

# NXV Series

High Performance Vertical Machining Center



**YCM**®

# NXV Series

**NEW**

High Speed, High Accuracy, High Performance

The NXV series is integrated with brand new exterior designs, demonstrating highest stability along with great configuration. The YCM NXV series offers high performance, high precision and high speed at an economical price.



### **Rapid Feedrate**

NXV560A → 48/48/48 m/min.  
NXV1020A → 48/48/32 m/min.



### **Acceleration Enhancement**

NXV560A → 1g/1g/1g  
NXV1020A → 1g/0.8g/1g



### **Auto Tool Change Time**

NXV → 1.8 Sec.



### **Tool Magazine Capacity**

NXV1020A/AM → Max. 40T



### **Max. Spindle Power**

NXV1380A / NXV1680A → 30 kW



## ■ YCM In-house IDD Spindle

- Tool unclamping cushion extends spindle bearing life by protecting spindle bearing from tool unclamping force.
- Spindle cooling system (opt.) removes heat efficiently and minimizes thermal deformation.
- Ceramic bearings features low inertia mass, low centrifugal force, high rigidity and low coefficient of thermal deformation.
- High precision helical springs features high dynamic balance and low vibration.
- Grease lubrication for 12,000 rpm spindle ; Oil-air lubrication for 15,000 rpm spindle.

## ■ High Rigidity Design

- The rigid body construction makes for uncompromising precision and rigidity.
- FEM analysis is adopted to ensure the best mass arrangement and rib construction of the machine for constant stability under the intensive load of heavy-duty cutting.

## ■ 3 Axes Direct Drive Design

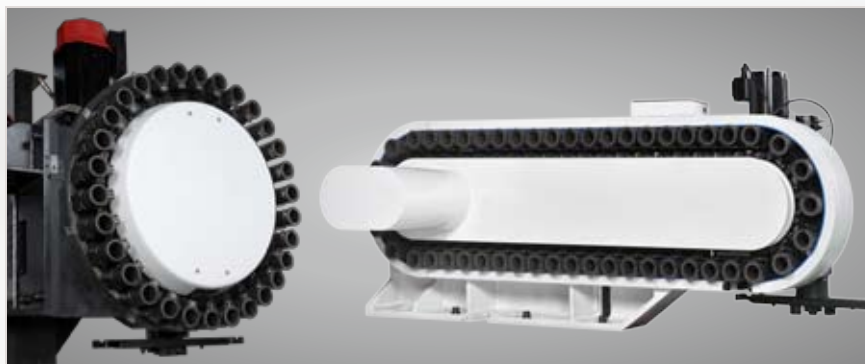
- Direct drive provides backlash free, best accuracy, reliability and stability.
- All axial AC servo motors equipped with Absolute Positioning Encoders, no zero return needed.



■ IDD PLUS Spindle 12,000rpm(15,000 rpm opt.)  
< NXV1020A/AM · NXV1380A · NXV1680A >



■ Absolute Encoder ATC System  
< NXV1680B is exclusive >



■ 24T(30T) (opt.) < NXV1020A/AM >      ■ (40T) (opt.) < NXV1020A/AM >  
■ 24T(30T) (opt.) < NXV1380A/1680A >      ■ 32T(40T) (opt.) < NXV1680B >



■ Auto Tool Change (T-T) 1.8 sec.  
■ Auto Tool Change (T-T) 4.2 sec.< NXV1680B >

## ■ High Stability Tool Magazine

- Absolute encoder ATC system provides high stability and speed.
- Inverter controlled, prevents tool change speed from changing under different power supply frequency.
- Tool change speed is programmable for heavy tools, prob.

## ■ Automatic Tool Magazine Door Design

- Driven by pneumatic cylinder.
- Prevent coolant and chips from entering tool magazine.

## ■ Brand New Exterior Design

- Full enclosure exterior (including top cover).
- Convertible side window for convenient chip removal.
- Aesthetic rear cover design.
- Smooth chip removal.



■ ATC Tool Door-Open

■ ATC Tool Door-Close



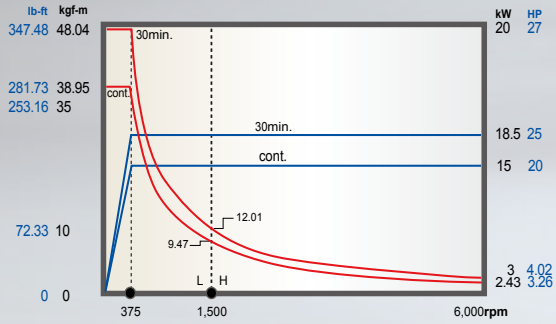
■ Coolant Shower for Efficient Chip Removal < NXV Series std. >

