Methods

MH320A

Horizontal Machining Center

SCAN HERE FOR MORE INFORMATION

DESIGN

Rigid & Compact Machine Casting

Meehanite casting is used on all major casting components, for its stable material composition & casting quality.

All casting is analyzed by Finite Element Analysis, to ensure structural rigidity.

RIGIDITY

Step Column Design

Wide base, and robust structure, ensure steady machining against heavy cutting forces.

Features

Designed for productivity and efficiency.

- Advanced Technology & Design
- High Rigidity w/ Step Column Structural Design
- Spindle & 3-Axis Thermal Displacement Control
- High Performance Control System & HMI
- High Efficiency Chip Removal System

3-Axis Ballscrews System

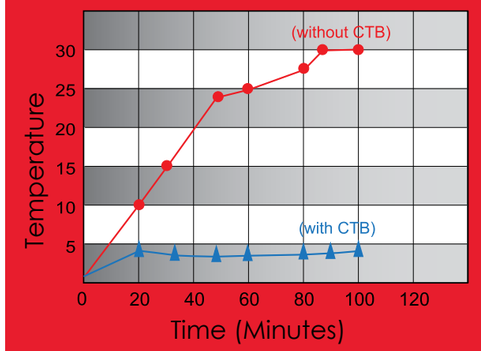
- Large 32mm Diameter ballscrews are used for rigidity, to ensure positioning and repeatability.
- X/Y/Z rapid speed **50m/min**
- Telescopic cover: X/Y-axis are fin-type, and Z-axis is two pieces-type, for reduced vibration and noise.

High Speed, High Precision, Linear Guideways

- Ensure optimal surface finish and contour cutting.
- Well suited for high speed operation.
- Linear guideways have low friction during movement, which increases the lifespan of the guideway.

Hollow Ballscrew Efficiency Chart

Hollow coolant design is used for the 3-Axis ballscrews. Coolant oil is constantly recycling through the ballscrews to reduce thermal expansion.



Testing Conditions

Ballscrew Diameter (mm)	Revolution (RPM)	Oil Temperature (°C)	Ball Diameter (mm)
Ø32xP12	1000	20	6.35

2 Pallet APC System

- High-speed APC, **44** rpm
- Minimum pallet indexing **0.001°** (standard)
- The pre-loading pallet can be rotated in **90°** increments for easy loading

ATC & Magazine

- Rapid, simple, reliable, and long lifespan tool changing unit, for the most reliable tool changing operation
- Unique tool changing design with cam-type transmission mechanism is used. Tools are selected by random tool selection method with PLC control software.

Coolant through Spindle (CTS) Unit OP

- CTS allows high pressure coolant to travel through the spindle and tool, to immediately take away the heat.
- 300/1000psi units available

Mist Collection System OP

Oil/coolant mist collectors help alleviate the health and safety concerns once prevalent on the shop floor. The multi-stage collector passes mist through three layers of different filtering media to remove 99 percent of oil mist particles. An optional fourth stage can be added for further filtering

Scraper Type Conveyor and Chip Cart

Chip augers are on both sides of the worktable. Chip conveyor and chip cart are also equipped at the rear of the machine for chip removal solutions.

OP Optional filtering conveyors available

In Process Measurement OP

- Renishaw tool and spindle probes available

Spindle Splash Ring

- Four coolant nozzles located around the spindle face to assist with chip management and to lower the cutting surface temperature which improves the part finish quality.

