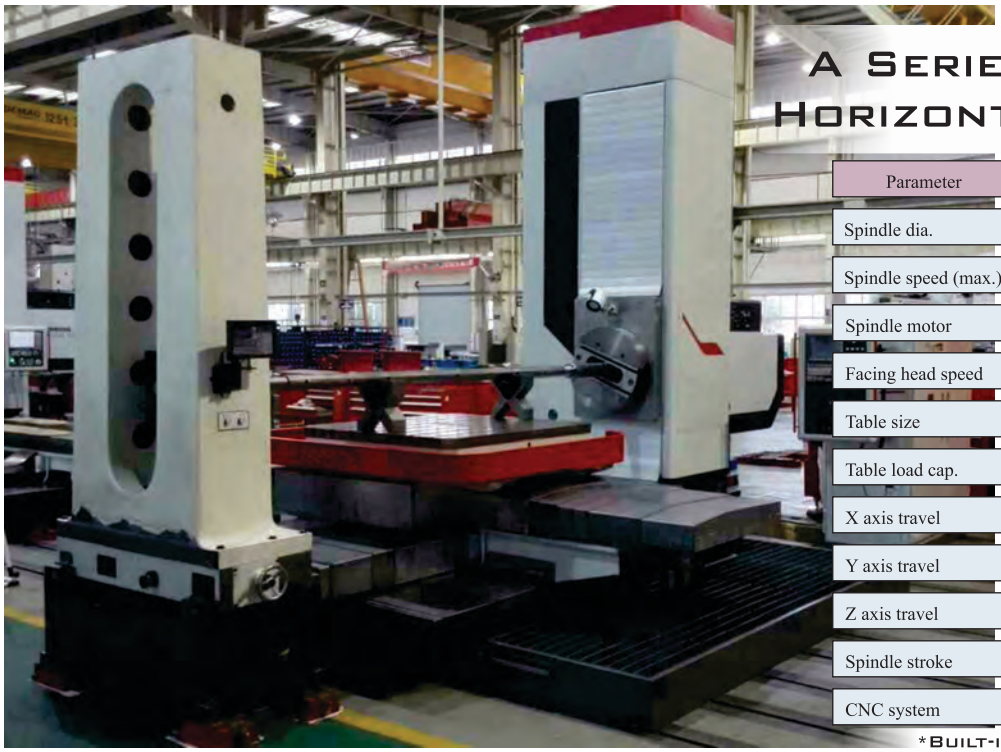
# New CNC / Manual Horizontal Boring Mills



## A Series 3" & 4" CNC Horizontal Boring Mills

| Parameter | Unit | A-1 | A-2 | A-4 |
|---|---|---|---|---|
| Spindle dia. | in. | 3.54 | 4.33 | 4.33 |
| Spindle speed (max.) | rpm | 1500 | 2000 | 1100 |
| Spindle motor | hp | 15 | 20 | 20 |
| Facing head speed | rpm | 200 | 165 | 165 |
| Table size | in. | 39.3x35.4 | 49.2x49.2 | 49.2x55.1 |
| Table load cap. | lbs. | 4,400 | 11,000 | 11,000 |
| X axis travel | in. | 39.3 | 55.1 | 70.8 |
| Y axis travel | in. | 35.4 | 47.2 | 55.1 |
| Z axis travel | in. | 43.3 | 47.2 | 63 |
| Spindle stroke | in. | 21.6 | 23.6 | 23.6 |
| CNC system | | Fagor | Fanuc 32i | Fanuc 32i |

*Built-in Facing Head Standard

## B Series 4" CNC Horizontal Boring Mills

| Parameter | Unit | B-1 | B-2 | B-4 |
|---|---|---|---|---|
| Spindle dia. | in. | 4.33 | 4.33 | 4.33 |
| Spindle speed (max.) | rpm | 3000 | 3000 | 3000 |
| Spindle motor | hp | 20 | 25 | 25 |
| Spindle torque | lb.-ft. | 1120 | 1032 | 1032 |
| Table size | in. | 39.3x35.4 | 49.2x49.2 | 49.2x55.1 |
| Table load cap. | lbs. | 4,400 | 8,800 | 11,000 |
| X axis travel | in. | 39.3 | 55.1 | 70.8 |
| Y axis travel | in. | 35.4 | 47.2 | 55.1 |
| Z axis travel | in. | 43.3 | 47.2 | 55.1 |
| Spindle stroke | in. | 21.6 | 23.6 | 23.6 |
| CNC system | | Fanuc 32i | Fanuc 32i | Fanuc 32i |

*Built-in Facing Head Optional

# CNC and Manual Operation in One

This series of Horizontal Boring Mills are designed for both CNC and manual control.

These machines use the highly reliable, high precision, and functional Fanuc 32i CNC control system. One of the main advantages of this machine is the user-friendliness of the CNC control system and the Manual Operation Control Panel.

The machines can be used as both a CNC and manual machine for milling, drilling and boring operations. Individual axis control joysticks select feed directions, and override functions are used to adjust feed rate manually. In this manual operation scheme, the Fanuc position screen is utilized as a digital readout.

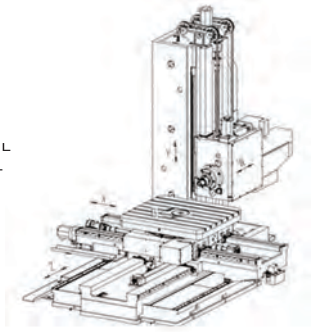
The easy to use conversational programming can be utilized for milling passes, bolt patterns, rigid tapping, etc. and produce much faster cycle times than conventional machine operations – with little CNC training and/or knowledge on the part of the operator.

