

www.clausing-industrial.com



# Horizontal & Vertical Universal Mills

*Celebrating Over 103 Years  
in the Machine Tool Business*

*A Line of Heavy-duty Universal Mills*



Shown with  
optional DRO

**Durable and Versatile...  
For Horizontal & Vertical Applications**

**MILLING**



Shown with optional DRO

**Model 2500UM**

**Model 2500M**

Clausing Horizontal & Vertical Universal Knee Mills are heavy-duty, reliable, extremely accurate and very versatile machines. These heavy-duty cast iron mills can be used for one-off pieces as well as small to medium size production runs, making them ideal for maintenance tool rooms, job shops or tool and die shops. A wide range of spindle speeds combined with infinitely variable feed rates makes cutting ferrous and non-ferrous metals highly efficient.

**MODEL 2500UM** is equipped with a vertical spindle motor and a horizontal spindle motor with a fixed quill

**MODEL 2500M** is equipped with a vertical spindle motor and a horizontal spindle motor with a traveling quill

**MODEL 2500U** is equipped with a vertical spindle motor only with a fixed quill

**MODEL 2500QM** is equipped with a vertical spindle motor and a horizontal spindle motor with a traveling quill



**Model 2500U Head**



**Model 2500QM Head**



Table rotates 45° right & left

### **Standard Features and Equipment:**

- X, Y & Z infinitely variable speed is achieved by a inverter through the gear box and controlled at the operator friendly control panel
- Rapid traverse on X, Y & Z axis
- Variable speed on X, Y & Z axis
- High quality meehanite casting for superior rigidity and wear resistance
- All gears and shafts are hardened
- Large 13.7" x 59" (350 x 1500mm) table with 5 T-slots
- Table swivels 45° left and right
- Extra large square and dovetail square slide ways for greater accuracy
- All slide ways and table are hardened and ground
- Turcite coated Y axis for wear resistance
- Double clamps on all square slide ways
- Motorized overarm with a 5.5 Hp (3.75kw) motor
- 1" (27mm) long horizontal ISO-40 milling arbor
- Horizontal & vertical manual drawbars
- Automatic coolant system and coolant pump
- Tool box and service tools