**POWER CHART**    POWER    TORQUE

**- FANUC System 6,000rpm**

STANDARD

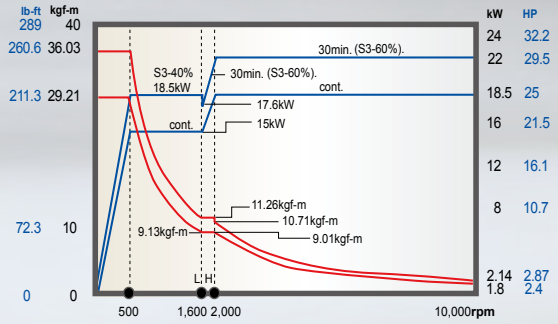
▼ NXV1680B



**- FANUC System 10,000rpm**

OPTIONAL

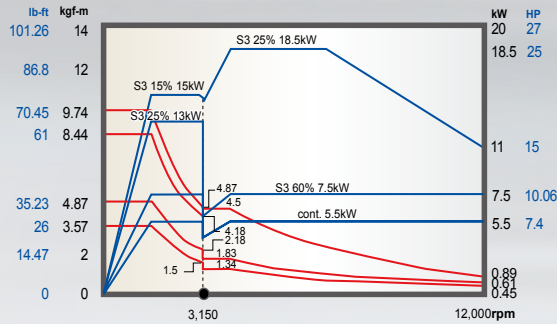
▼ NXV1680B



**- FANUC System 12,000rpm**

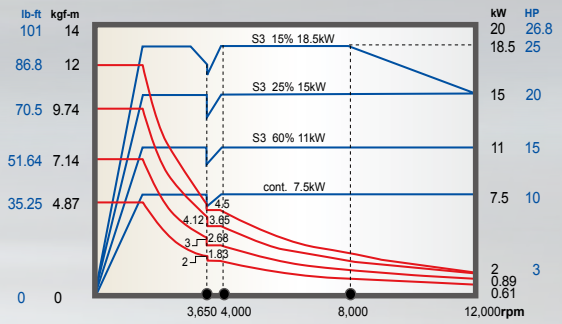
STANDARD

▼ NXV560A



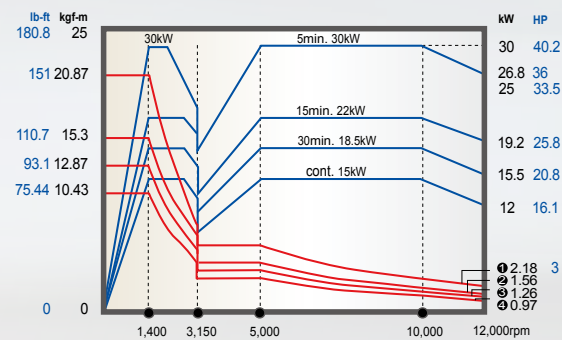
STANDARD

▼ NXV1020A/AM · NXV1380A/1680A



OPTIONAL 30kW

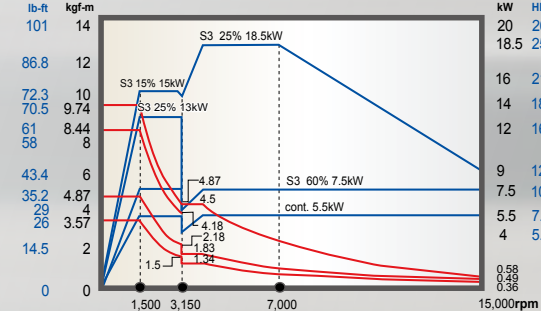
▼ NXV1380A/1680A



**- FANUC System 15,000rpm**

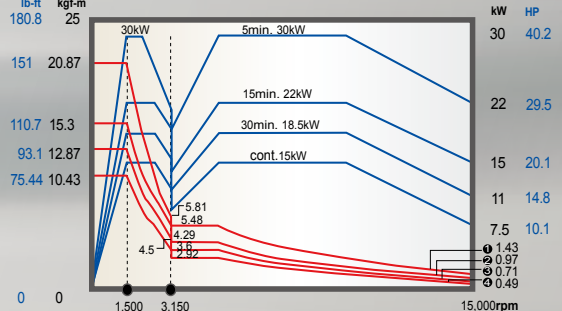
OPTIONAL

▼ NXV560A · NXV1020A/AM  
NXV1380A/1680A



OPTIONAL 30kW

▼ NXV1380A/1680A



# POWER CHART

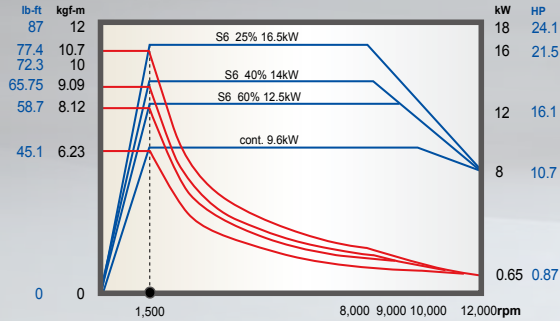
POWER

TORQUE

## HEIDENHAIN System 12,000rpm

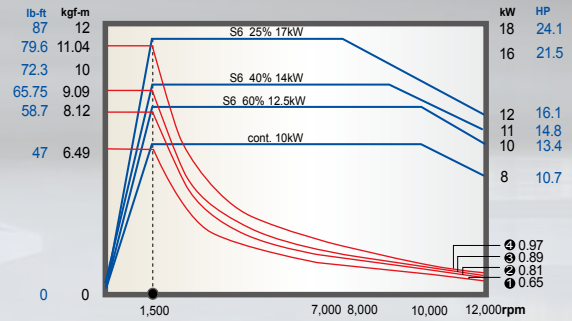
STANDARD

▼ NXV560A



STANDARD

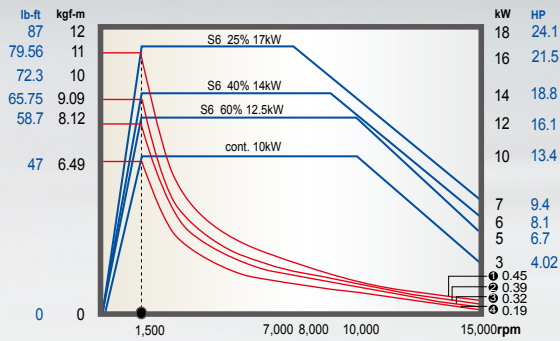
▼ NXV1020A/AM · NXV1380A/1680A



## HEIDENHAIN System 15,000rpm

OPTIONAL

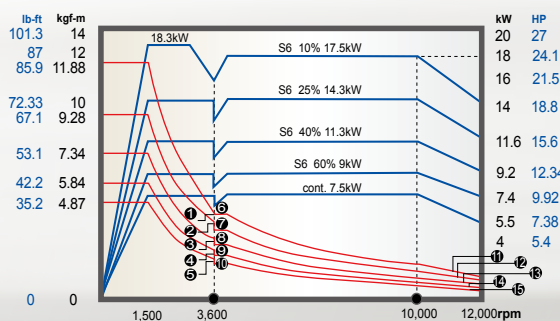
▼ NXV1020A/AM · NXV1380A/1680A



## SIEMENS System 12,000/15,000rpm

STANDARD

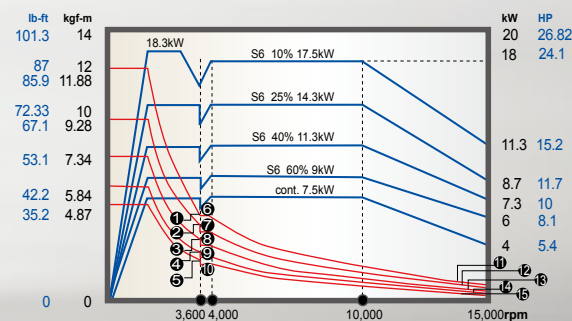
▼ NXV1020A/AM · NXV1380A/1680A



① 4.34	⑥ 4.26	⑪ 1.15
② 3.88	⑦ 3.48	⑫ 0.94
③ 3.07	⑧ 2.75	⑬ 0.75
④ 2.44	⑨ 2.19	⑭ 0.6
⑤ 2.03	⑩ 1.83	⑮ 0.45

OPTIONAL

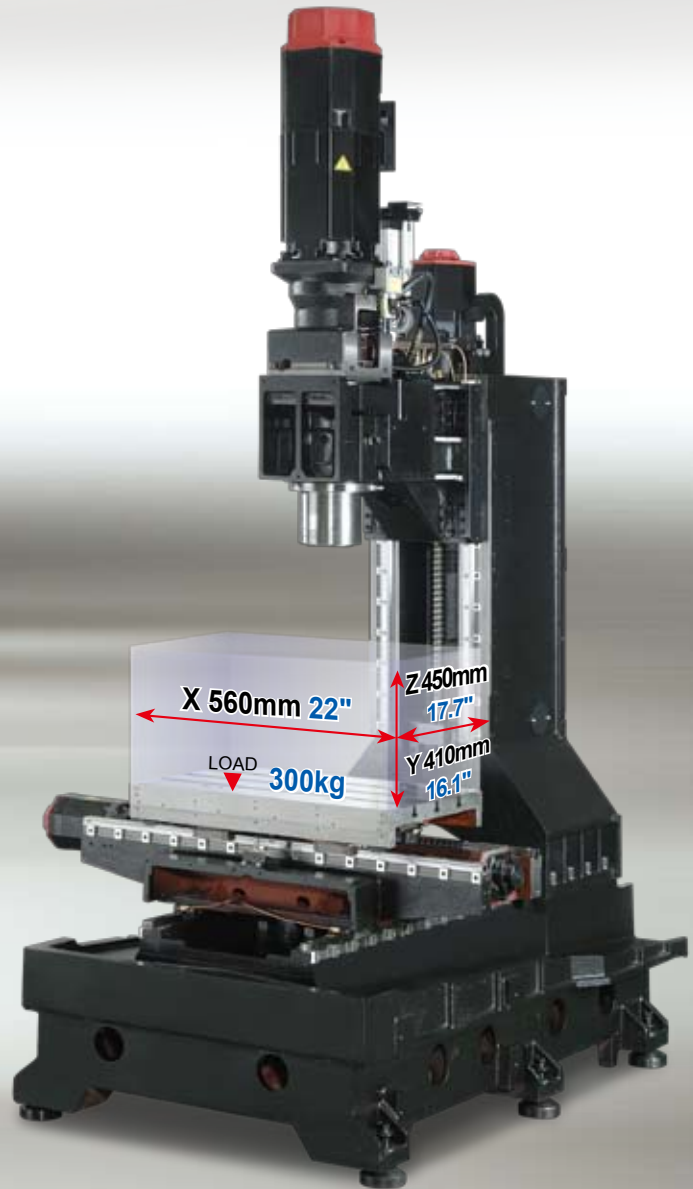
▼ NXV1020A/AM · NXV1380A/1680A



① 4.34	⑥ 4.26	⑪ 0.73
② 3.88	⑦ 3.48	⑫ 0.56
③ 3.07	⑧ 2.75	⑬ 0.47
④ 2.44	⑨ 2.19	⑭ 0.39
⑤ 2.03	⑩ 1.83	⑮ 0.26

# NXV 560A / 560A - APC

The NXV 560A high speed high power vertical machining center is specially designed for precision manufacturing and high productivity machining industries such as auto parts, high precision aerospace and electronic industries.



NXV 560A / NXV 560A - APC

Rapid Feedrate

<b>X</b>	48 m/min	1,890 ipm
<b>Y</b>	48 m/min	1,890 ipm
<b>Z</b>	48 m/min	1,890 ipm

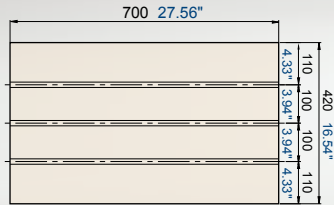
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Unit: mm inch

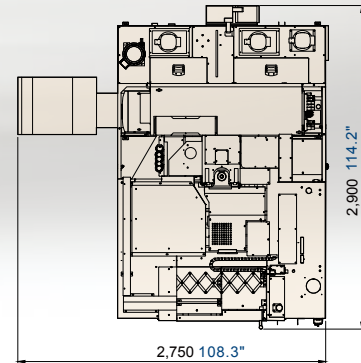
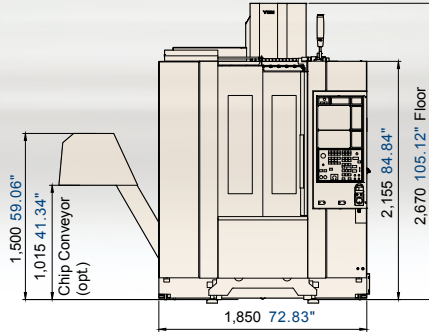
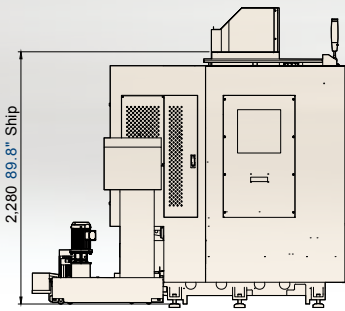
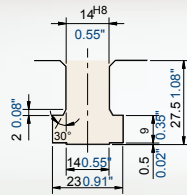
# NXV 560A

