

Ingersoll Master Head Vertical Machining Center

Movement

x axis	521.0 in. (13,233 mm) travel length
y axis	147.6 in. (3,734 mm) between columns
z axis	59.0 in. (1,499 mm) ram travel
w axis	98.4 in. (2,489 mm) up and down rail
c axis	360 degrees
Max height of part under spindle	108.25 in. (2,750 mm)
Max. table weight, separated	80,000 lb. (36,287 kg), each pallet
Max. table weight, joined	160,000 lb. (72,575 kg)
Automatic tool changer	168 position
Number of pallets	two (2) 236.2 in. (6,000 mm) pallets can be joined to form one (1) 511.8 in. (13,000 mm) pallet
Axis positioning	machine 5 sides from one set-up
Material removal	168 in. ³ /min. (108,387 mm ³ /min.)
Number of heads	can hold 10 (has two (2) vertical heads and two (2) right angle heads)

Ingersoll Master Center Vertical Machining Center

Movement

x axis	216.5 in. (5,499 mm) travel length
y axis	98.4 in. (2,499 mm) between columns
z axis	53.1 in. (1,349 mm) ram travel
c axis	360 degrees
Max. height of part under spindle	59.0 in. (1,499 mm)
Max. table weight	22,050 lb. (10,000 kg)
Automatic tool changer	120 position
Number of pallets	three (3)
Axis positioning	machine 5 sides from one set-up
Material removal	60 in. ³ /min. (38,710 mm ³ /min.)
Number of heads	can hold four (4) (has one (1) vertical head and one (1) right angle head)

240B Shibaura / Toshiba Horizontal Boring Mill #1

Movement

x axis	433.0 in. (10,998 mm) travel length
y axis	169.3 in. (4,293 mm) vertical travel
z ₁ axis	31.5 in. (800 mm) quill travel
z ₂ axis	43.3 in. (1,100 mm) spindle travel
Table size	503.9 in. (12,799 mm) length 216.5 in. (5,499 mm) width
Max. table weight separated	fix table type – 1,100,000 lb. (498,951 kg)
Material removal	70 in. ³ /min. (45,161 mm ² /min.)
Number of angle attachments	Two (2) (one (1) right angle head and one (1) at a 45 deg.)
Quill diameter	15.75 in. (400 mm)
Spindle diameter	6.0 in. (152 mm)
Taper size	No. 7 Morse
Max feed	60.0 IPM
Max rapid	60.0 IPM

240B Shibaura / Toshiba Horizontal Boring Mill #2

Movement

x axis	354.0 in. (8,992 mm) travel length
y axis	177.1 in. (4,498 mm) vertical travel
z axis	31.5 in. (800 mm) quill travel
c axis	43.3 in. (1,100 mm) spindle travel
Table size - fixed	297 in. (7,544 mm) length 153.5 in. (3,899 mm) width
Table size - rotary	118 in. (2,997 mm) square 30 ton cap.
Max. table weight separated	fix table type – 1,100,000 lb. (498,951 kg)
Material removal	70 in. ³ /min. (45,161 mm ² /min.)
Number of angle attachments	Two (2) (one (1) right angle head and one (1) at a 45 deg.)
Quill diameter	15.75 in. (400 mm)
Spindle diameter	6.0 in. (152 mm)
Taper size	No. 7 Morse
Max feed	60.0 IPM
Max rapid	60.0 IPM

Giddings & Lewis Orion Horizontal Machining Center

Movement

x axis	47.25 in. (1,200 mm) length
y axis	48.0 in. (1,219 mm) height
z axis	43.3 in. (1,100 mm) spindle face to center of table

Automatic tool changer	150 position
Number of pallets	two (2) 31.4 in. (798 mm) (per side) square pallets
Axis positioning	four (4) axis (including programmable b axis)
Weight capacity of each pallet	5,000 lb. (2,268 kg)

Giddings & Lewis SmartTurn Lathe

Swing	34.0 in. (864 mm)
Length	60.0 in. (1524 mm)
Chuck	24.75 in. (629 mm) diameter
Axis positioning	four (4) axis
Number of turrets	two (2)