# Clausing Horizontal & Vertical Universal Knee Mills Specification...

Model	2500UM	2500U	2500QM	2500M
<b>Table</b>				
Table Area	13.7" x 59" (350 x 1500mm)	13.7" x 59" (350 x 1500mm)	13.7" x 59" (350 x 1500mm)	13.7" x 59" (350 x 1500mm)
Table Load Capacity	1,540 lbs. (700kg)	1,540 lbs. (700kg)	1,540 lbs. (700kg)	1,540 lbs. (700kg)
Number of T-slots	5	5	5	5
Distance Between T-slots	2.36" (60mm)	2.36" (60mm)	2.36" (60mm)	2.36" (60mm)
Table Rotation	45° right/left	45° right/left	45° right/left	45° right/left
<b>Travel</b>				
X Longitudinal	46" (1150mm)	46" (1150mm)	46" (1150mm)	46" (1150mm)
Y Cross	15.75" (400mm)	15.75" (400mm)	15.75" (400mm)	15.75" (400mm)
Z Knee	20" (500mm)	20" (500mm)	20" (500mm)	20" (500mm)
Distance from Spindle to Overarm	6" (155mm)	6" (155mm)	6" (155mm)	6" (155mm)
<b>Spindle (Horizontal)</b>				
Spindle Taper	ISO-40	ISO-40	ISO-40	ISO-40
Diameter of the Main Shaft Nose	3.5"-5.06" (88.88-128.57mm)	3.5"-5.06" (88.88-128.57mm)	3.5"-5.06" (88.88-128.57mm)	3.5"-5.06" (88.88-128.57mm)
Milling Arbor	1" (27mm)	1" (27mm)	1" (27mm)	1" (27mm)
Number Spindle Speeds	12	12	12	12
Spindle Speed Range	40-1800 rpm	40-1800 rpm	40-1800 rpm	40-1800 rpm
<b>Feeds</b>				
Longitudinal and Cross Feeds	0.4"-47" (10-1208mm)	0.4"-47" (10-1208mm)	0.4"-47" (10-1208mm)	0.4"-47" (10-1208mm)
Vertical Feed	0.2-23" (5-604mm)	0.2-23" (5-604mm)	0.2-23" (5-604mm)	0.2-23" (5-604mm)
<b>Rapid Traverse</b>				
Longitudinal and Cross Feeds	47"/min. (1208mm/min.)	47"/min. (1208mm/min.)	47"/min. (1208mm/min.)	47"/min. (1208mm/min.)
Vertical Feed	23" (804mm)/min.	23" (804mm)/min.	23" (804mm)/min.	23" (804mm)/min.
<b>Spindle Drive</b>				
Main Spindle Motor	7.5 Hp (5kw)	7.5 Hp (5kw)	7.5 Hp (5kw)	7.5 Hp (5kw)
Feed Motor	2.5 Hp (1.5kw)	2.5 Hp (1.5kw)	2.5 Hp (1.5kw)	2.5 Hp (1.5kw)
<b>Coolant</b>				
Coolant Pump	1/8 Hp (.10kw)	1/8 Hp (.10kw)	1/8 Hp (.10kw)	1/8 Hp (.10kw)
<b>Spindle (Vertical)</b>				
Spindle Taper	ISO-40	-	ISO-40	ISO-40
Quill Diameter	-	-	4.13" (105mm)	4.92" (125mm)
Quill Travel	-	-	4.92" (125mm)	3.94" (100mm)
Number of Speeds	12	-	-	12
Variable Spindle Speed	35-1600 rpm	-	70-3500 rpm V.S.	35-1600 rpm
Spindle Motor	5.5 Hp (3.75kw)	-	5.5 Hp (3.75kw)	5.5 Hp (3.75kw)
<b>Weight</b>				
Net Weight	7,040 lbs. (3200kg)	7,040 lbs. (3200kg)	7,040 lbs. (3200kg)	7,040 lbs. (3200kg)
Shipping Weight	7,770 lbs. (3500kg)	7,770 lbs. (3500kg)	7,770 lbs. (3500kg)	7,770 lbs. (3500kg)
<b>Dimensions</b>				
Shipping Dimensions	70" x 89" x 88" (1778 x 2260 x 2235mm)	70" x 89" x 88" (1778 x 2260 x 2235mm)	70" x 89" x 88" (1778 x 2260 x 2235mm)	70" x 89" x 88" (1778 x 2260 x 2235mm)

(Specifications subject to change without notification)



Your Single Source for Machine Tools

### **Clausing Precision Drills**

- Clausing Belt-drive Drills
- Clausing Geared-head Drills
- Clausing Radial Drills

### **Clausing Precision Mills**

- Clausing Bed Mills
- Clausing CNC Bed Mills
- Clausing Knee Mills
- Clausing EVS Knee Mills
- Clausing Universal Mills

### **Clausing Precision Lathes**

- Clausing/Colchester Geared Head Lathes
- Clausing/Colchester Professional V.S. Lathes
- Clausing MA/MAV Series Lathes
- Clausing Large Swing Standard Lathes
- Clausing Large Swing CNC Lathes

### **Clausing Precision Grinders**

- Clausing Manual Grinders
- Clausing 2 Axes Hydraulic Grinders
- Clausing 3 Axes Hydraulic Grinders
- Clausing ASDIII Automatic Grinders

### **Clausing Precision Cutting Machines**

- Clausing/Kalamazoo Horizontal Bandsaws
- Clausing/Kalamazoo Vertical Bandsaws
- Clausing/Kalamazoo Cold Saws

For detailed catalogs of the full line of Clausing Machine Tools visit our Web Site:

