" / 0.00039" / 0.00039"
Repeatability (X/Y/Z) R	0.018 / 0.015 / 0.015 mm 0.00071" / 0.00059" / 0.00059"	0.010 / 0.007 / 0.007 mm 0.00039" / 0.00028" / 0.00028"

* All values shown above are measured for the machine in good air-conditioned environments.

MXP-200 FB/FC

YCM CONTROL
by FANUC

- High Response AC Digital Servo & Spindle Drives with High Definition
- AICC II High Speed High Accuracy with Manual / Auto Switching on/off Machining
- JERK Control Function
- High Rigidity Tapping, Helical Interpolation
- Custom Marco B and Tool Path Graphics
- Manual Guide i with large Screen Display .
- Program File Management for Easy Program Classifying
- USB Interface for Easy Parameters & CNC Programs Transfer
- 512KB Memory
- High Speed Positioning Function (MXP-200FB, opt.)
- Memory Card Program Edit & Operation
- NANO Smoothing Function (opt.)
- 400 Pairs Tool Offset, 1,000 (MXP-200FB 400) Total Registered Programs
- 48 Pairs of Workpieces Coordinate System
- Extended Parts Program Editing (Cut, Copy, and Paste. Maximum 4,000 Characters)

i-Direct A remote monitoring system

The YCM Production Line Monitoring System i-Direct overcomes the limitations of time and distance. This software provides plant operators with instant production status, including production value, output, standby, alarm time, status display and malfunction records of the machine. These data could be browsed online and printed. When incidents occur, i-Direct will automatically warn plant operators through e-mail or MMS message. With i-Direct Production Line Monitoring System the plant operators can easily keep track of production statuses regardless of time and distance.



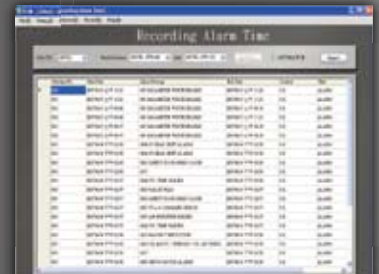
i-Direct Main Page



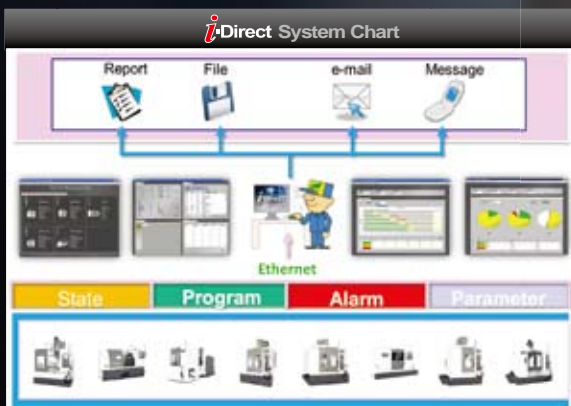
Plant Operation Status Monitoring



Single Machine Status Browsing



Machine Status Time Record



Production Status Process Record



Production Management Statistics

i-OPERATION *Plus II*

Software Enhancement Exclusively from YCM



Pre-machining Preparation

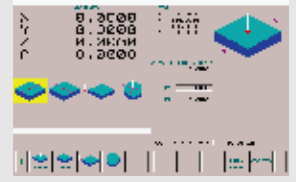
Intelligent Tool Data Management
Comprehensive tool data management function allows operators to monitor and manage all positions in tool magazine



Tool Length Measurement
Graphic measuring interface provides automatic tool length measurement function



Workpiece Coordinate Calculation
Conversational operating window provides convenient and fast setup of workpiece coordinates



NEW

RENISHAW GUI System (Conversational Graphic Operating Interface)

Tool measurement & measurement correction



Workpiece measurement



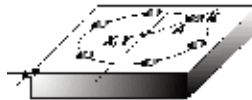
Programming

NEW

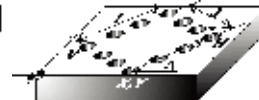
i_PATTERN



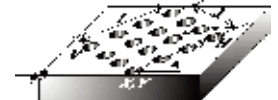
15 sets of machining cycle program
Reduces program input and memory time
Graphic interface & conversational command input



CIRCULAR HOLE PATTERN
(G120 P1) Function



RECTANGULAR HOLE PATTERN
(G120 P4) Function

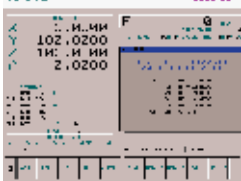


GRID HOLE PATTERN
(G120 P5) Function

Machining

High Performance Machining Mode M300

With 5 sets of parameter settings, the users choose the most suitable mode for optimum machining



High Speed Machining Mode M400

Increases drilling and tapping speed, reduces machining time for job shop and precision mold machining



NEW

Tool Load Management

Instant tool load monitoring with alarm function



Multi-display Function

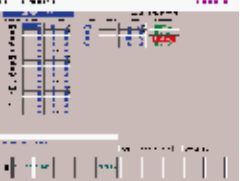
Displays 4 statuses simultaneously with configurable status display



NEW

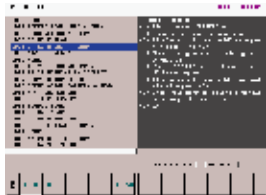
Tool Life Management

Indicates tool status of each group with tool life alert



Instant Message Alert

Pop-up Alarm Display



Instantly provides troubleshooting procedure
Quick response to alarm

Maintenance

Intelligent Maintenance



Provide users with periodic maintenance options and descriptions

Instantly provide users with maintenance notifications

Smart control panel (iPANEL)



Easy to set up and operate important functions

Counter Function



Allow users to keep count of workpieces with the function of overtime cycle alarm provides easy control over machining cycle time

1. Main Counter
2. Periodical Counter
3. Daily Counter
4. Over Cycle Alarm