

# Clausing KNEE MILLS

## Precision Milling Machines

Affordable Durable, Variable Speed Vertical Mills...

Delivering all the power, precision & versatility you need in today's Toolrooms



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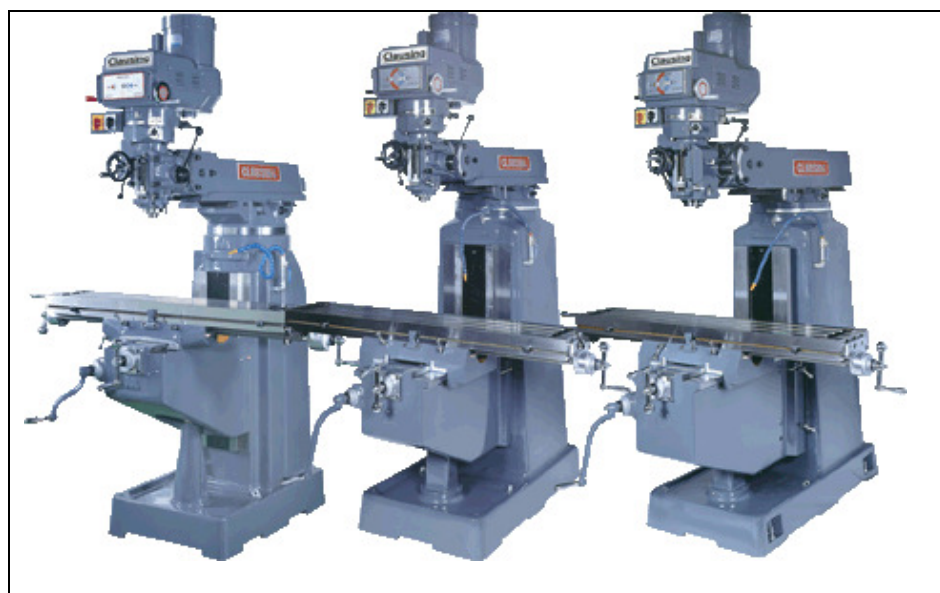
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### Overview

**Affordable, Durable and Versatile...** three good reasons for putting a Clausing Vertical Mill in Your Toolroom



Here are more reasons for putting the Clausing vertical mill to work in Your Toolroom...

If you're looking for a Heavy-duty Standard Vertical Milling Machine, at an affordable price, the Clausing knee mills are what you're looking for.

Designed for precision, the Clausing Mills deliver all the power, precision and versatility you need to handle most milling jobs in your toolroom.

The Clausing Knee Mills are one of the heaviest in its class and is equipped with a powerful spindle drive motor and an infinitely variable speed drive offering a speed range of 60 to 4300 rpm.

2VS	3VS	4VSQ
9" x 49" Table • 3 hp Spindle Motor	10" x 54" Table • 3 hp Spindle Motor	10" x 54" Table • 5 hp Spindle Motor

These Mills offer features often found only on higher priced milling machines...

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## Standard Features

- Meehanite Castings for superior rigidity and wear resistance
- Hardened & Ground X,Y & Z Ways
- X/Y ways coated with Turcite B
- Column & Knee Way Covers
- T-slots are ground to provide reference edge for positioning your workpiece
- Hardened & Ground Table Surface
- Hardened & Ground Spindle
- Chromed & Ground Quill
- Chromed X, Y & Z Leadscrews
- Double Nut Leadscrew for backlash compensation
- ABEC 7/CP4 Spindle Bearings
- Coolant System w/Pump & Switch
- Flexible Segmented Coolant Nozzle
- Chromed Y Screw Covers and one-piece Wipers
- 7/16" Imperial Drawbar (2VS, 3VS )
- M16 Metric Drawbar w/ISO40 Spindle (4VSQ)
- 3 Hp AC Motor (2VS & 3VS)
- 5 Hp AC Motor (4VSQ)
- AC Rapid Vertical Drive (4VSQ)
- Variable Speed Drive
- Articulating Head for Compound Angles
- Worm gear angular positioning of head in two directions
- Lever-operated manual rapid quill movement
- Handwheel for fine quill feed
- Adjustable automatic feed disengagement for quill feed
- Micrometer depth stop
- Reversing switch for clockwise or counter clockwise operation
- R-8 or ISO 30 Spindle (2VS & 3VS)
- ISO 40 Spindle (4VSQ)
- Spindle Brake (Hand operated)
- One-shot lubrication
- Halogen Work Light
- Tool Kit, Test and Accuracy Chart
- Operations Manual/Parts List
- Knee Assist on (4VSQ)

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## DRO

Add flexibility and reduce set-up time with the optional

### **ACU-RITE® DRO 200M** **Digital Readout**



With an easy-to-read 14-segment vacuum fluorescent display and a sealed, 3D, tactile-feel color keypad, the ACU-RITE® DRO 200M provides the standard of productivity for milling applications.