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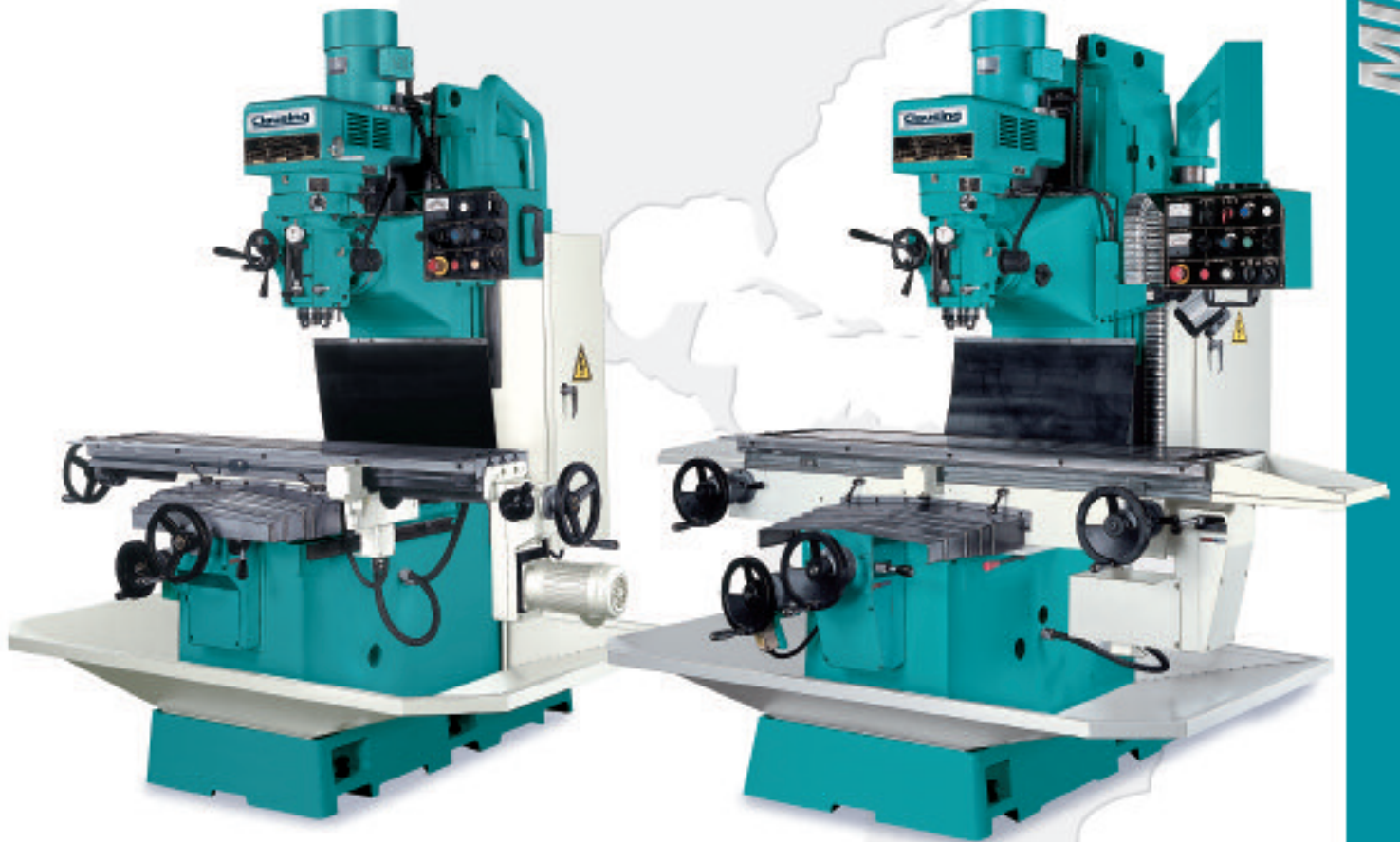
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## Standard Bed Mill

*Affordable, Extra Heavy-Duty, Large Capacity, Durable Bed Mills and Super Bed Mills with Real Cutting Power*



- Up To 16.75" x 62" Table Size
- Up To 2,000 lbs Table Load Capacity
- UP To 7.5 Hp with Inverter Speed Drive on Super Models

# Clausing **BED MILLS**

## **Affordable, Heavy-duty Precision Bed Mills**

5 Hp Spindle Motor with  
Mechanical Infinitely  
Variable Speed Drive

AC Inverter Variable Speed  
2 Way Control on Z Axis  
Workhead

Overarm Control  
Panel

Z Axis Way Covers

Hardened and Ground  
Square Ways on Y & Z Axes  
to Ensure Rigidity, Long Life  
and Accurate Positioning.

