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# NXV1020A

High Performance Vertical Machining Center

FANUC MXP-200FA



## **STANDARD FEATURES**

POWERFUL 25 HP IDD SPINDLE BBT TYPE  
MXP 200FA WITH MANUAL GUIDE I  
12,000 RPM MAXIMUM SPINDLE SPEED  
AICC II CONTOUR CONTROL  
ABSOLUTE ENCODERS, 1 MILLIONTH RESOLUTION  
200 BLOCK LOOK AHEAD, 2MS PROCESSING SPEED  
RIGID TAPPING & HELICAL INTERPOLATION  
CUSTOM MACRO B & SKIP FUNCTION  
PCMCIA SLOT FOR FLASH MEMORY & MODEM CARD  
10.4" LCD COLOR MONITOR W/ GRAPHICS  
1280 METERS MEMORY & PCMCIA EXPANSION SLOT  
RS 232C INTERFACE & ETHERNET CONNECTION  
FULL ALPHANUMERIC KEYBOARD  
ADDITIONAL WORK & TOOL OFFSETS

HIGH SPEED 24 TOOL SWING-ARM ATC SYSTEM  
60 DEGREE CHIP AUGER  
40mm THK<sup>®</sup> NR TYPE LINEAR GUIDE ON X, Y & Z  
SERVO MOTORS DIRECT COUPLE TO BALLSCREWS  
PRE-TENSIONED HARDENED & GROUND BALLSCREWS  
OIL SKIMMER, CUTTING AIR BLAST  
SPINDLE AIR BLAST, SPINDLE AIR SEAL  
PISTON TYPE AUTO LUBRICATION SYSTEM  
CIRCULAR COOLANT NOZZLE  
COOLANT THROUGH SPINDLE PREPARATION  
HANDHELD COOLANT GUN & AIR GUN  
3 AUGER CHIP EVACUATION STANDARD  
FULL CHIP & COOLANT GUARDS & TOP COVER  
HIGH QUALITY & RIGIDITY MEEHANITE<sup>®</sup> CASTINGS



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## BASIC SPECIFICATIONS

### HEADSTOCK

Motor	FANUC αT8/12,000i AC Digital Spindle Motor
Horse Power	25 HP (18.5KW) H / L Shifting
Maximum Speed	12,000 rpm Big-Plus BBT40
Spindle Drive	Isolated Direct Drive Spindle
Spindle Nose to Table	5.5" ~ 26.78"
Spindle Center to Z-axis Way Cover	21"

### TABLE

Size	44.0" x 20.47"
T-Slots number, width, pitch	5 x 0.71" x 3.94"
Maximum Load	1,100 lbs.
Table Height from floor	34.5"

### ATC SYSTEM

Tool Type	CAT-40 (BBT-40)
Tool Selection	Bi-directional, Random Access
Maximum Tool Weight	13.2 lbs.
Maximum Tool Length	11.81"
Maximum Tool Diameter	3.15" / 5.5" (when adjacent pocket is empty)
Magazine Tool Capacity	24 Tools
Tool Change Time (Approx.)	1.7 sec. (T-T) / 3.5 sec. (C-C)

## AXES SPECIFICATIONS

	<u>Travel</u>	<u>Positioning</u>	<u>Repeatability</u>	<u>Rapid Rate / Cutting Feed</u>
X Axis	40.0"	0.00012"	± 0.00008"	1890 ipm / 787 ipm
Y Axis	20.4"	0.00012"	± 0.00008"	1890 ipm / 787 ipm
Z Axis	21.3"	0.00012"	± 0.00008"	1260 ipm / 787 ipm

### GENERAL

Machine Net Weight	11,795 lbs.
Shipping Weight	13,117 lbs. & 551 lbs. (two cases)
Power Consumption	31 KVA ( subject to change with added options)
Floor Spacing (W x D x H)	125" x 153" x 119"
Shipping Dimensions (W x D x H)	120.9" x 89.4" x 101.2" ; 67.7" x 24.4" x 68.1"