## NXV 560A

### ■ TABLE SIZE

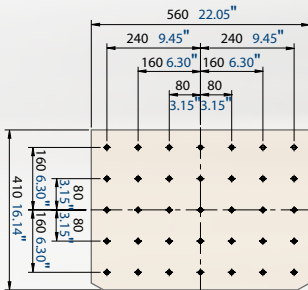


### ■ T-SLOTS

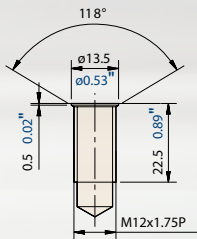


## NXV 560A-APC

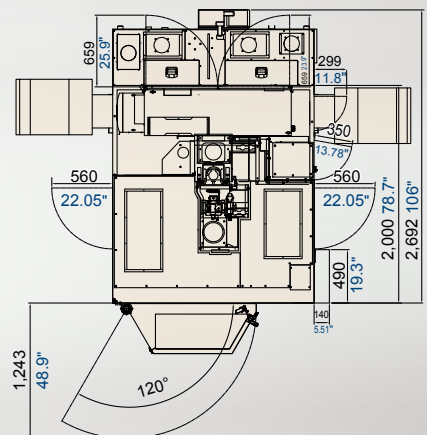
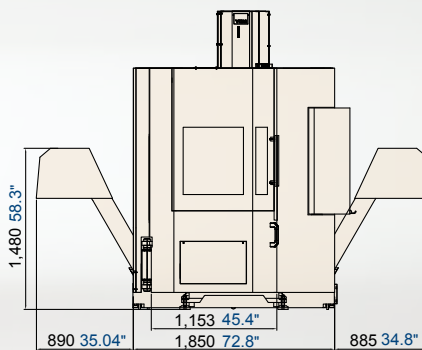
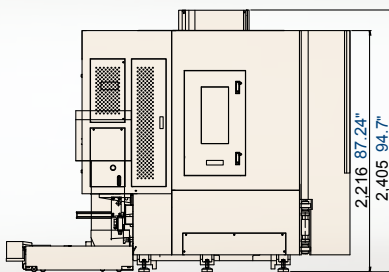
### ■ APC TABLE SIZE



### ■ SCREW HOLE DIMENSIONS



Model	NXV 560A-APC
Pallet Size	560 x 410 mm 22.05" x 16.14"
Table Load Capacity	120 kg 265 lb
Distance Between Spindle Nose and Table Top	25 ~ 475 mm 0.98"~18.7"
Hole Pattern	M12 x 80 mm x 80 mm M12 x 3.15" x 3.15"
Power Consumption (Transformer)	22.6 kVA (30 kVA)
Machine Weight	3,850 kg 8,488 lb



### MODEL

NXV560A / NXV560A - APC

### ACCURACY

ISO 10791-4

YCM\*

### Axial Travel

Full Length

### Positioning (X/Y/Z) A

0.025/0.022/0.022 mm  
0.00098"/0.0009"/0.0009"

0.01/0.01/0.01 mm  
0.0004"/0.0004"/0.0004"

### Repeatability (X/Y/Z) R

0.015/0.012/0.012 mm  
0.00059"/0.0005"/0.0005"

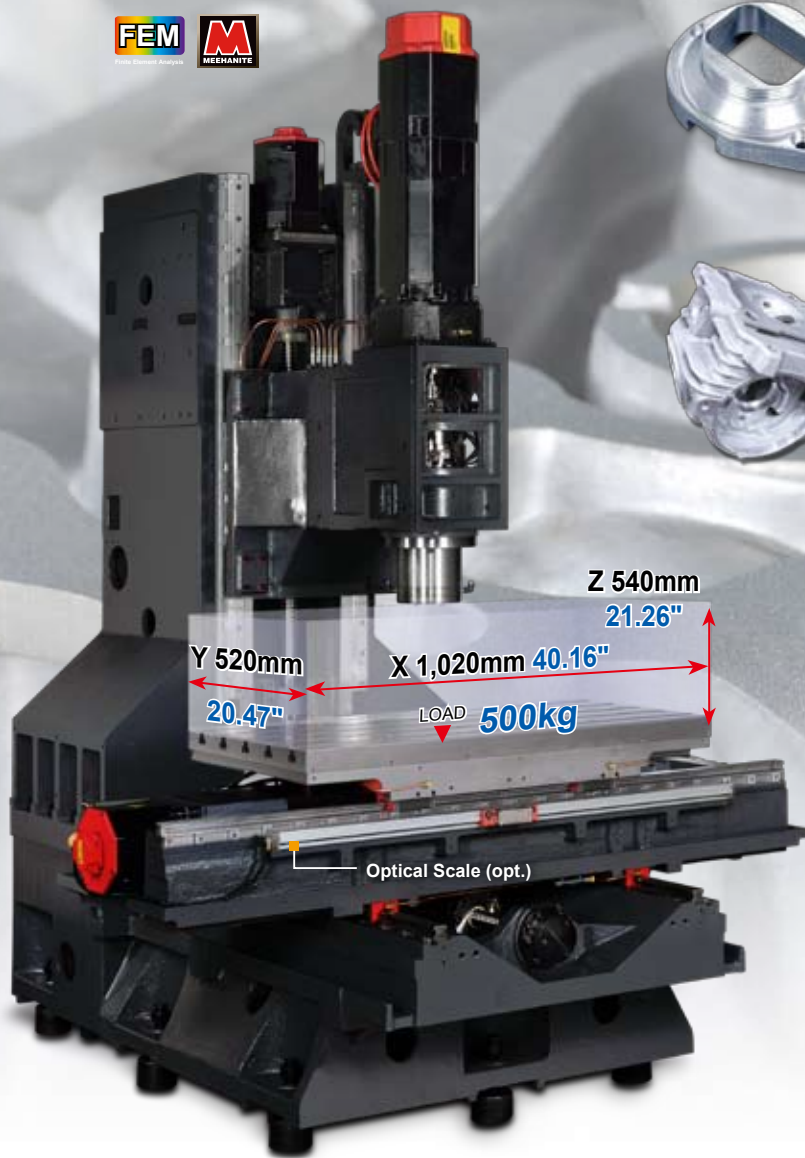
0.007/0.007/0.007 mm  
0.0003"/0.0003"/0.0003"

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

# NXV 1020A/AM

## High Performance Vertical Maching Center

The brand new NXV series offers excellent cost performance with high precision and economical price. NXV1020A incorporates the features of high speed and high rigidity Satisfying diverse machining requirements of automotive job shops and electronics industries. The high precision NXV1020AM meets your demands for die & mold machining of automotive, mechanic and electronic industries.



### NXV 1020A Rapid Feedrate

<b>X</b>	48 m/min	1,890 ipm
<b>Y</b>	48 m/min	1,890 ipm
<b>Z</b>	32 m/min	1,260 ipm

### NXV 1020AM Rapid Feedrate

<b>X</b>	24 m/min	945 ipm
<b>Y</b>	24 m/min	945 ipm
<b>Z</b>	16 m/min	630 ipm

NXV 1020A/AM		
ACCURACY	ISO 10791-4	YCM*
Axial Travel	Full Length	
Positioning (X/Y/Z) A	0.032/0.025/0.025 mm 0.00126"/0.001"/0.001"	0.01/0.01/0.01 mm 0.0004"/0.0004"/0.0004"
Repeatability (X/Y/Z) R	0.018/0.015/0.015 mm 0.0007"/0.0006"/0.0006"	0.007/0.007/0.007 mm 0.0003"/0.0003"/0.0003"

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



**FACE MILL S45C Steel**

Depth of Cut

**6.5**  
mm



Tool ø80mm x 5T  
Spindle Speed 600rpm  
Feedrate 450mm/min.  
Width of Cut 60mm

**FACE MILL S45C Steel**

Material Removal Rate

**648**  
cc/min.



Tool ø63mm x 6T  
Spindle Speed 1,500rpm  
Feedrate 2,700mm/min.  
Width of Cut 60mm  
Depth of Cut 4mm

**U-DRILL S45C Steel**

Cutter Diameter

**ø44**  
mm



Tool ø44mm x 1T  
Spindle Speed 1,500rpm  
Feedrate 150mm/min.  
Depth of Cut 44mm

**TAP S45C Steel**

Tapping

**M24**



Tool M24 x 3P  
Spindle Speed 80rpm  
Feedrate 240mm/min.  
Depth of Cut 24mm

**RIGID TAP A6061 Aluminum**

Tapping

**M1.2**



Tool M1.2 x 0.25P  
Spindle Speed 1,200rpm  
Feedrate 300mm/min.