MH320A Tech Specs

Description	Unit	MH-320A
Travel		
X/Y/Z Axis Travel	in (mm)	18.1 / 18.1 / 13.7 (460 / 460 / 350)
Spindle Center to Worktable Surface	in (mm)	2.36 ~ 20.4 (60 - 520)
Spindle Nose to Worktable Center	in (mm)	2.36 ~ 16.1 (60 - 410)
Worktable		
Worktable Size	in (mm)	12.6 x 12.6 (320 x 320)
Max. Workpiece Size	in (mm)	Ø16.9 (Ø430)
Max. Table Loading	lbs (kg)	551.2 (250)
Max. Workpiece Height	in (mm)	18.7 (475)
Worktable Setup		20-M12
Min. Worktable Indexing	degree	0.001°
Spindle		
Max. Spindle Speed	RPM	15000
Max. Spindle Cutting Torque	ft-lbs	80
Max. Spindle Cutting Horsepower	HP	20
Spindle Taper		7/24 Taper, No.40
Spindle Bearing Diameter	in (mm)	2.75 (70)
Spindle Transmission		Direct Drive
Spindle Tool Pull Force	lbs(kg)	2204
Spindle Acceleration	sec./RPM	0.6 / 0 ~ 6000
Spindle Deceleration	sec./RPM	1.2 / 6000 ~0
Auto Tool Changing Unit		
Tool Taper		BigPlus 40
Tool Capacity	Pcs	40
Max. Tool Diameter (No Adjacent Tool)	in (mm)	6.3 (160)
Max. Tool Length	in (mm)	12.6 (320)
Max. Tool Weight	lbs (kg)	17.6 (8)
Tool Changing Time (Tool to Tool)	sec	2.6