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## DETAILED SPECIFICATIONS

### HEADSTOCK

Spindle Motor	FANUC $\alpha$ T8/12,000i AC Digital Spindle Motor
Horsepower	25 HP / 18.5KW
Spindle Drive	Inline Direct Drive Motor (patent pending)
RPM Range	45 ~ 12,000 rpm Two Windings H/L Shifting
Spindle Bearing Type	Angular Contact Ceramic Bearings
Bearing Class	ABEC Class 7 (P4)
Spindle Taper Hardness / Material	BBT Type, HRC62 $\pm$ 1.5° / SCM21
Spindle Draw Bar Type	Collet Style
Retention System	Helical Disc Spring
Holding Force	2,025 ~ 2,700 lbs.
Counter Balance	None
Spindle Orientation	Built-in Positioning Encoder
Spindle Nose to Table	5.9" ~ 27.2"
Spindle Center to Z-axis Way Cover	21"

### TABLE

Dimensions:	
Length	44.1"
Width	20.5"
T-Slots	5 x 0.70" x 3.93"
Maximum Table Load	1,100 lbs.
Height from Floor	34.2"

### AUTOMATIC TOOL CHANGER

Changer	Dual Swing Arm Type
Tool Change Time	1.7 Seconds (tool to tool) 3.5 seconds (chip to chip)
Tool Selection Method	Bi-directional, Random Access
Maximum Tool Weight	13.2 lbs
Maximum ATC Weight	264 lbs.
Maximum Tool Length	11.8"
Magazine Tool Selection	Bi-directional, Random Access
Maximum Diameter of Tools	
Adjacent Pocket Tooled	3.54"
Adjacent Pocket Empty	5.51"
Standard Number of Tools	24 ( Optional : 30 T)
Tool Shank	CAT-40 (BBT-40 optional)



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## DETAILED SPECIFICATIONS (continue)

### X AXIS

Ball screw:	Diameter	1.575"
	Class	JIS C3
	Pitch	0.63" [P16]
Feed Rate:	Rapid Traverse	1890 ipm
Acceleration / Deceleration		1G
	Cutting Feed Rate	0.04 ~ 786 ipm
Travel:		40.2"
Accuracy:	Linear Positioning	± 0.00012" (JIS 6338)
	Repeatability	± 0.00008" (JIS 6338)
Motor Type		Fanuc βis22/3000
Horse Power		4 HP
Thrust Force:	Rated	1587 lbf.
Thrust Force:	Max	3,575 lbf.

### Y AXIS

Ball screw:	Diameter	1.575"
	Class	JIS C3
	Pitch	0.63" [P16]
Feed Rate:	Rapid Traverse	1890 ipm
Acceleration / Deceleration		.8G
	Cutting Feed Rate	0.04 ~ 786 ipm
Travel:		20.5"
Accuracy:	Linear Positioning	± 0.00012" (JIS 6338)
	Repeatability	± 0.00008" (JIS 6338)
Horse Power		4 HP
Motor Type		Fanuc βis22/3000
Thrust Force:	Rated	1587 lbf.
Thrust Force:	Max	3,575 lbf.

### Z AXIS

Ball screw:	Diameter	1.575"
	Class	JIS C3
	Pitch	0.630" [P16]
Feed Rate:	Rapid Traverse	1260 ipm
Acceleration / Deceleration		1G
	Cutting Feed Rate	0.04 ~ 786 ipm
Travel:		21.3"
Accuracy:	Linear Positioning	± 0.00012" (JIS 6338)
	Repeatability	± 0.00008" (JIS 6338)
Horse Power		4 HP
Motor Type		Fanuc βis30/3000
Thrust Force:	Rated	2,149 lbf.
Thrust Force:	Max	5,405 lbf.



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## DETAILED SPECIFICATIONS (continue)

**Coolant Tank Capacity** 55 gal.

### **DIMENSIONS**

Floor Spacing (W x D x H) 101.57" x 116.73" x 109.45"  
Shipping (W x D x H) 120.9" x 89.4" x 101.2" ; 67.7" x 24.4" x 68.1"

### **WEIGHT**

Net 11,795 lbs.  
Shipping 13,177Lbs. / second crate 551Lbs.