The DRO 200M is designed to meet your milling needs with features that help all operators work smarter and faster and features...

- Bolt hole pattern calculations (full or partial circles)
- Position-Trac, a unique feature that quickly and accurately re-establishes workpiece zero after power loss
- Tool diameter/length offset
- 2 or 3-axis display
- Preset and zero reset capability
- Near zero warning
- Instant inch/mm conversion
- Electronic edge-finder probe input

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## Specifications

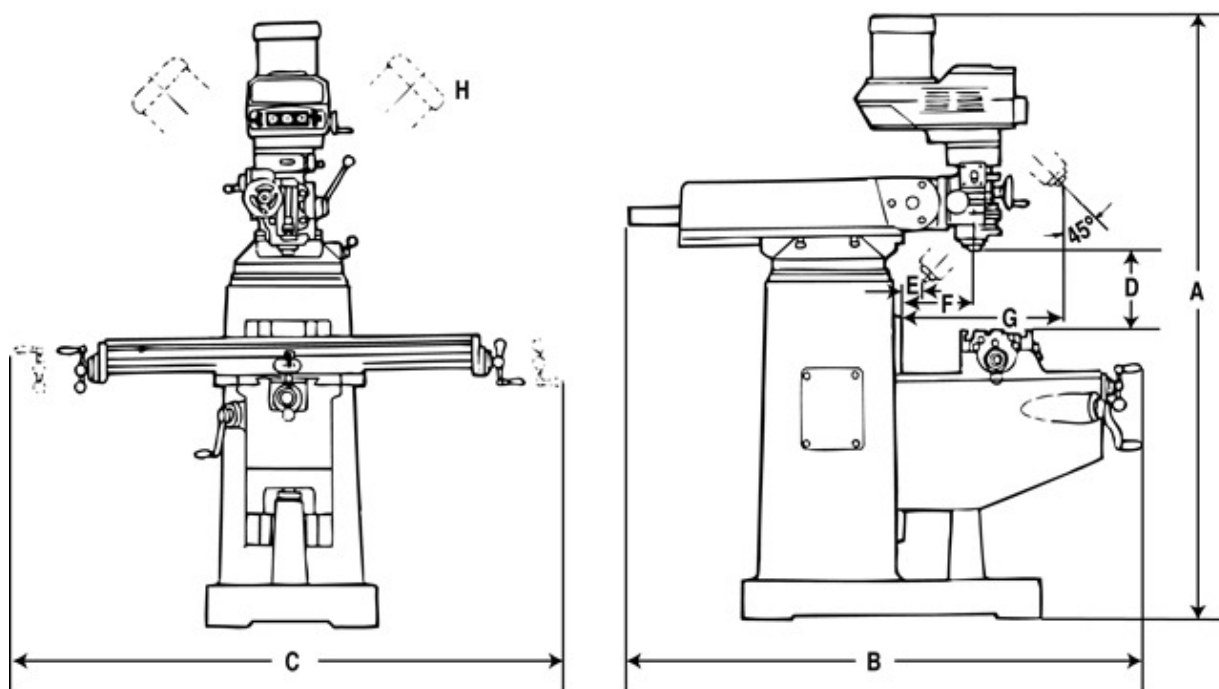
MODEL		2VS	3VS	4VSQ
<b>Table &amp; Ways</b>				
Table Size		9" x 49"(230x1245mm)	10" x 54"(254x11370mm)	10" x 54"(254x11370mm)
No. of T-Slots		3	3	3
T-Slot Width		5/8" (16mm)	5/8" (16mm)	5/8" (16mm)
T-Slot Center Distance		2.48" (63mm)	2.48" (63mm)	2.48" (63mm)
Table Ways		Dovetail	Dovetail	Dovetail
Knee Ways		Dovetail	Square	Square
Column Ways		Dovetail	Dovetail	Square
<b>Travels</b>				
X Longitudinal		33.86" (860mm)	36" (915mm)	36" (915mm)
Y Cross		11.8" (300mm)	15.74" (400mm)	16.93" (430mm)
Knee		15.7" (400mm)	17.4" (450mm)	17.74" (450mm)
Ram		18.53" (470mm)	20.5" (520mm)	26.75" (680mm)
<b>Motors &amp; Spindle</b>				
Motor Hp. variable		3	3	5
	Amp. Draw 208v.	10	10	15
	Amp. Draw 230v.	10	10	15
	Amp. Draw 460v.	5	5	8
Variable Spindle Speed rpm		60-4300	60-4300	60-4300
	Low Range rpm	60-500	60-500	60-500
	High Range rpm	550-4300	550-4300	550-4300
Main Spindle Taper		R-8 or ISO 30	R-8 or ISO 30	ISO 40
Spindle Travel		5" (127mm)	5" (127mm)	5" (127mm)
Quill	(in/rev.)	.0015/.0031/.006	.0015/.0031/.006	.0015/.0031/.006
	(mm/rev)	(.004/.008/.015mm)	(.004/.008/.015mm)	(.004/.008/.015mm)