	<b>NXV 1020A</b>	<b>NXV 1020AM</b>
<b>Product position</b>	Parts machining	Die & Mold machining
<b>Spindle lubrication System</b>	Std.:12,000rpm (Grease Lubrication) Opt.:15,000rpm (Oil-air Lubrication)	Std.:12,000rpm (Oil-air Lubrication) Opt.:15,000rpm (Oil-air Lubrication)
<b>Spindle Cooling System</b>	Optional	Standard
<b>Feedrate System</b>	Standard resolution	High resolution
<b>Applied Industries</b>	Automotive, job shops and electronic industries.	Automotive mold, machine mold and electronic mold industries.

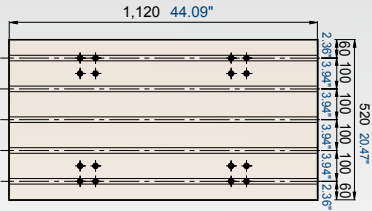
# DIMENSIONS

Unit: mm inch

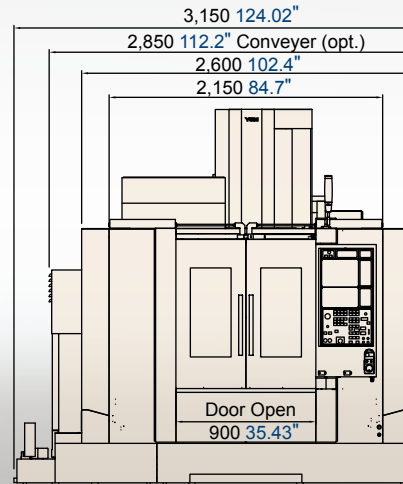
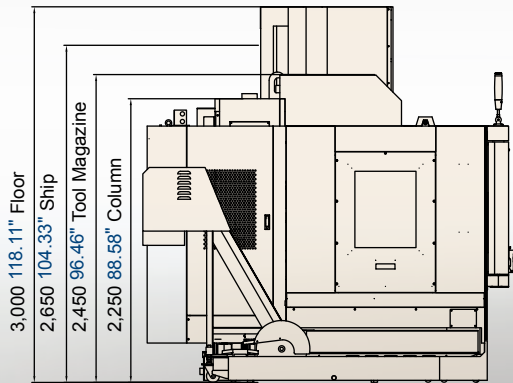
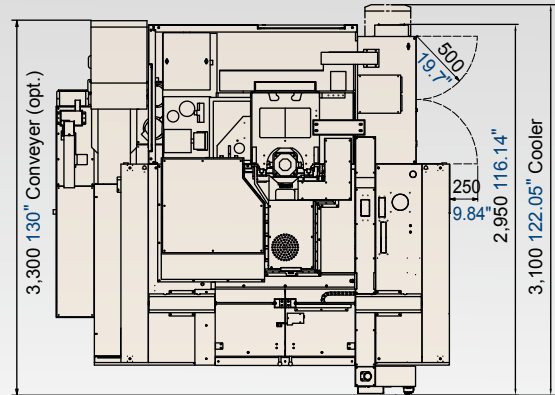
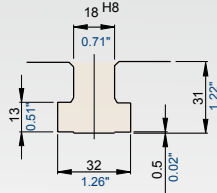
# NXV 1020A/AM

## Triple-Chip Auger

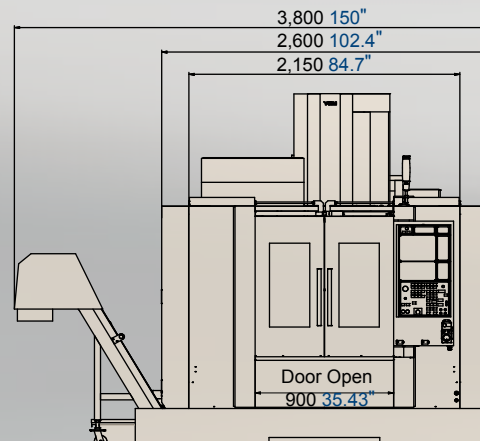
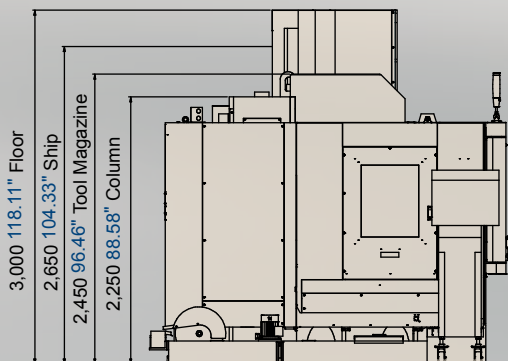
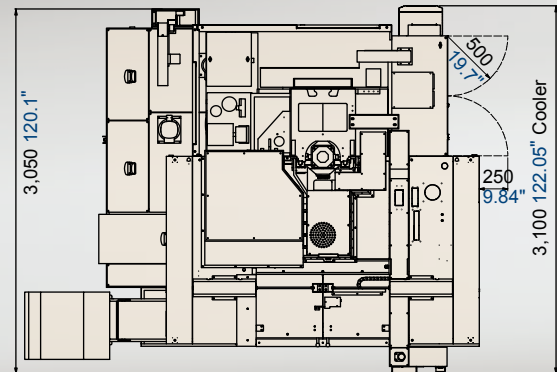
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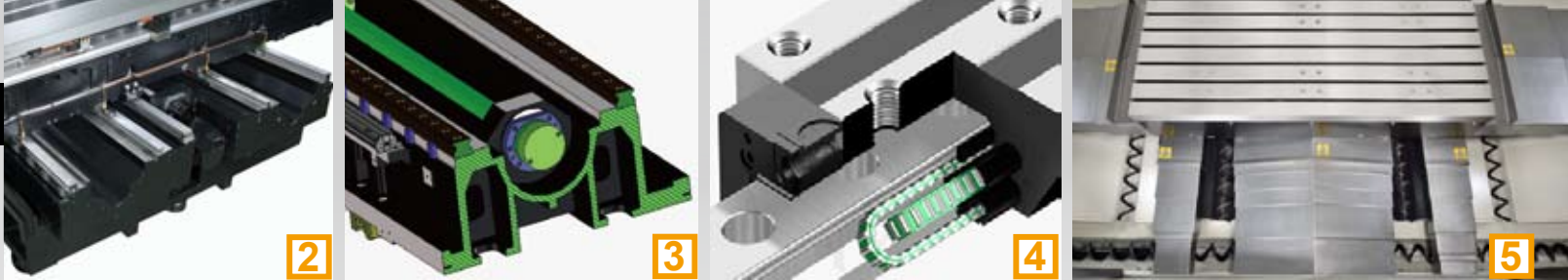


### T-SLOTS



## Dual-Chip Auger





# NXV 1380A / 1680A

The NXV 1380A / 1680A high rigidity vertical machining center offers extended travels at an affordable price. It is most suitable for automotive applications.

The NXV 1380A / 1680A provides high speed high precision and extreme rigidity with excellent cost performance.



- 1 6 slide blocks on X-axis supporting 1,500 maximum load on table.
- 2 4 linear guideways on Y-axis providing best dynamic balance.
- 3 Dual wall structure saddle providing high rigidity.
- 4 High rigidity and high loading roller type linear guideways applied on the three axes.
- 5 Penta chip augers (4 Y-axial +1 X-axial) ensure fluent chip removal prevent chips from piling up.
- 6 Pretension ballscrews applied on the three axes increase axial rigidity providing less thermal deformation.
- 7 Wide base structure with 10 leveling pads.