Hardened & Ground  
Table Surface with  
Ground T-Slots

Stainless Steel Way  
Covers on Y Axis

AC Inverter Variable  
Speed 4 Way Control  
on X and Y Axis for  
Precise Control and  
Rapid Positioning

Adjoining surfaces to the X  
and Y axis ways are Turcite  
B coated to assure smooth  
and durable operation

Full Chip Pan

### **Features & Options**

- Powerful 5 Hp spindle drive motor
- Mechanical variable speed drive with 2 speed ranges
- Hardened and ground spindle with NT40 taper
- Hardened and chromed quill with 5" travel
- CP4 ABEC7 angular contact spindle bearings
- C7 double nut X/Y/Z axes 1.26" diameter ballscrew
- Hardened and ground table surface
- Ground T-slots to provide accurate reference edge
- Hardened and ground, square X/Y ways
- Turcite B coating on saddle X/Y axes ways
- Meehanite castings for superior rigidity and wear resistance

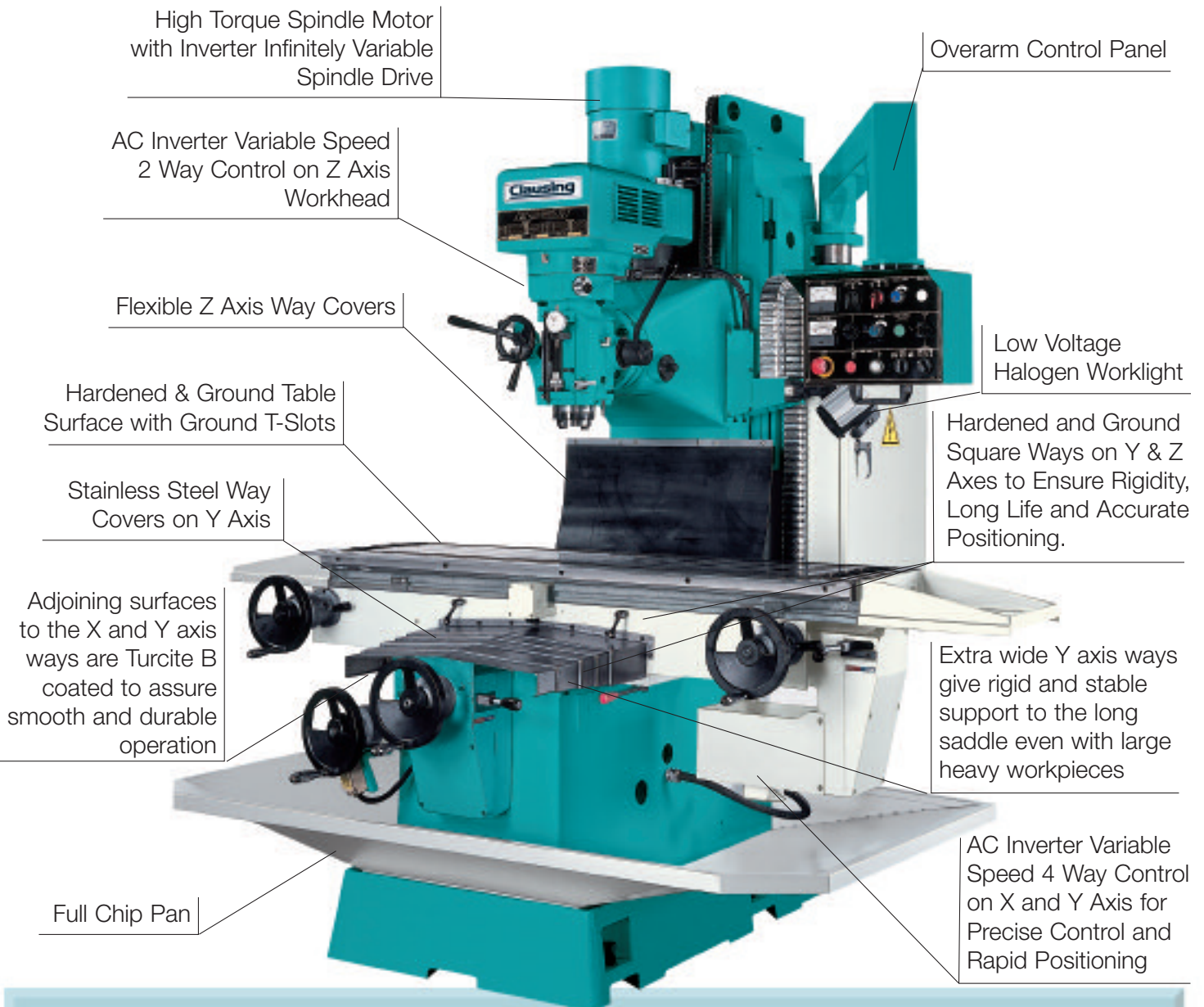
- Stainless steel front Y axis way cover
- Rubber Z axis and rear Y/Z axes way covers
- Automatic lubrication with alarm with alarm
- Transformer • Long arm halogen work light
- Coolant system with pump • Tools, toolbox and parts