Feed				
Quill Diameter		3.38" (85mm)	3.38" (85mm)	4.13" (105mm)
<b>Construction &amp; Weight</b>				
Column Turret Diameter		14.96" (380mm)	16.33" (415mm)	16.33" (415mm)
Knee Width		11.81" (300mm)	14.17" (360mm)	14.96" (380mm)
Column Bearing Length		16.83" (427mm)	18.11" (460mm)	19.69" (500mm)
Saddle/Table Bearing Length		19.88" (505mm)	20.47" (520mm)	20.47" (520mm)
Ram/Turret Bearing Length		17.51" (445mm)	17.51" (445mm)	20.67" (525mm)
Ram Length		32.75" (832mm)	32.75" (832mm)	38.63" (980mm)
Table Load		700 lbs. (316kg)	880 lbs. (400kg)	990 lbs. (450kg)
Net Weight		2,200 lbs. (998kg)	2,866 lbs. (1300kg)	3,417 lbs. (1550kg)

Specifications subject to change without notice

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### Dimensions



MODEL	2VS	3VS	4VSQ
A Height	86" (2185mm)	91" (2310mm)	91" (2310mm)
B Depth	75" (1905mm)	71" (1803mm)	80.3" (2040mm)
C Width	69" (1752mm)	73.6" (1870mm)	73.6" (1870mm)
D Table to Spindle	3.54-19.29" (90-490mm)	1.97"-19.68" (50-500mm)	1.97"-19.68" (50-500mm)
E 45° Inward	0-13" (0-330mm)	0-18" (0-457mm)	0-16.53" (0-420mm)
F Spindle ø to column	5.5"-26" (140-660mm)	5.5"-24" (140-610mm)	0-26" (0-660mm)
G 45° Outward	10.43"-27.95" (265-710mm)	10.43"-27.95" (265-710mm)	8.85"-29.13" (225-740mm)
H Head Tilt	90° right & left		

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## Milling Machine Accessories

Part No.	Description
2VS001	Chip Tray
2VS002	Full Electrics
2VS004	Air Power Drawbar R-8 & ISO 30 (2VS & 3VS)
2VS005	Air Power Drawbar ISO 40 (4VSQ)
2VS010	52pc. Clamping Kit
2VS020	Milling Chuck Kit w/7 Collets
2VS030	Horizontal Milling Attachment
2VS040	4" (102mm) Riser Block (2VS)
2VS041	6" (152mm) Riser Block (2VS)
2VS042	8" (203mm) Riser Block (2VS)
3VS040	8" (203mm) Riser Block (3VS & 4VS)
Z384-SET-1	R8 Round Collets Set (metric) 2mm - 20mm by 1mm, 19 Collets
Z384-SET-5	R8 Round Collets Set (inch) 1/8" - 3/4" by 32nds, 21 Collets
Z384-SET-6	R8 Round Collets Set (inch) 1/8" - 3/4" by 16ths, 11 Collets
Z384-SET-7	R8 Round Collets Set (inch) 1/8" - 3/4" by 8ths, 6 Collets



Air Power Draw Bar



Chip Tray



52 pc. Clamping Kit



R-8 Collet Sets

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