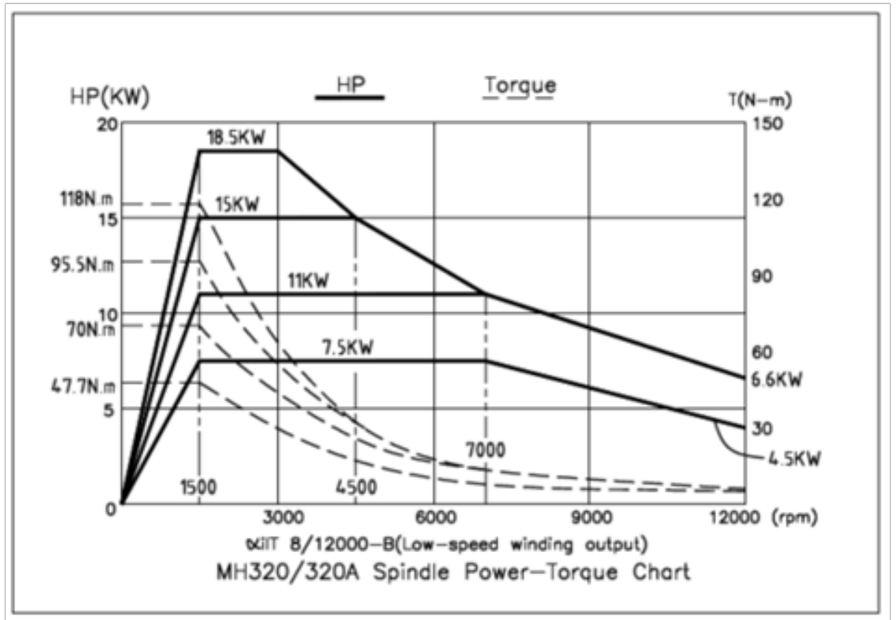
Continued ⟶

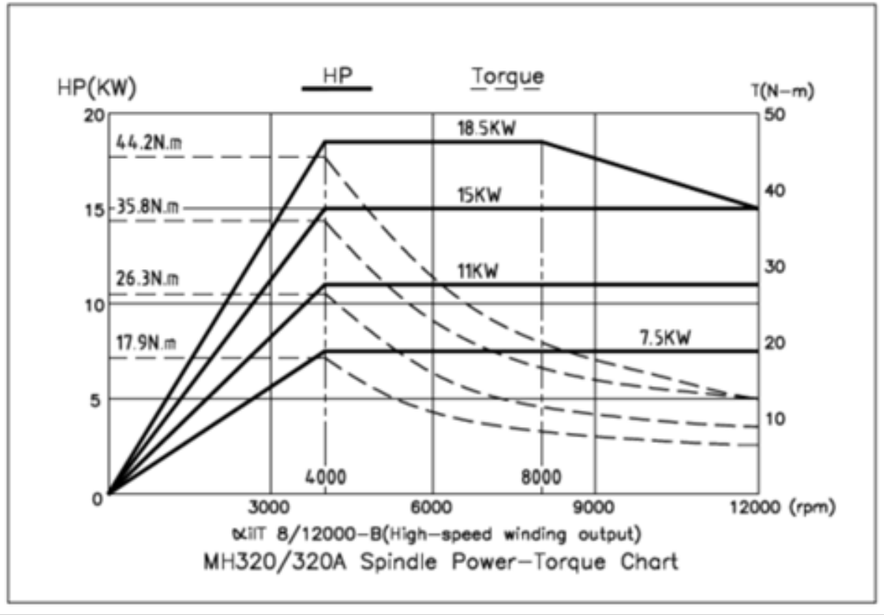
Technical Specifications

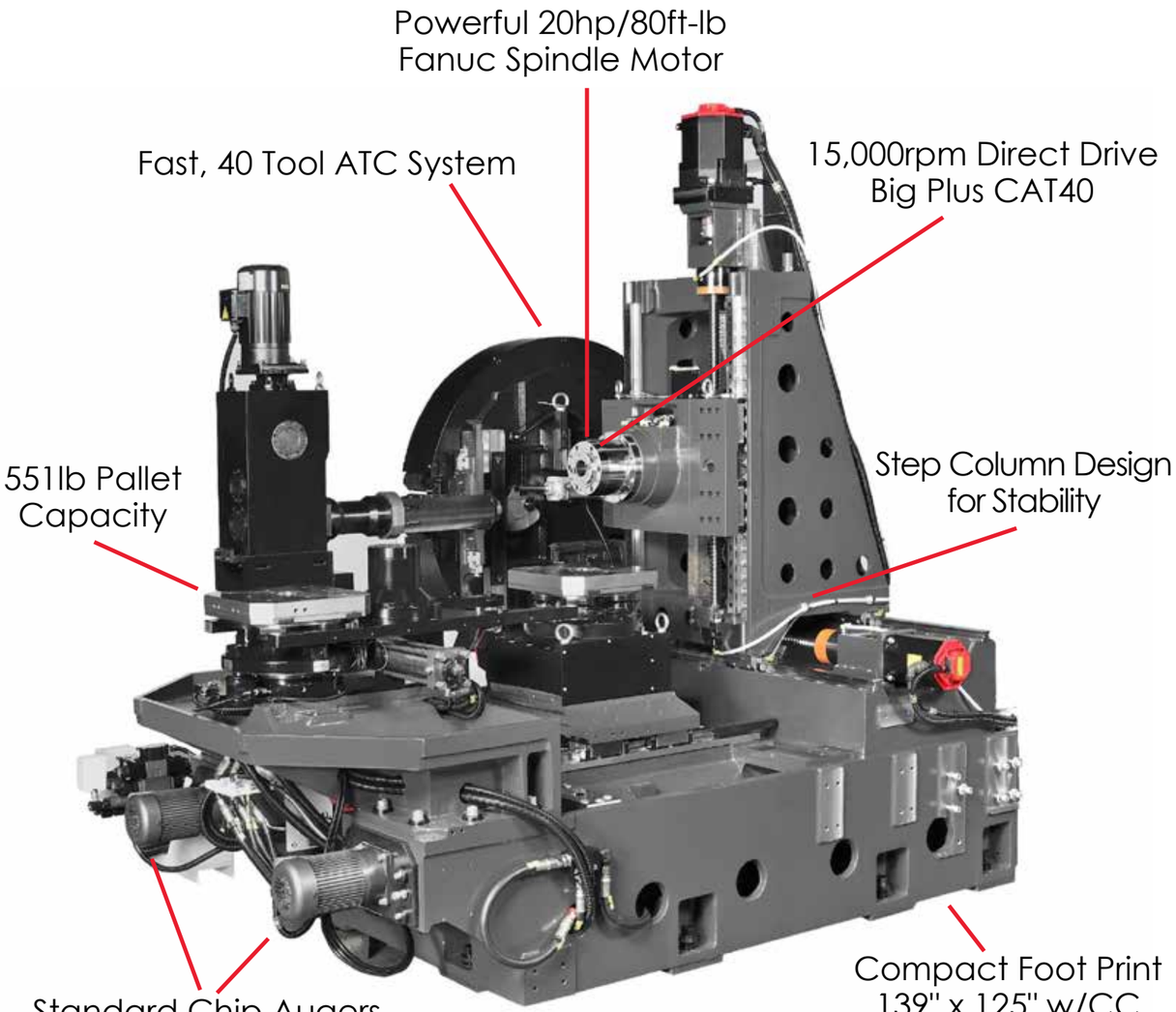
Description	Unit	MH-320A
Feedrate		
Max. X/Y/Z Rapid Speed	in/min (mm/min)	1968 (50000)
Rapid Feed (4th Axis)	rpm	44
Cutting Feedrate	in/min (mm/min)	1 - 472.5 (1 - 12000)
Manual Feedrate	in/min (mm/min)	49.6 (1260)
Auto Pallet Changer		
Number of Pallets	Pcs	2
Pallet Changing Type		Swing Type
Pallet Changing Time	sec	10
Control		
Fanuc Control		0i-MF
Motor		
Spindle Motor Power	KW	7.5 / 15
Spindle Motor Torque	N·m	70
X/Y/Z/B Axis Motor Power	KW	2.7 / 4.5 / 2.7 / 1.6
Hydraulic Motor	KW	1.5
Cutting Fluid Motor	KW	1.5
Power		
Power Consumption	KVA	25
Oil/Coolant Tank		
Hydraulic System Capacity	gal (L)	13.2 (50)
Lubrication System Capacity	gal (L)	1.06 (4)
Cutting Fluid System Capacity	gal (L)	92.5 (350)
Machine Dimension		
Machine Height	in (mm)	90" (2288)
Floor Space - With Chip Conveyor	in (mm)	139" x 125" (3530 x 3175)
Machine Weight	lbs (kg)	14,550 (6600)