## NXV 1380A/1680A Rapid Feedrate

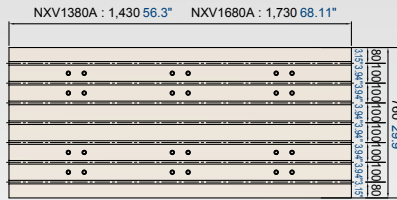
<b>X</b>	30 m/min	<b>1,181</b> ipm
<b>Y</b>	30 m/min	<b>1,181</b> ipm
<b>Z</b>	24 m/min	<b>945</b> ipm

NXV 1380A / NXV 1680A		
ACCURACY	ISO 10791-4	YCM*
Axial Travel	Full Length	
Positioning (X/Y/Z) A	0.042/0.025/0.025 mm 0.00165"/0.001"/0.001"	0.014/0.01/0.01 mm 0.0006"/0.0004"/0.0004"
Repeatability (X/Y/Z) R	0.02/0.015/0.015 mm 0.0008"/0.0006"/0.0006"	0.01/0.007/0.007 mm 0.0004"/0.0003"/0.0003"

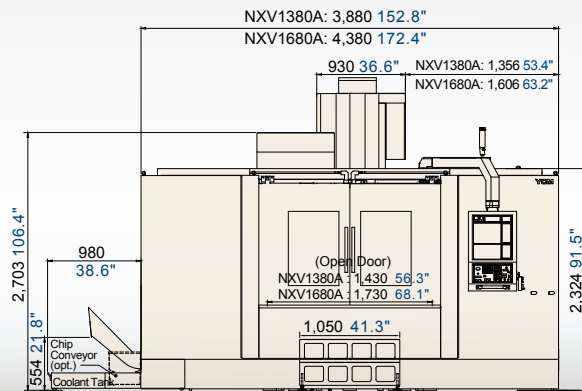
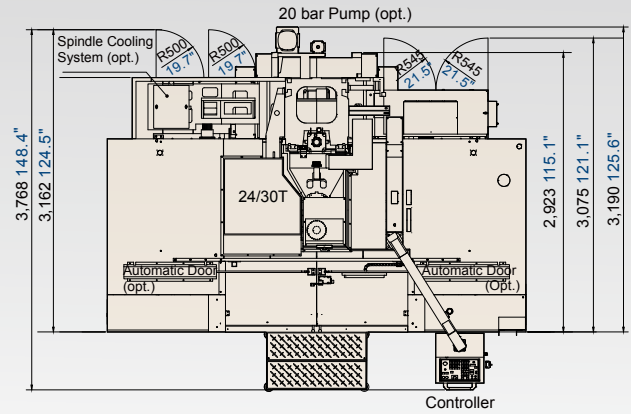
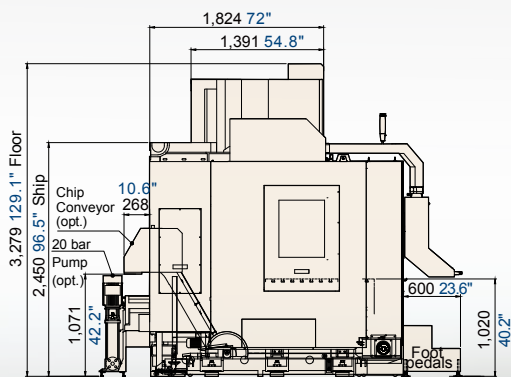
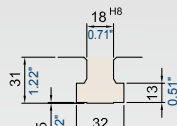
\*All values shown above are measured for the machine in good air-conditioned environments.

# ■ DIMENSIONS Unit: mm inch NXV 1380A / NXV 1680A

## ■ TABLE SIZE



## ■ T-SLOTS

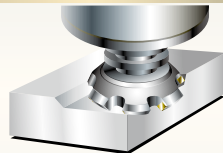


# ■ CUTTING CAPACITY NXV 1680A BBT40 12,000rpm/30kW (opt.) Fanuc System

## FACE MILL S45C Steel

Depth of Cut

**9**  
mm

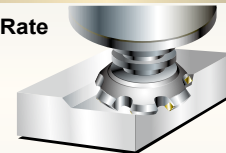


Tool  $\varnothing 80\text{mm} \times 5\text{T}$   
Spindle Speed 600rpm  
Feedrate 450mm/min.  
Width of Cut 60mm

## FACE MILL S45C Steel

Material Removal Rate

**907**  
cc/min.

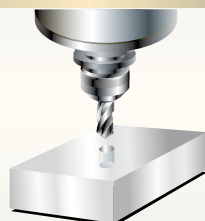


Tool  $\varnothing 63\text{mm} \times 5\text{T}$   
Spindle Speed 1,400rpm  
Feedrate 4,200mm/min.  
Width of Cut 60mm  
Depth of Cut 3.6mm

## U-DRILL S45C Steel

Cutter Diameter

**$\varnothing 59$**   
mm

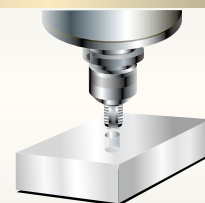


Tool  $\varnothing 59\text{mm}$   
Spindle Speed 1,160rpm  
Feedrate 116mm/min.  
Depth of Cut 50mm

## TAP S45C Steel

Tapping

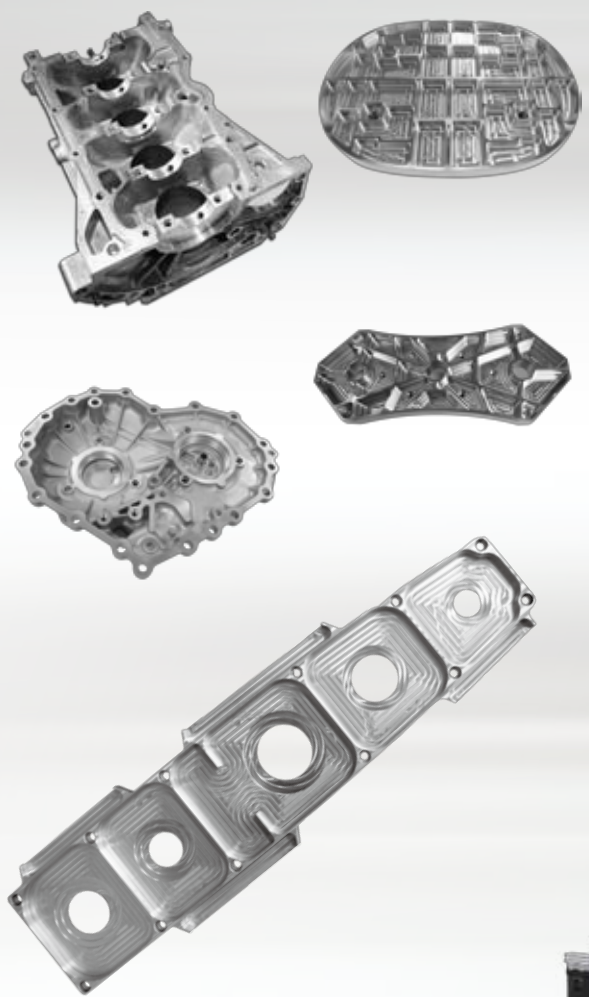
**M36**



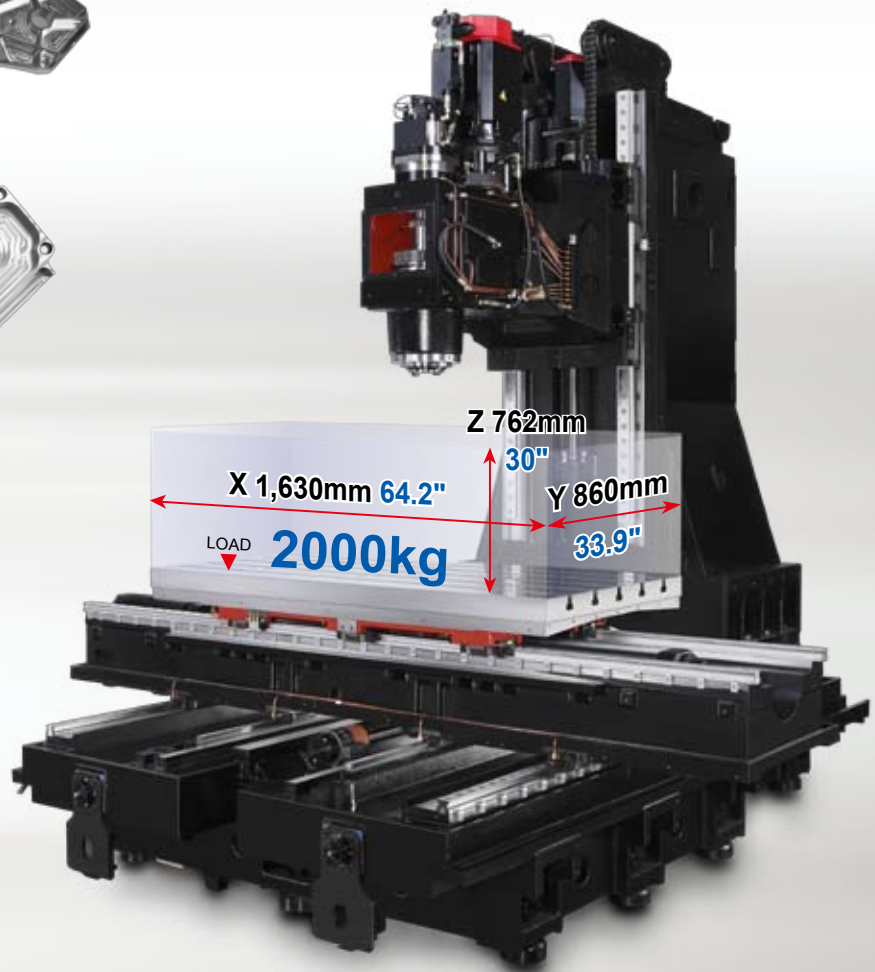
Tool M36 x 4P  
Spindle Speed 44rpm  
Feedrate 176mm/min.  
Depth of Cut 25mm

# NXV 1680B

The NXV 1680B high rigidity vertical machining center offers extended travels at an affordable price. It is most suitable for automotive and aerospace applications.