### **Optional Equipment**

- CE/EMC equipment package • Coolant and oil skimmer
- Air power draw bar • Heavy-duty back guard
- Table guard • Table guard with interlock door
- Z axis concertina way covers
- Quill guard with cut-out switch and CSA on/off only

# Clausing SUPER BED MILLS

## Precision, Heavy-Duty Bed Mills with all the Extras



### Features & Options

- Powerful 5 Hp spindle motor SUP4BVS & SUP6BVS and 7.5 Hp spindle motor SUP8BVS
- Inverter variable speed drive with 2 speed ranges
- Hardened and ground spindle with NT40 taper
- Hardened and chromed quill with 5" travel
- CP4 ABEC7 angular contact spindle bearings
- C7 double nut X/Y/Z axes 1.26" diameter precision ballscrew
- Hardened and ground table surface
- Ground T-slots to provide accurate reference edge
- Hardened and ground, square X/Y ways
- Turcite B coating on saddle X/Y axes ways
- Meehanite castings for superior rigidity and wear resistance

- Telescopic Z axis ballscrew cover
- Z axis accordion way covers
- Rubber rear Y/Z axes way covers
- Stainless steel front Y axis way cover
- Coolant system with pump
- Long arm halogen work light
- Transformer
- Automatic lubrication system with alarm
- Tools, toolbox and parts

### Optional Equipment

- CE/EMC equipment package
- Coolant and oil skimmer
- Air power draw bar
- Heavy-duty back guard
- Table guard
- Table guard with interlock door
- Quill guard with cut-out switch and CSA on/off only