In Manual Operation Mode the display screen acts as a DRO


Joystick Controls on Manual Operation Panel

### Machine Axis Movements

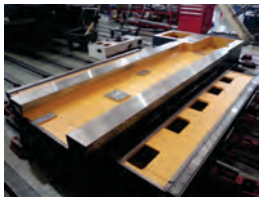
X axis: Table cross travel
Y axis: Headstock vertical travel
Z axis: Table longitudinal travel
W axis: Spindle axial travel
B axis: Table rotation
U axis: Facing head slide travel
(for machines equipped with a facing head)



## Heavy Duty Construction for Superior stability and Accuracy

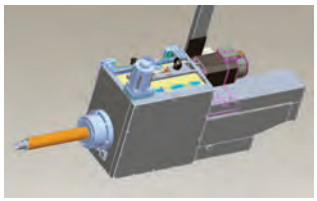
### High Rigidity Structural Components

The major structural components of these machines are constructed of high quality cast iron, heat treated and stress relieved. The internal rib design provides for superior rigidity and torsional strength for the stability and accuracy to meet the demands of today's heavy duty machining requirements.



### Precision Spindle

The spindle shaft support bearing has high quality, precision tapered roller bearings for high rotational accuracy and rigidity. It uses a butterfly spindle spring clamp and hydraulic release for fast and easy tool loading and unloading. The spindle is nitrided steel 38 CrMoAIA, ground and polished for a high surface hardness and increased durability.



### Rotary Table

The heavy duty rotational bearing provides for smooth table movement and accuracy. An independent hydraulic station is used for table clamping.

### Axis Feeds

The X, Y, and Z axes use independent servo motors and synchronous pulleys to drive the preloaded ball screws for each axis. The rotary table uses a floating pinion and rotary gear. The servo motor, through the reducing gear box, drives the pinion for precise rotary table angular feed.

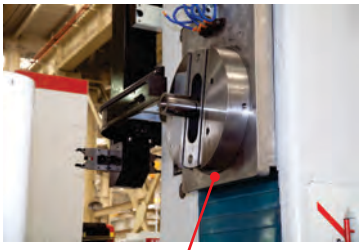
# Optional Accessories and Features

A number of options for accessories and feature enhancements are available for the A and B series of Table Type Horizontal Boring Mills. Some of the accessories are shown here. Additionally, the performance of the machine can be enhanced with increased Y axis travel and spindle speed increases.

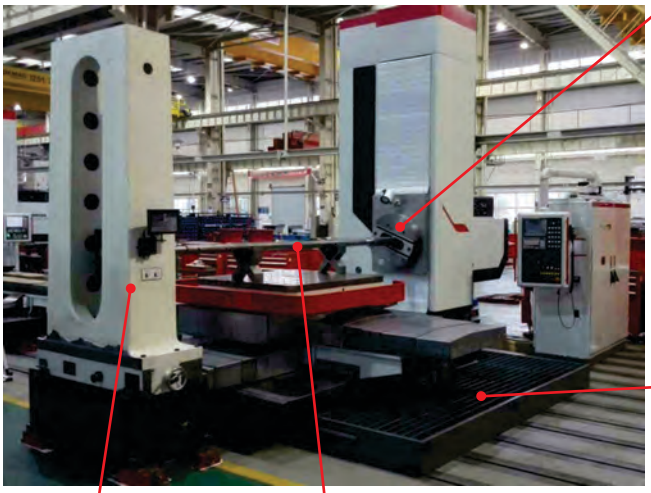
Chip Guard for Table

Hinge Type Chip Conveyor

Helical Chip Conveyor



Facing Head
(Standard on A series, Optional for B series)

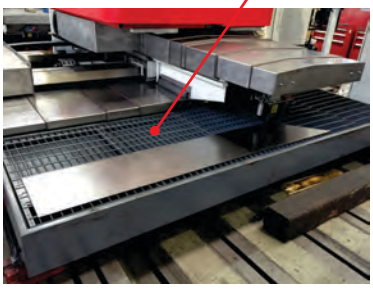


Coolant Tank

Outboard Support (with DRO)

Boring Bar

40 Position Automatic Tool Changer



# Conventional Horizontal Boring Mills

Harris Machine Tools also offers two very ***capable*** and ***economical*** Conventional Horizontal Boring Mills for those operations not requiring CNC control.

The MB series (MB110e and MB130e) are 4" and 5" spindle machines with built-in rotary tables for machining multiple faces of a complex part in a single set up, and a built-in facing head for expanded functionality without adding cumbersome attachments.

These machines are used to mill, drill, bore, face, groove, etc. all types of steel and alloy mechanical components. The machines consist of 100% heavy duty cast iron construction for superior vibration damping and cutting accuracy.

Newall DRO's are installed on the X, Y and Z axes for precision machining, and a heavy duty outboard support is optional for completing highly accurate line boring. The outboard support can also be fitted with a DRO for increased accuracy.

## MB110e


| | | | |
|---|---|---|---|
| Spindle diameter: 4.33" | Facing head speeds: 6-221 rpm | Table load: 8,800 lbs. | Y travel: 55.1" |
| Spindle speeds: (18) 9-1000 rpm | Table size: 43.3" x 47.2" | X travel: 63" | Z travel: 55.1" |

## MB130e

| | | | |
|---|---|---|---|
| Spindle diameter: 5.11" | Facing head speeds: 5.4-140 rpm | Table load: 22,000 lbs. | Y travel: 78.7" |
| Spindle speeds: (18) 8-900 rpm | Table size: 63" x 70.8" | X travel: 78.7" | Z travel: 74.8" |

HARRIS MACHINE TOOLS, INC.

3609 Clinton Dr.
Houston, TX 77020

Main: 713.462.5800
Fax: 713.462.8222

sales@harrismachinetools.com
www.harrismachinetools.com