Spindle Power-Torque Chart

MH-320A Spindle Power-Torque Chart



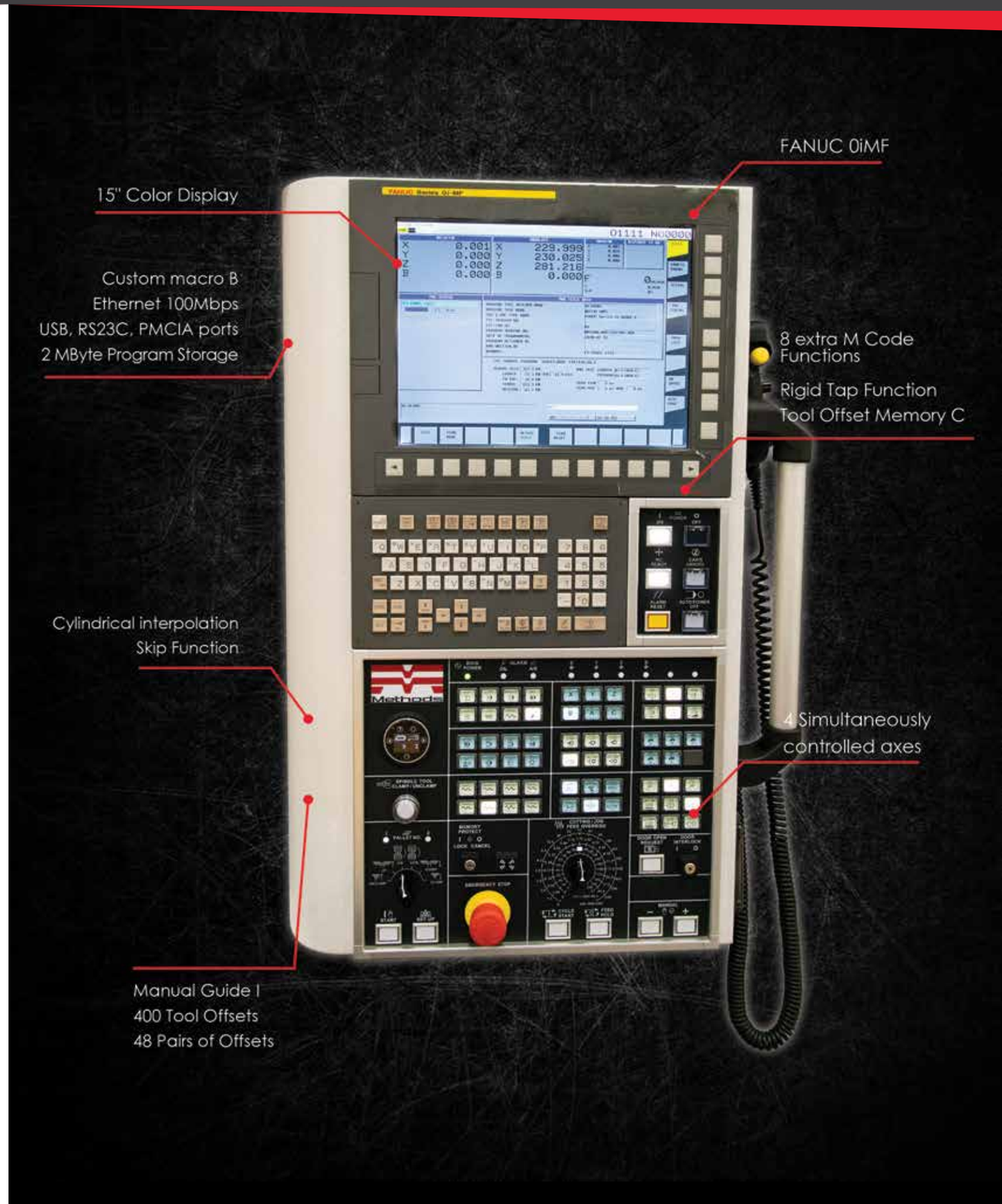




14,550lbs total machine weight

Machine Design Qualified using FEA (Finite Element Analysis) Techniques to Provide Superior Machining Performance. All Castings are MEEHANITE Certificated

