

# Clausing 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 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 it's class and is equipped with a powerful spindle drive motor and an infinitely variable speed drive offering a speed range of 75 to 3800 rpm.

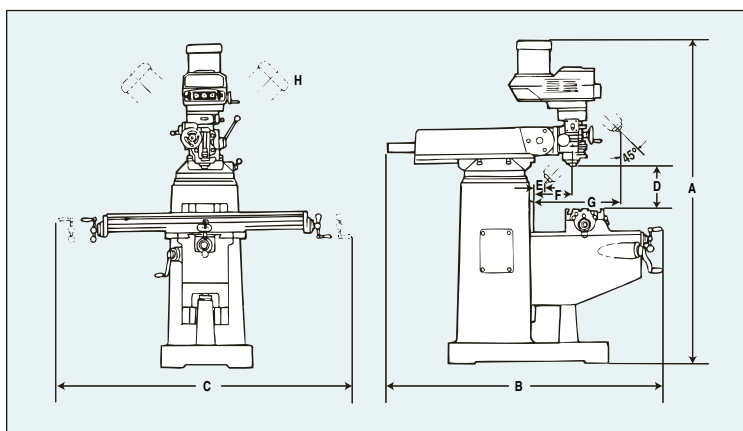
These Mills offer features often found only on higher priced milling machines...

### **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                     | 1.1" (28mm)                            | 1.1" (28mm)                            | 1.1" (28mm)                            |
| T-Slot Center Distance           | 2.08" (52mm)                           | 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                   | 38.18" (970mm)                         | 39.56" (1005mm)                        | 41.33" (1050mm)                        |
| Y Cross                          | 14.17" (360mm)                         | 15.55" (395mm)                         | 15.35" (390mm)                         |
| Z Knee                           | 13.97" (355mm)                         | 15.55" (395mm)                         | 13.97" (355mm)                         |
| Ram                              | 18.50" (470mm)                         | 22.04" (560mm)                         | 21.85" (555mm)                         |
| <b>Motors &amp; Spindle</b>      |  |  |  |
| Spindle Motor                    | 3 hp                                   | 3 hp                                   | 5 hp                                   |
| Amp. Draw 208v.                  | 7                                      | 7                                      | 7                                      |
| Amp. Draw 230v.                  | 7                                      | 7                                      | 7                                      |
| Amp. Draw 460v.                  | 5                                      | 5                                      | 5                                      |
| Variable Spindle Speed rpm       | 85-4350                                | 85-4350                                | 85-4350                                |
| Low Range rpm                    | 85-780                                 | 85-780                                 | 85-780                                 |
| High Range rpm                   | 515-4350                               | 515-4350                               | 515-4350                               |
| 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.)<br>(mm/rev) | .0015/.0031/.006<br>(.004/.008/.015mm) | .0015/.0031/.006<br>(.004/.008/.015mm) | .0015/.0031/.006<br>(.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)                         | 14.96" (380mm)                         | 15.35" (390mm)                         |
| Knee Width                       | 11.42" (290mm)                         | 11.42" (290mm)                         | 13.39" (340mm)                         |
| Column Bearing Length            | 16.54" (420mm)                         | 17.91" (455mm)                         | 16.93" (430mm)                         |
| Saddle/Table Bearing Length      | 19.88" (505mm)                         | 20.28" (515mm)                         | 20.28" (515mm)                         |
| Ram/Turret Bearing Length        | 16.14" (410mm)                         | 17.32" (440mm)                         | 17.13" (435mm)                         |
| Ram Length                       | 28.94" (735mm)                         | 41.73" (1060mm)                        | 33.46" (850mm)                         |
| Table Load                       | 665 lbs. (302kg)                       | 665 lbs. (302kg)                       | 1,108 lbs. (503kg)                     |
| Net Weight                       | 2,100 lbs. (950kg)                     | 2,985 lbs. (1350kg)                    | 3,210 lbs. (1450kg)                    |

Specifications are subject to change without notice.



| MODEL                 | 2VS                         | 3VS                          | 4VSQ                        |
|-----------------------|-----------------------------|------------------------------|-----------------------------|
| A Height              | 89" (2250mm)                | 88" (2330mm)                 | 89" (2255mm)                |
| B Depth               | 66" (1675mm)                | 71" (1790mm)                 | 106" (2700mm)               |
| C Width               | 99" (2520mm)                | 76" (1920mm)                 | 78" (1970mm)                |
| D Table to Spindle    | 3.15"-17.12"<br>(80-435mm)  | 3.94"-19.01"<br>(100-483mm)  | 4.52"-18.50"<br>(115-470mm) |
| E 45° Inward          | 0-19.68"<br>(0-500mm)       | 1.57"-16.53"<br>(40-420mm)   | 0-18.89"<br>(0-480mm)       |
| F Spindle ø to column | 4.53"-23.03"<br>(115-585mm) | 9.45"-29.92"<br>(240-760mm)  | 7.28"-29.13"<br>(185-740mm) |
| G 45° Outward         | 6.89"-29.39"<br>(175-645mm) | 12.20"-27.16"<br>(310-690mm) | 7.48"-29.33"<br>(190-745mm) |
| H Head Tilt           | 90° right & left            |                              |                             |