■ Quad-Chip auger system ensure fluent chip removal prevent chips from piling up.



## NXV 1680B Rapid Feedrate

<b>X</b>	24 m/min	945 ipm
<b>Y</b>	24 m/min	945 ipm
<b>Z</b>	24 m/min	945 ipm

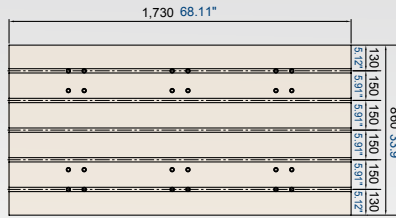


NXV 1680B		
ACCURACY	ISO 10791-4	YCM*
<b>Axial Travel</b>	Full Length	
<b>Positioning (X/Y/Z) A</b>	0.042/0.025/0.025 mm 0.00165"/0.001"/0.001"	0.014/0.01/0.01 mm 0.0006"/0.0004"/0.0004"
<b>Repeatability (X/Y/Z) R</b>	0.02/0.015/0.015 mm 0.0008"/0.0006"/0.0006"	0.01/0.007/0.007 mm 0.0004"/0.0003"/0.0003"

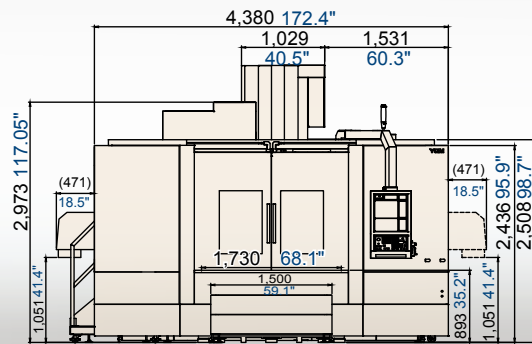
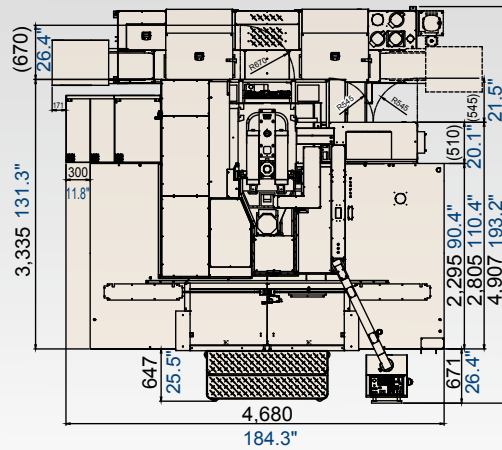
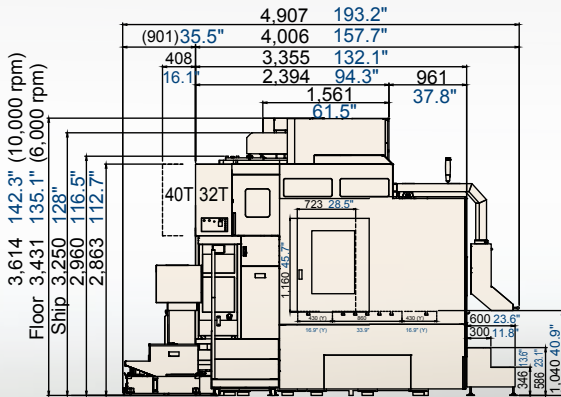
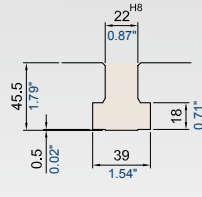
\*All values shown above are measured for the machine in good air-conditioned environments.

# ■ DIMENSIONS Unit: mm inch NXV 1680B

## ■ TABLE SIZE



## ■ T-SLOTS

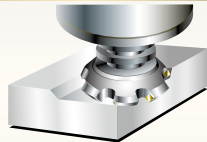


# ■ CUTTING CAPACITY NXV 1680B BT50 6,000rpm Fanuc System

## FACE MILL S45C Steel

Depth of Cut

**9**  
mm

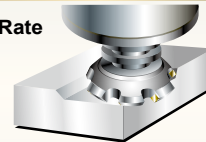


Tool  $\varnothing 160\text{mm} \times 10\text{T}$   
Spindle Speed 375rpm  
Feedrate 375mm/min.  
Width of Cut 125mm

## FACE MILL S45C Steel

Material Removal Rate

**756**  
cc/min.

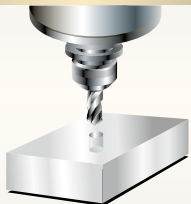


Tool  $\varnothing 125\text{mm} \times 8\text{T}$   
Spindle Speed 375rpm  
Feedrate 1,800mm/min.  
Width of Cut 120mm  
Depth of Cut 3.5mm

## U-DRILL S45C Steel

Cutter Diameter

**$\varnothing 65$**   
mm

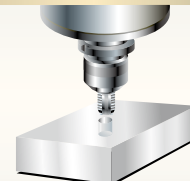


Tool  $\varnothing 65\text{mm}$   
Spindle Speed 500rpm  
Feedrate 100mm/min.  
Depth of Cut 50mm

## TAP S45C Steel

Tapping

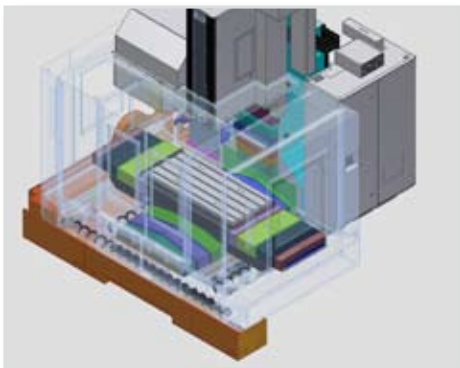
**M48**



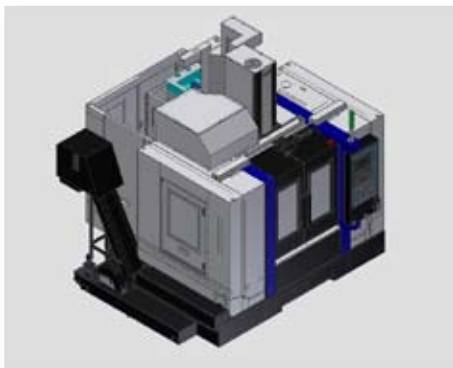
Tool M48 x 5P  
Spindle Speed 34rpm  
Feedrate 170mm/min.  
Depth of Cut 40mm

## ■ CHIP REMOVAL SYSTEM

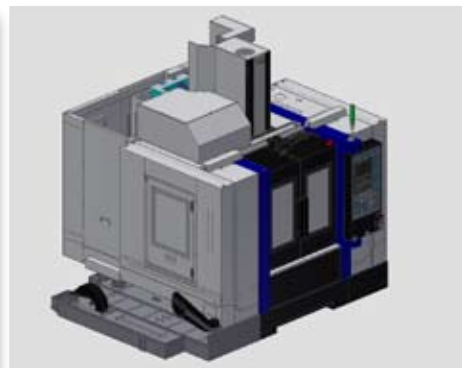
### ■ NXV 1020A / AM, NXV 560A



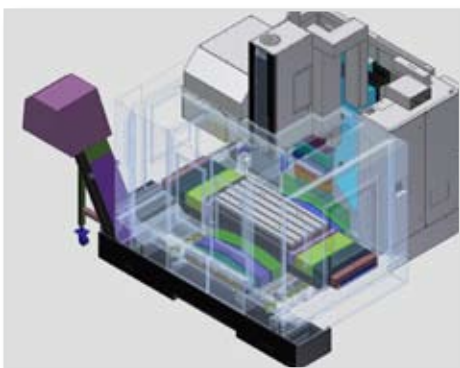
■ Triple-Chip Auger System



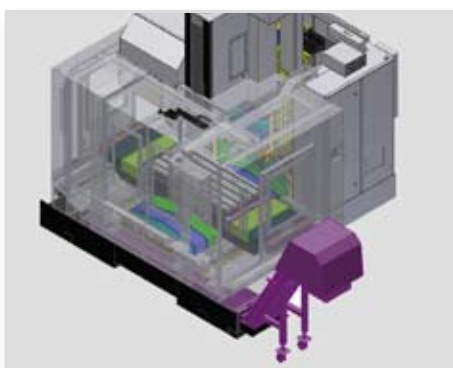
■ Rear Side Chip Conveyor (opt.)