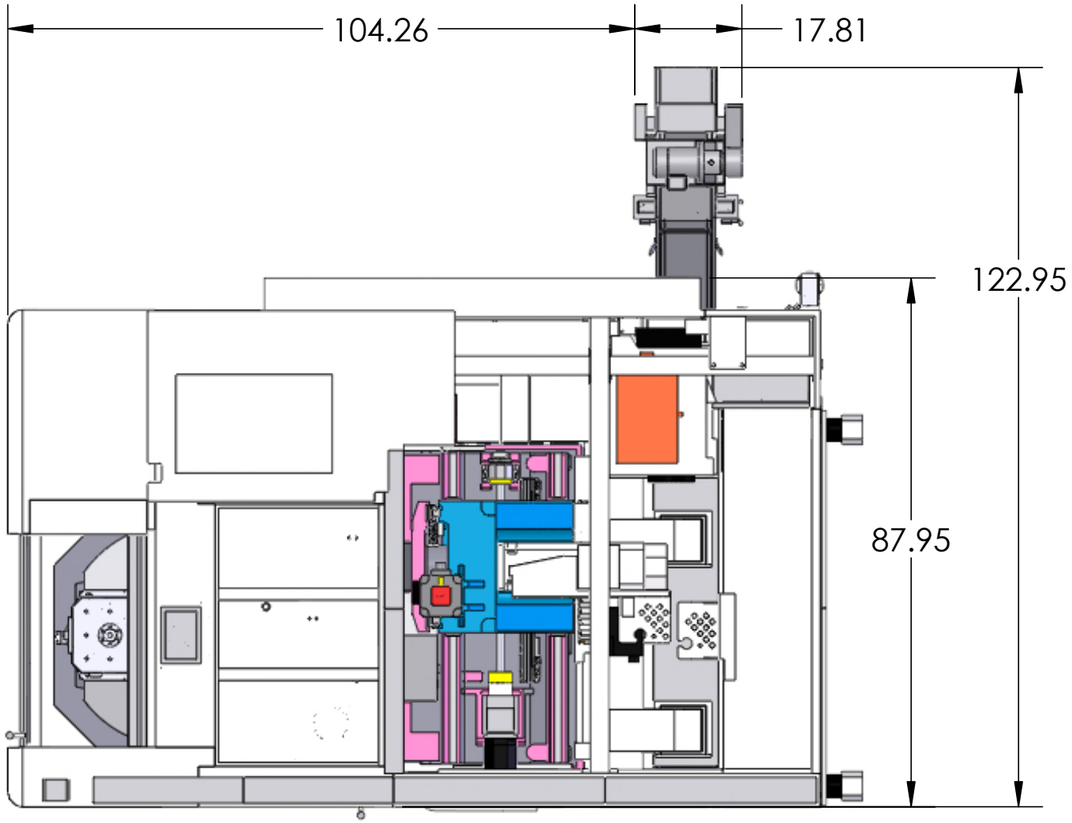
Key Design Features

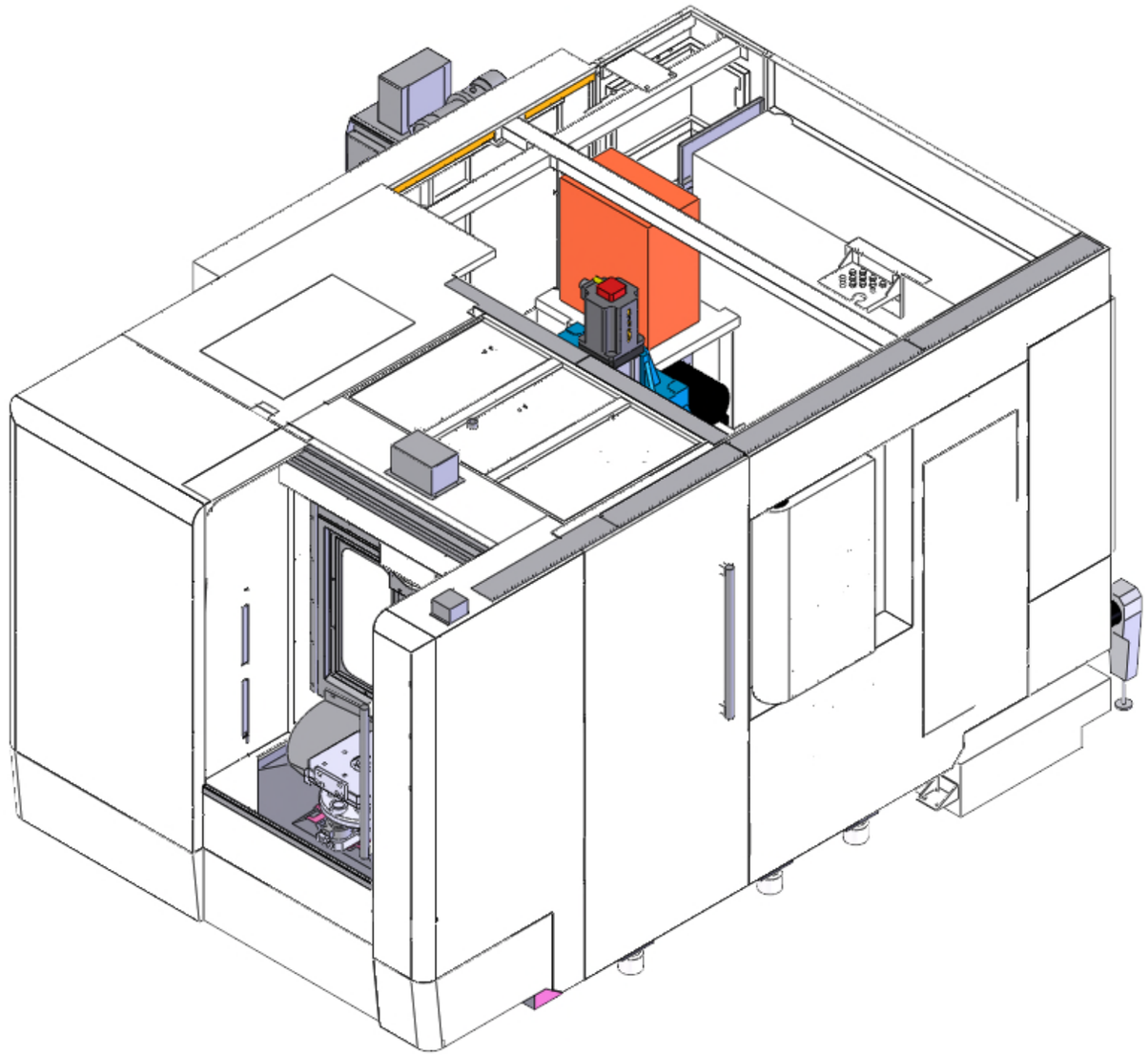


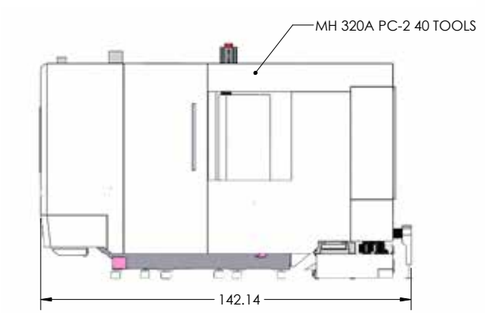
Floor Space

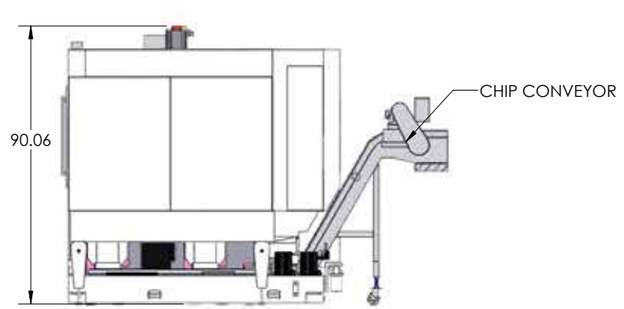
unit: inches

MH-320A

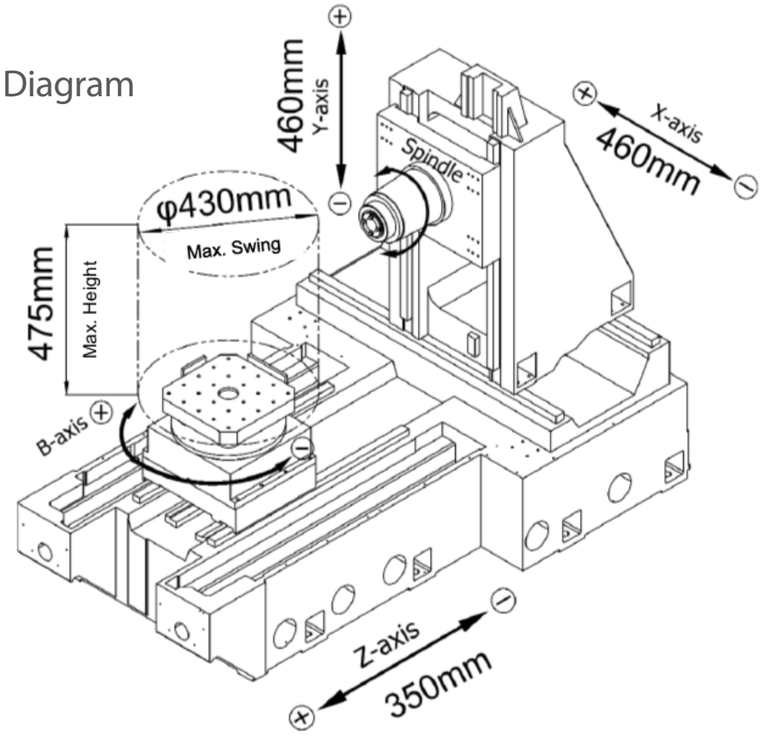