<b>Specifications</b>	<b>4BVS40</b>	<b>SUP4BVS40</b>	<b>6BVS40</b>	<b>SUP6BVS40</b>	<b>SUP8BVS40</b>
Table Size	10" x 54" (254x1371mm)	10" x 54" (254x1371mm)	15" x 60" (380x1524mm)	15" x 60" (380x1524mm)	16.75" x 62" (425x1575mm)
Table Load Capacity	1,500 lbs. (680kg)	1,500 lbs. (680kg)	1,800 lbs. (817kg)	1,800 lbs (817kg)	2,000 lbs (907kg)
Number of T-Slots	3	3	3	3	4
T-Slot Width	.63" (16mm)	.63" (16mm)	.709" (18mm)	.709" (18mm)	.709" (18mm)
T-Slot Center Distance	2.48" (63mm)	2.48" (63mm)	3.15" (80mm)	3.15" (80mm)	3.15" (80mm)
Table Ways (X Axis) Turcite B coated	Dovetail	Dovetail	Dovetail	Dovetail	Dovetail
Bed Ways (Y Axis) Turcite B coated	Square	Square	Square	Square	Square
Column Ways (Z Axis)	Square	Square	Square	Square	Square
<b>TRAVELS</b>					
Longitudinal (X Axis)	30.51" (775mm)	30.51" (775mm)	41.34" (1050mm)	41.34" (1050mm)	47.24" (1200mm)
Cross (Y Axis)	17.52" (445mm)	17.52" (445mm)	19.69" (500mm)	19.69" (500mm)	22.83" (580mm)
Vertical (Z Axis)	19.69" (500mm)	19.69" (500mm)	23.62" (600mm)	23.62" (600mm)	23.62" (600mm)
Quill Diameter	4.13" (105mm)	4.13" (105mm)	4.13" (105mm)	4.13" (105mm)	4.33" (105mm)
Quill Travel	5" (127mm)	5" (127mm)	5" (127mm)	5" (127mm)	6" (127mm)
Head Tilt (left or right)	90°	90°	90°	90°	90°
Feedrate X & Y Axes	.71-31 (in/min) (18-788mm/min)	.71-31 (in/min) (18-788mm/min)	1.1-43.3 (in/min) (28-1100mm/min)	1.1-43.3 (in/min) (28-1100mm/min)	1.1-43.3 (in/min) (28-1100mm/min)
Feedrate Z Axis	.71-31 (in/min) (18-788mm/min)	.71-31 (in/min) (18-788mm/min)	.71-31 (in/min) (18-788mm/min)	.71-31 (in/min) (18-788mm/min)	.71-31 (in/min) (18-788mm/min)
X & Y Axes AC Motor with Brake	1/2 Hp	1/2 Hp	1 Hp	1 Hp	1 Hp
Z Axis AC Motor with Brake	1/2 Hp	1/2 Hp	1/2 Hp	1/2 Hp	1/2 Hp
<b>SPINDLE</b>					
Motor	5 Hp (mechanical V.S.)	5 Hp (Inverter V.S.)	5 Hp (mechanical V.S.)	5 Hp (Inverter V.S.)	7.5 Hp (Inverter V.S.)
Spindle Speeds (Infinitely Variable)	70-4300 rpm	65-5160 rpm	70-4300 rpm	65-5160 rpm	70-4300 rpm
No. of Speed Ranges	2	2	2	2	2
Low Gear Range	70-500 rpm	65-590 rpm	70-500 rpm	65-590 rpm	70-500 rpm
High Gear Range	570-4300 rpm	575-5160 rpm	570-4300 rpm	575-5160 rpm	570-4300 rpm
Spindle Taper	NT 40	NT 40	NT 40	NT 40	NT 40
Quill feed in/revolution mm/revolution	.0016/.003/.006 (0.04/0.08/0.015)	.0016/.003/.006 (0.04/0.08/0.015)	.0016/.003/.006 (0.04/0.08/0.015)	.0016/.003/.006 (0.04/0.08/0.015)	.0016/.003/.006 (0.04/0.08/0.015)
<b>CONSTRUCTION</b>					
Height	78.74" (2000mm)	78.74" (2000mm)	85.43" (2170mm)	85.43" (2170mm)	84.65" (2150mm)
Working Width	71.46" (1815mm)	71.46" (1815mm)	92.91" (2360mm)	92.91" (2360mm)	98.03" (2490mm)
Working Depth	66.14" (1680mm)	66.14" (1680mm)	76.77" (1950mm)	76.77" (1950mm)	80.71" (2050mm)
Width Across Column Ways	11.73" (298mm)	11.73" (298mm)	11.73" (298mm)	11.73" (298mm)	11.73" (298mm)
Length of Saddle on Bed	25.98" (600mm)	25.98" (600mm)	47.24" (1200mm)	47.24" (1200mm)	53.15" (1350mm)
Width Across Bed Ways	16.53" (420mm)	16.53" (420mm)	20.47" (520mm)	20.47" (520mm)	22.83" (580mm)
Spindle Nose to Table	3.15"-22.83" (80-580mm)	3.15"-22.83" (80-580mm)	3.93"-27.55" (100-700mm)	3.93"-27.55" (100-700mm)	3.93"-27.55" (100-700mm)
Center of Spindle to Column ways	17.32" (440mm)	17.32" (440mm)	20.47" (520mm)	20.47" (520mm)	23.62" (600mm)
Floor to Table Surface	36.2" (920mm)	36.2" (920mm)	37" (940mm)	37" (940mm)	34.3" (871mm)
Table to Column Ways	3.15"-20.87" (80-530mm)	3.15"-20.87" (80-530mm)	2.05"-21.73" (52-552mm)	2.05"-21.73" (52-552mm)	.79"-23.62" (20-600mm)
Ball Screw Dia./Pitch	1.26"/.2" (32/5mm)	1.26"/.2" (32/5mm)	1.26"/.2" (32/5mm)	1.26"/.2" (32/5mm)	1.26"/.2" (32/5mm)
Ball Screw Class	C7	C7	C7	C7	C7
Gross Weight (approximately)	4,400 lbs (2000kg)	4,400 lbs (2000kg)	6,600 lbs (3000kg)	6,600 lbs (3000kg)	7,260 lbs (3300kg)

Machine Control, Design and Specification are subject to change without notice

Distributed By



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