### **POWER REQUIREMENTS**

208 VAC Line Voltage AC 3 Phase  
Breaker Size 100 AMPS  
Power Consumption 30 KVA

**AIR REQUIREMENTS** 16 CFM @ 85 psi

## MXP-200FA CONTROL SPECIFICATIONS

- AICC II CONTOUR CONTROL
- 200 BLOCK LOOK AHEAD, 2MS PROCESSING SPEED
- CUSTOM MACRO B & SKIP FUNCTION
- RIGID TAPPING & HELICAL INTERPOLATION
- 10.4" LCD COLOR MONITOR W/ DYNAMIC GRAPHIC
- PCMCIA SLOT FOR FLASH MEMORY & MODEM CARD
- 1280 METERS MEMORY
- RS 232C INTERFACE & ETHERNET CONNECTION
- MANUALGUIDE I SOFTWARE
- I OPERATION PLUS SOFTWARE ENHANCEMENT EXCLUSIVELY FROM YCM
- G-CODE MIRROR IMAGE



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## **ACCESSORIES**

### Standard

- CTS Preparation, No union
- LED Work Lamp
- Pilot Lamp
- Oil Skimmer
- Full Chip Enclosure
- Coolant Gun
- Air Gun
- Spindle Air Blast
- Cutting Air Blast
- Spindle Air Seal
- Central Lubrication System
- Guide way Cover (X/Y/Z)
- Leveling Blocks and Bolts
- Mechanical, Electrical, and Operating Manuals
- Heat Exchanger for Electrical Cabinet
- Single Chip Auger
- Circular Coolant Nozzle (USA market only)
- Safety Door
- CNC Control: FANUC MXP-200FA

### Option

- Oil-mist Collector
- Chip Flush
- CE Cert
- Coolant Through Spindle
- Chip Conveyor
- Spindle Chiller Cooling
- 4th Axis Rotary Table
- Automatic Power Off Device
- Auto Tool Length Measurement
- Data Server
- Heavy Duty Coolant Pump



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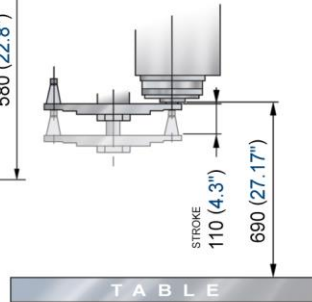
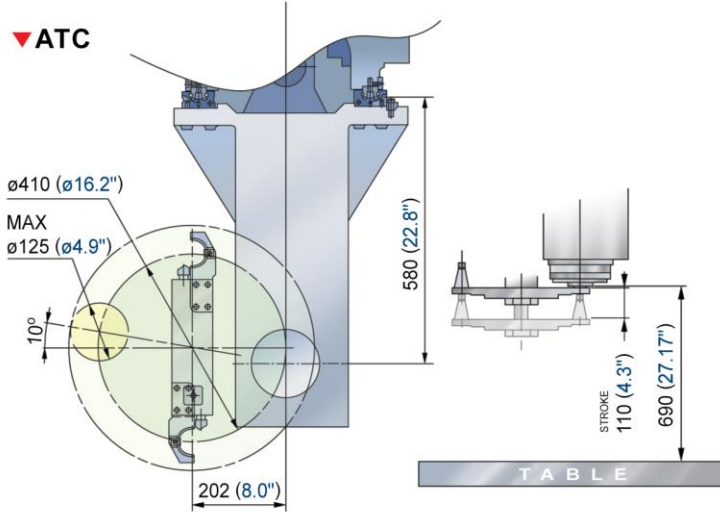
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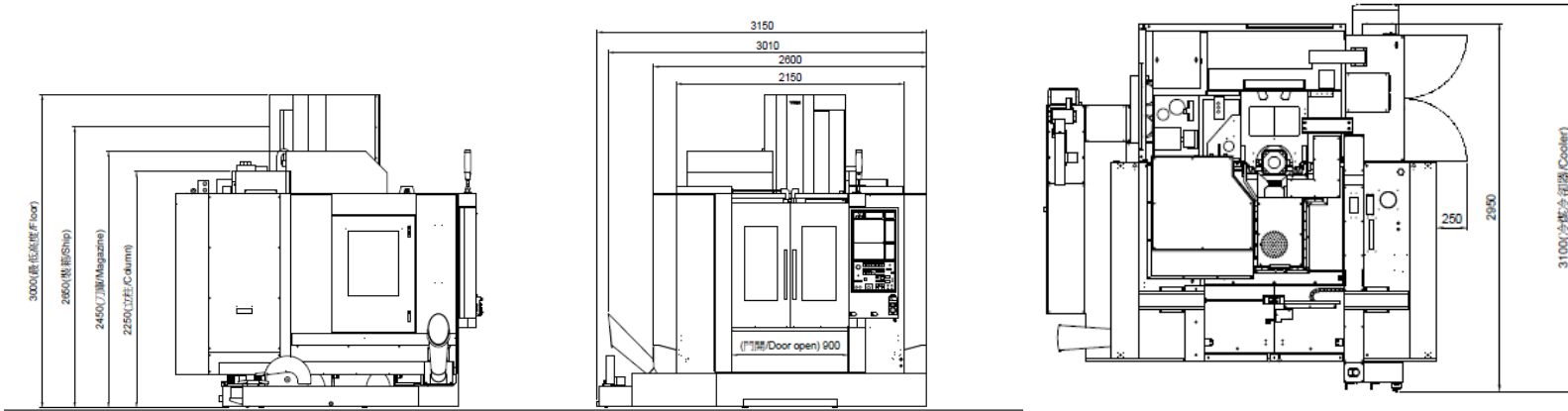
## MACHINE DIMENSIONS