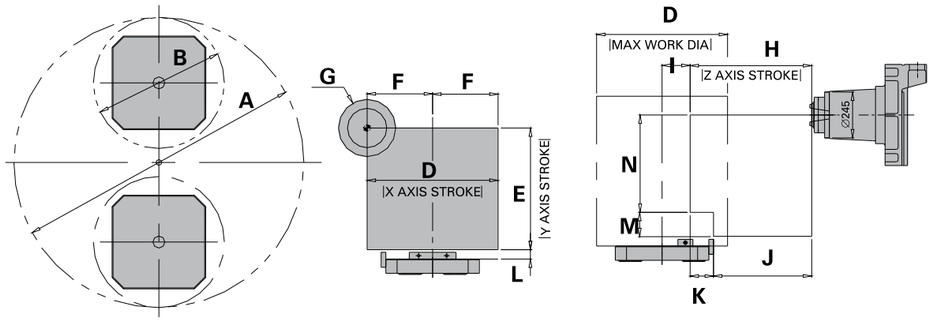




3-Axis Travel Diagram



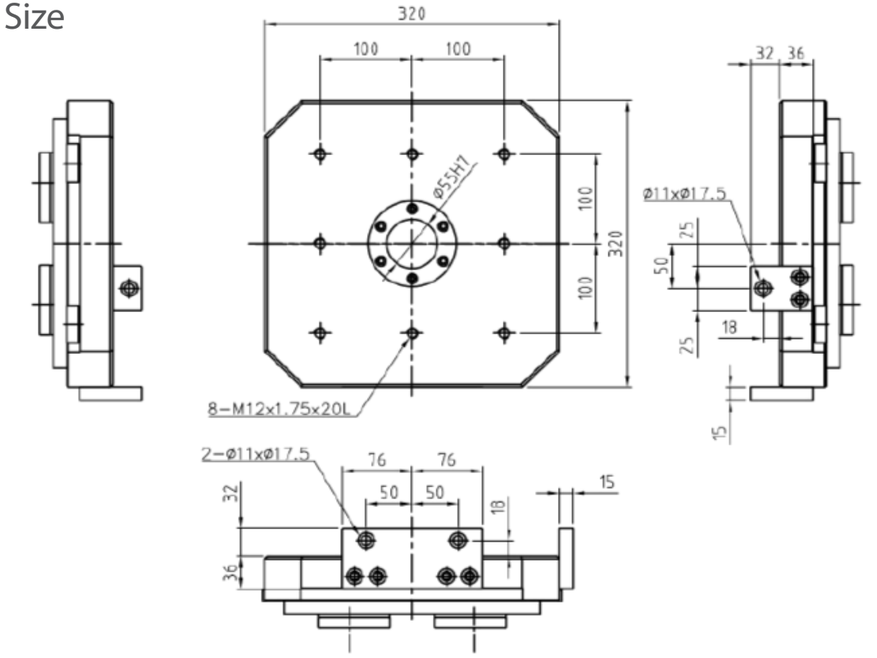
Cutting Range



Dimension / Model	A	B	D	E	F	G	H	I	J	K	L	M	N
MH-320A	40.6 in (1030 mm)	16.9 in (430 mm)	18.1 in (460 mm)	18.1 in (460 mm)	9.1 in (230 mm)	4.3 in (110 mm)	13.7 in (350 mm)	2.4 in (60 mm)	11.8 in (300 mm)	2 in (50 mm)	2.4 in (60 mm)	1.2 in (30 mm)	16.9 in (430 mm)

Pallet Size

unit : mm



**Specifications are subject to change without notice*

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