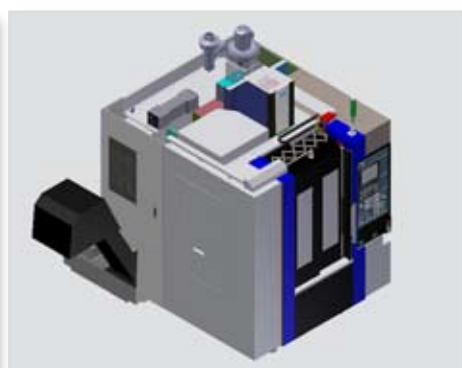
■ Triple Chip Auger with 45° Pipe



■ Dual-Chip Auger System (opt.)

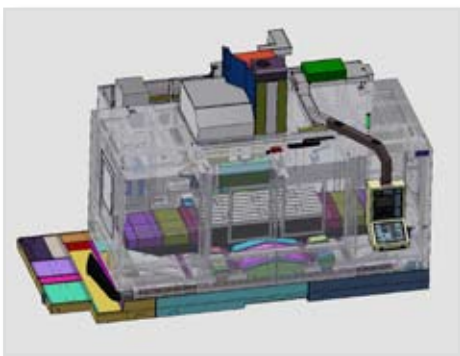


■ Left / Right-Hand Side Chip Conveyor (opt.)

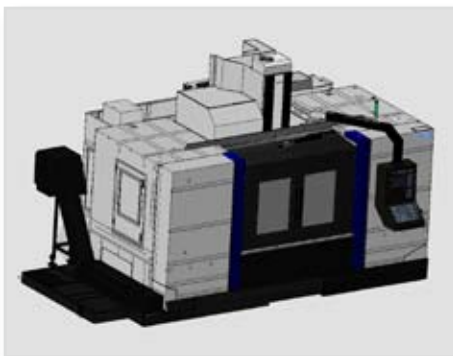


■ Chip Conveyor (opt.) (NXV560A)

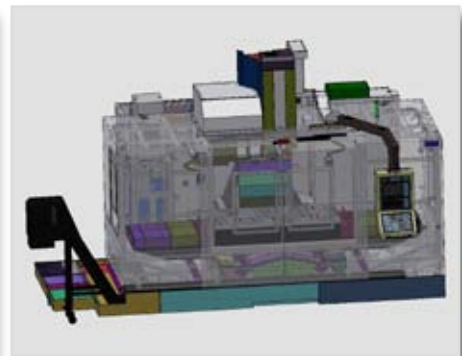
### ■ NXV 1380A / 1680A



■ Penta-Chip Auger with 45° Pipe

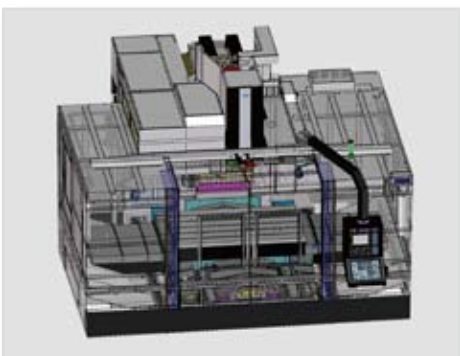


■ Penta-Chip Auger with Rear Side Chip Conveyor (opt.)

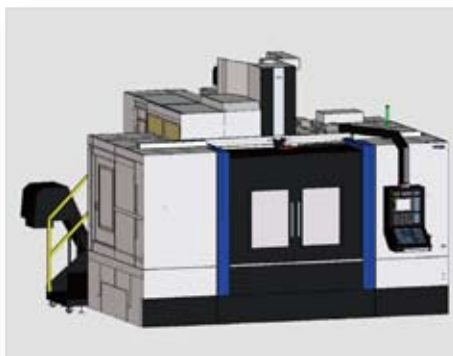


■ Quad-Chip Auger with Left-hand Side Chip Conveyor (opt.)

### ■ NXV 1680B



■ Quad-Chip Auger System



■ Quad-Chip Auger with Rear Side Chip Conveyor (opt.)

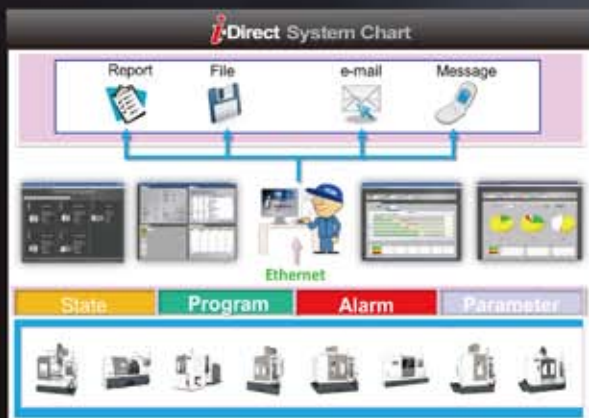
# MXP-200 FA

YCM CONTROL  
by FANUC

- High Response AC Digital Servo & Spindle Drives with High Definition.
- AICC II High Speed High Accuracy with Auto Switching on/off Machining.
- Control Function. (JERK Control , opt.)
- 200 blocks look ahead.
- Rigidity Tapping, Helical Interpolation.
- Custom Marco B and Tool Path Graphics.
- Manual Guide i with large Screen Display .
- USB Interface for Easy Parameters & CNC Programs Transfer.
- 512KB Memory.
- Memory Card Program Edit & Operation (opt.).
- NANO Smoothing (opt.).
- 400 pairs tool offset, 400 total registered programs.
- 48 pairs of workpieces coordinate system.
- Extended parts program editing (cut, copy, and paste. maximum 127 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.



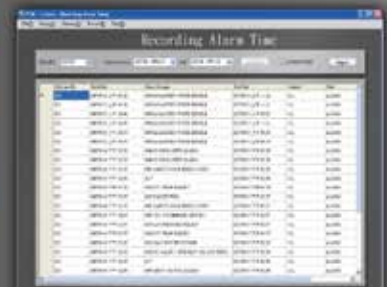
Single Machine Status Browsing Single Machine Status Browsing



Plant Operation Status Monitoring



Machine connection, MMS and e-mail settings



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



### RENISHAW GUI System (Conversational Graphic Operating Interface)

Tool measurement & measurement correction



Workpiece measurement



## Programming



### i\_PATTERN



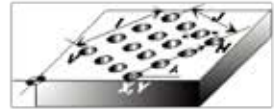
15 sets of machining cycle program  
Reduces program input and memory time  
Graphic interface & conversational command input



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



### Tool Load Management

Instant tool load monitoring with alarm function



### Multi-display Function

Displays 4 statuses simultaneously with configurable status display



### 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



### Wireless Message Notification

Machine status sent to a designated cellphone number.



## Intelligent Maintenance



Provide users with periodic maintenance options and descriptions

Instantly provide users with maintenance notifications

## 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



# SIEMENS SINUMERIK 828D

## The new CNC-controller for the compact class.

The performance of the SINUMERIK 828D is in a class of its own. Even in the compact frame size, the familiar SINUMERIK state-of-the-art technology ensures the highest possible levels of precision and productivity.



### 1. Communicative

- Front interfaces (IP65)
- RJ45 Ethernet
- USB 2.0
- Compact Flash (CF) card

### 2. Heavy-duty

- Panel front made of die-cast magnesium

### 3. Optimum readability

- 10.4" TFT color display

### 4. Outstanding performance

- Two versions with different performance capabilities
- PPU 260/261
- PPU 280/281

### 5. User-friendly

- Fully fledged QWERTY keyboard
- Hard keys with protective foil
- Degree of protection IP65

### 6. Clever

- 3/8" thread for add-on components

### 7. Maintenance-free

- No battery (permanent data buffering thanks to NV-RAM technology!)
- No fan
- No hard disk

### 8. Optimum connection

- Rear interfaces
- USB 2.0
- PLC I/O interface
- RJ45 Ethernet
- RS232 C
- DRIVE-CLiQ
- NC inputs/outputs

## Programming the way you want it

SINUMERIK offers unique programming methods for every application. These include: Workstep programming for ShopMill/ShopTurn and SINUMERIK high-level language with programGUIDE. ISO-Code programming is also supported.