DIMENSIONS UNIT: mm (inch)

▼ATC



## MACHINE DIMENSIONS





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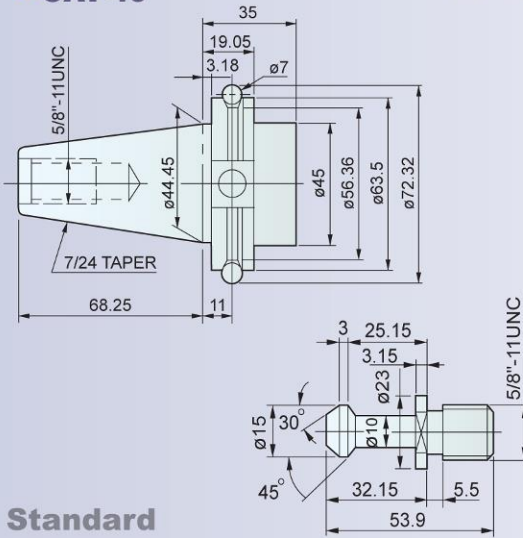
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PULL STUD and TOOL SHANK

## CAT-40

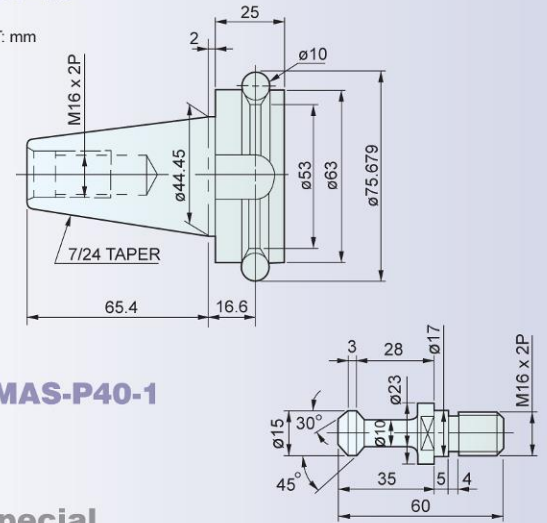
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Standard

## BT-40

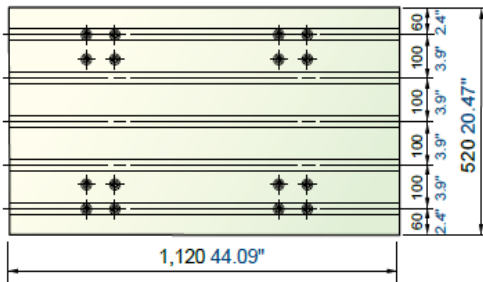
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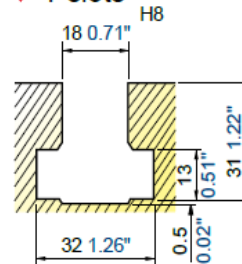
## MAS-P40-1

Special

### Table size



### T-slots



Unit : mm inch

