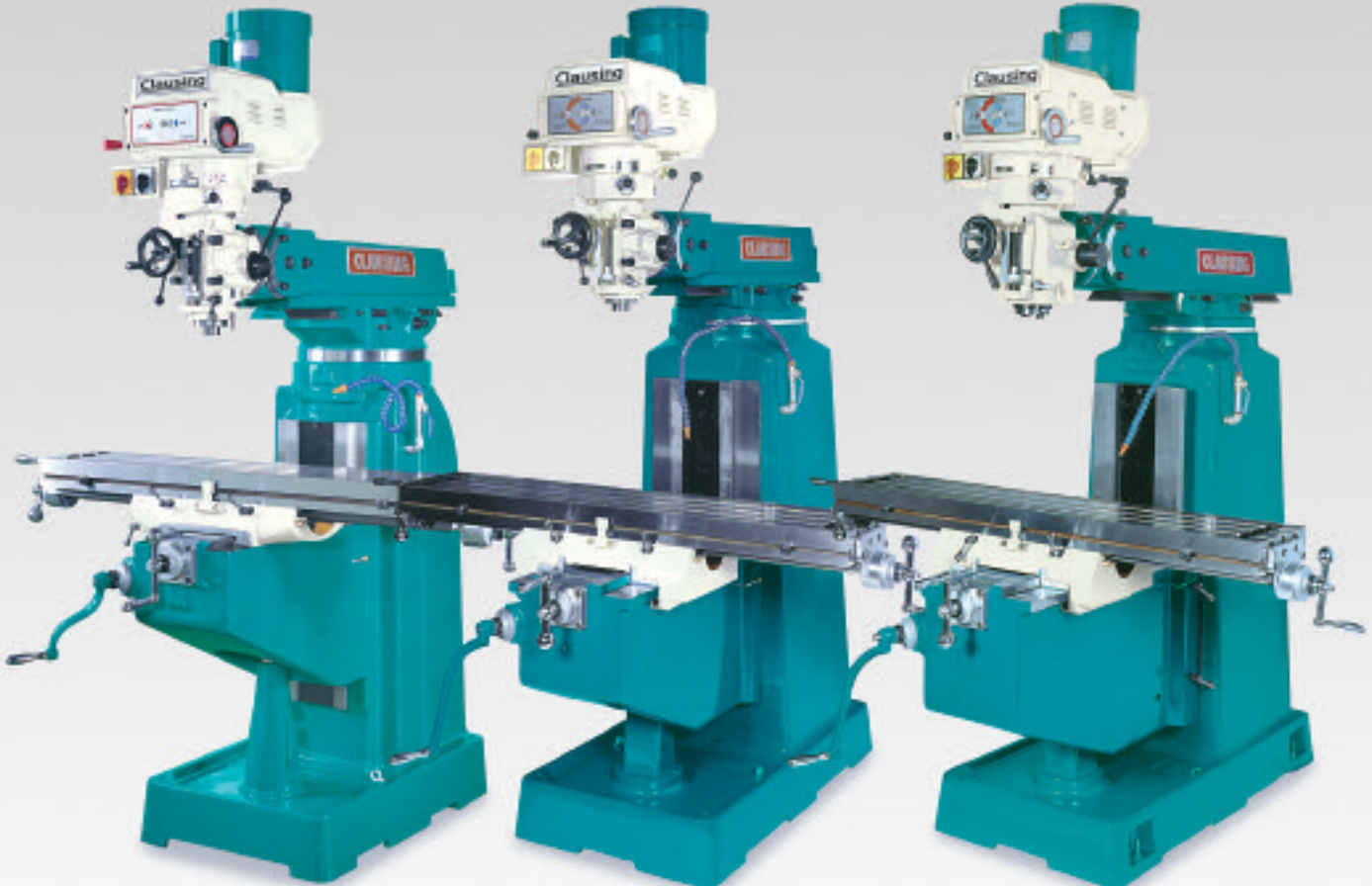


# Clousing Mechanical Variable Speed Vertical Knee Mills



## 2VS

9" x 49" Table • 3 hp Spindle Motor

## 3VS

10" x 54" Table • 3 hp Spindle Motor

## 4VSQ

10" x 54" Table • 5 hp Spindle Motor

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

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

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

The Clousing Knee Mills are one of the heaviest in it's 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.

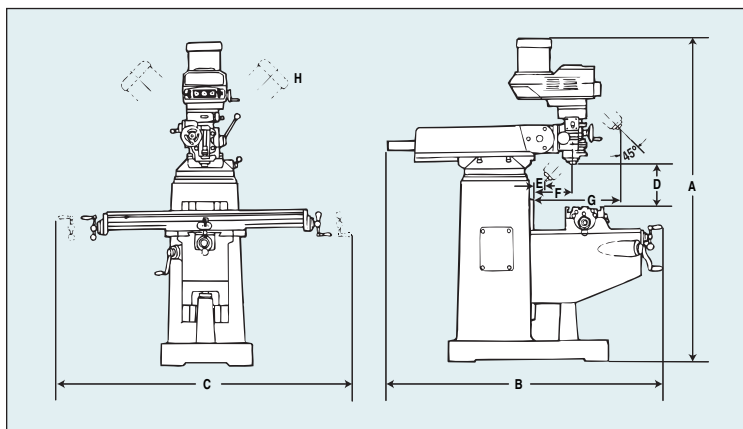
These Mills offer features often found only on higher priced milling machines...

### 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/ISO 40 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)

Specifications	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)m)	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>			
Spindle Motor	3 hp	3 hp	5 hp
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 Feed (in/rev.) (mm/rev)	.0015/.0031/.006 (.004/.008/.015mm)	.0015/.0031/.006 (.004/.008/.015mm)	.0015/.0031/.006 (.004/.008/.015mm)
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 are subject to change without notice.



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		