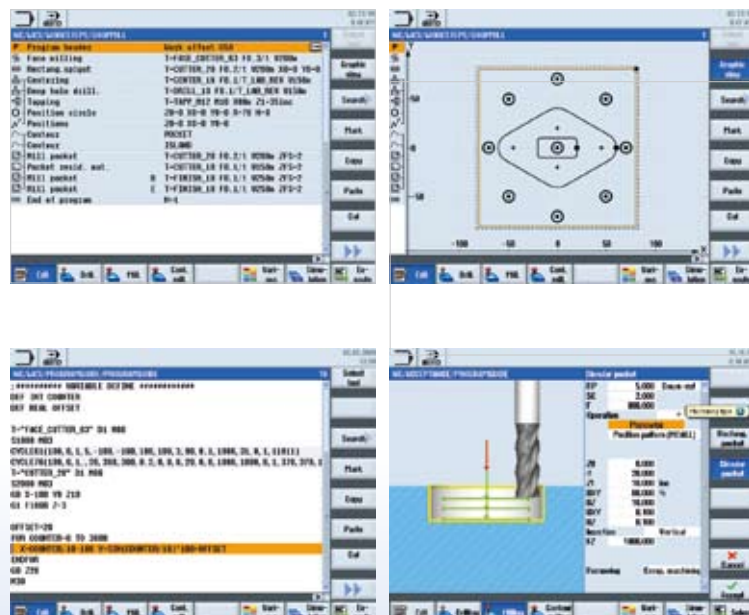
#### ● ShopMill/ShopTurn

##### workstep programming

- Extremely short programming times
- For production of individual parts and small batches

#### ● SINUMERIK high-level language with programGUIDE

- Maximum flexibility and very short processing times
- For production of medium and large batch sizes



# SPECIFICATIONS

	NXV560A	NXV1020A	NXV1020AM	NXV1380A	NXV1680A	NXV1680B
<b>SPINDLE</b>						
Spindle Speed (opt.)	12,000 rpm (15,000 rpm)		12,000 rpm (12,000 rpm / 15,000 rpm)		6,000 rpm (10,000 rpm)	
Spindle Power (opt.)	18.5 kW (18.5 kW) 25 HP (25 HP)	18.5 kW (18.5 kW) 25 HP (25 HP)		12,000 rpm : 18.5 kW 25 HP (15,000 rpm : 18.5 kW) (25 HP) (12,000 / 15,000 rpm : 30 kW) (40 HP)		18.5 kW (22 kW) 25 HP (30 HP)
Spindle Taper	BBT40					BT50 ( BBT50)
<b>TRAVEL</b>						
X-axis Travel	560 mm 22"	1,020 mm 40.16"		1,330 mm 52.4"	1,630 mm 64.2"	1,630 mm 64.2"
Y-axis Travel	410 mm 16.1"	520 mm 20.47"		762 mm 30"		860 mm 33.9"
Z-axis Travel	450 mm 17.7"	540 mm 21.26"		700 mm 27.6"		762 mm 30"
Distance Between Spindle Nose & Table Top	110~560 mm 4.3~22"	140~680 mm 5.51"~26.77"		100~800 mm 3.94"~31.5"		200~962 mm 7.9"~37.9"
<b>TABLE</b>						
Table Size	700 x 420 mm 27.6" x 16.5"	1,120 x 520 mm 44" x 20.47"		1,430 x 760 mm 56.3" x 29.9"	1,730 x 760 mm 68.1" x 29.9"	1,730 x 860 mm 68.1" x 33.9"
No. T-slots x Size x Pitch	3 x 14 mm x 100 mm 3 x 0.55" x 3.9"	5 x 18 mm x 100 mm 5 x 0.71" x 3.94"		7 x 18 mm x 100 mm 7 x 0.71" x 3.94"		5 x 22 mm x 150 mm 5 x 0.87" x 5.91"
Max. Load on Table	300kg 660 lb	500kg 1,102 lb		1,500kg 3,307 lb		2,000kg 4,409 lb
<b>FEEDRATE</b>						
X/Y/Z Rapid Feedrate	48 / 48 / 48 m/min. 1,890 / 1,890 / 1,890 ipm	48 / 48 / 32 m/min. 1,890 / 1,890 / 1,260 ipm	24 / 24 / 16 m/min. 945 / 945 / 630 ipm	30 / 30 / 24 m/min. 1,181 / 1,181 / 945 ipm	24 / 24 / 24 m/min. 945 / 945 / 945 ipm	
Cutting Feedrate	1~20,000 mm/min. 0.04~787 ipm	1~20,000 mm/min. 0.04~787 ipm	20,000 / 20,000 / 16,000 mm/min. 787 / 787 / 630 ipm	1~20,000 mm/min. 0.04~787 ipm	1~10,000 mm/min. 0.04~394 ipm	
<b>ATC</b>						
Tool Magazine Capacity (opt.)	20T (24T)	24T (30 / 40T)		24T (30T)		32T (40T)
Max. Tool Weight (per piece)	6kg 13.2 lb					20kg 44 lb
Max.Tool Dimensions (opt.) (W/O Adjacent Tools)	20T: ø90 x 250 mm (ø125 x 250 mm) 24T : ø76 x 250 mm 20T: ø3.54" x 9.84" (ø4.92" x 9.84") 24T : ø3" x 9.84"	24T : ø90 x 300 mm (ø140 x 300 mm ) 30T/40T : ø76 x 300 mm (ø125 x 300 mm ) 24T : ø3.54" x 11.81" (ø5.51" x 11.81") 30T/40T : ø3" x 11.81" (ø4.92" x 11.81")		24T : ø90 x 300 mm (ø140 x 300 mm ) 30T : ø76 x 300 mm (ø125 x 300 mm ) 24T : ø3.54" x 11.81" (ø5.51" x 11.81") 30T : ø3" x 11.81" (ø4.92" x 11.81")		32T / 40T: ø120 x 350 mm (ø240 x 350 mm) 30T / 40T : ø4.72" x 13.78" (ø9.45" x 13.78")
Tool Changer Method	Arm Type					
Tool Selection Method	Random					
<b>GENERAL</b>						
Pneumatic Supplier	5.5 kg/cm <sup>2</sup> 78.2psi					
Power Consumption	30 kVA (30 kVA)	37.24 kVA (40 kVA)		38.7 kVA (40 kVA)		43 kVA (48 kVA)
Machine Weight	3,000 kg 6,614 lb	5,350 kg 11,795 lb		10,500 kg 23,149 lb	11,000 kg 24,251 lb	15,500 kg 34,171 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.

# ■ ACCESSORIES

●: Standard ○: Optional -: None

	560A	560A- APC	1020A	1020AM	1380A	1680A	1680B
Tool Kit	●	●	●	●	●	●	●
Work Lamp \ Pilot Lamp	●	●	●	●	●	●	●
Oil Skimmer	●	●	●	●	●	●	●
Coolant Equipment System	●	●	●	●	●	●	●
Full Chip Enclosure	●	●	●	●	●	●	●
Coolant Gun	●	●	●	●	●	●	●
Spindle Air Blast	●	●	●	●	●	●	●
Cutting Air Blast	●	●	●	●	●	●	●
Spindle Air Seal	●	●	●	●	●	●	●
Central Lubrication System	●	●	●	●	●	●	●
Guideway Cover (X/Y/Z)	●	●	●	●	●	●	●
Leveling Blocks and Bolts	●	●	●	●	●	●	●
Mechanical, Electrical and Operating Manuals	●	●	●	●	●	●	●
Heat Exchanger for Electrical Cabinet	●	●	●	●	●	●	●
Triple-Chip Augers	-	-	●	●	-	-	-
Dual-Chip Augers (With Chip Conveyor)	-	-	○	○	-	-	-
Penta-Chip Augers	-	-	-	-	●	●	-
Quad-Chip Augers	-	-	-	-	○	○	●
45° Outlet Pipe (Triple-Chip Augers)	-	-	●	●	-	-	-
Straight Pipe (Triple-Chip Auger with Rear Side Chip Conveyor)	-	-	○	○	-	-	-
45° Outlet Pipe (Penta-Chip Augers)	-	-	-	-	●	●	-
Straight Pipe (Penta-Chip Auger with Rear Side Chip Conveyor)	-	-	-	-	○	○	-
Safety Door	●	●	●	●	●	●	●
Air Gun	●	●	●	●	●	●	●
Circular Coolant Nozzle	●	●	●	●	●	●	●
CE	○	○	○	○	○	○	○
Automatic Door	○	○	○	○	○	○	○
Optical Scale	○	○	○	○	○	○	○
Foundation Bolts	○	○	○	○	○	○	●
Coolant Shower	●	●	●	●	●	●	●
Spindle Cooling System	○	○	○	●	○	○	●
Oil-mist Coolant System	○	○	○	○	○	○	○
Oil Hole Holder Function	○	○	○	○	○	○	○
Coolant Through Spindle System (Form A/20/30/70bar)	○	○	○	○	○	○	○
Chip Conveyor	○	○	○	○	○	○	○
4th Axis Rotary Table	○	○	○	○	○	○	○
A/C. Cooler for Electrical Cabinet	○	○	○	○	○	○	○
Automatic Power Off	●	●	●	●	●	●	●
Auto Tool Length Measurement System (METROL_T24E-04-08)	○	○	○	○	○	○	○
Workpiece Measurement System (RENISHAW_OMP60)	○	○	○	○	○	○	○
Oil-mist Collector	○	-	○	○	○	○	○
Heavy Duty Coolant Pump	●	●	●	●	●	●	●
Extended 250mm Column	-	-	○	○	○	○	○
CNC Control: MXP-200FA	●	●	●	●	●	●	●

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.



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