



VERTICAL KNEE MILLS

For over 113 years, Clausing has been a leader in the Metalworking industry with rugged dependable Machine Tools.

Today, Clausing markets and manufactures the best Machine Tools the world has to offer. Every product is backed by our independently operated Clausing Service Center. The service center has over 80,000 parts and 95% of all orders are shipped within 24 hours. Highly qualified technicians are available to provide phone and on-site support.

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

Reasons for putting the Clausing Vertical Mill to work in Your Toolroom...

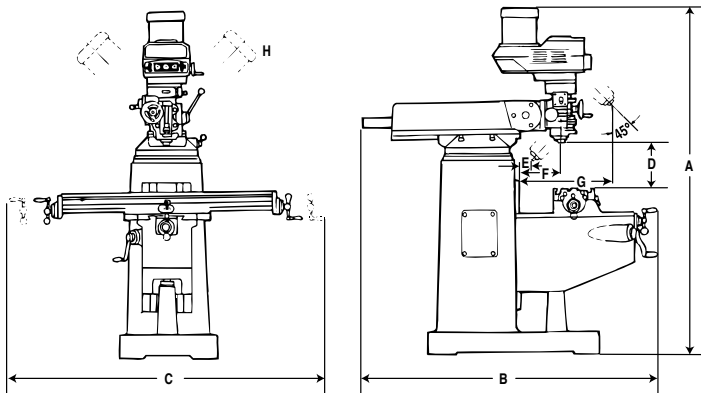
- If you're looking for a Heavy-duty Standard Vertical Milling Machine, at an affordable price
- Designed to deliver all the power, precision and versatility you need to handle most milling jobs in your toolroom
- One of the heaviest in its class, equipped with a powerful spindle drive motor, and an infinitely variable speed sheeve pulley drive offering a speed range of 60 to 4300 rpm

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)
- 5/8" Drawbar w/NMTB 40 Spindle (4VSQ)
- 3 hp AC Motor (2VS & 3VS)
- 5 hp AC Motor (4VSQ)
- AC Rapid Vertical Drive Knee (4VSQ)
- Mechanical Variable Speed Drive with High/Low gear range on head
- 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 (changes direction with High/Low gear change)
- R-8 or NMTB 30 Spindle (2VS & 3VS)
- NMTB 40 Spindle (4VSQ)
- Spindle Brake (Hand operated)
- One-shot lubrication
- Tool Kit, Test and Accuracy Chart
- Operations Manual/Parts List

MODEL	2VS		3VS		4VSQ	
TABLE & WAYS						
Table Size	9" x 49" (230 x 1245mm)		10" x 54" (254 x 1372mm)		10" x 54" (254 x 1372mm)	
Number of T-Slots	3		3		3	
T-Slot Width	.638" (16mm)		.638" (16mm)		.638" (16mm)	
T-Slot Center Distance	2.08" (52mm)		2.48" (63mm)		2.48" (63mm)	
Table Ways (X)	Dovetail		Dovetail		Dovetail	
Cross Feed Ways (Y)	Dovetail		Square		Square	
Knee Ways (W)	Dovetail		Dovetail		Square	
TRAVELS	MANUAL	W/PWR FEED	MANUAL	W/PWR FEED	MANUAL	W/PWR FEED
X Longitudinal	38.2" (970mm)	35" (890mm)	39.6" (1005mm)	34.1" (865mm)	41.3" (1050mm)	38.2" (970mm)
Y Cross	14.2" (360mm)	14.2" (360mm)	15.6" (395mm)	15.6" (395mm)	15.4" (390mm)	15.4" (390mm)
Knee	15" (380mm)	15" (380mm)	15" (380mm)	15" (380mm)	14" (355mm)	14" (355mm)
Ram	18.5" (470mm)	—	22" (560mm)	—	21.9" (555mm)	—
MOTORS AND SPINDLE						
Spindle Motor	3 hp		3 hp		5 hp	
Amp. Draw 230v.	11		11		17	
Amp. Draw 208v.	10		10		16	
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 NMTB30		R-8 or NMTB30		NMTB40	
Spindle Travel	5" (127mm)		5" (127mm)		5" (127mm)	
Quill Feed in/rev (mm/rev)	0.0015" / 0.0031" / 0.006" (0.004 / 0.008 / 0.015mm)		0.0015" / 0.0031" / 0.006" (0.004 / 0.008 / 0.015mm)		0.0015"/0.0031"/0.006" (0.004/0.008/0.015mm)	
Quill Diameter	3.38" (86mm)		3.38" (85mm)		4.13" (105mm)	
CONSTRUCTION AND WEIGHT						
Column Turret Diameter	14.96" (380mm)		14.96" (380mm)		15.35" (390mm)	
Knee Width	11.42" (290mm)		12.99" (330mm)		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)		32.68" (830mm)		33.46" (850mm)	
Table Load	665 lbs. (302kg)		665 lbs. (302kg)		1,108 lbs. (503kg)	
Machine Net Weight	2,100 lbs. (950kg)		2,985 lbs. (1,350kg)		3,190 lbs. (1,450kg)	
Machine Shipping Weight	2,500 lbs. (1,136kg)		3,385 lbs. (1,538kg)		3,610 lbs. (1,641kg)	

All specifications subject to change without notice or obligation.

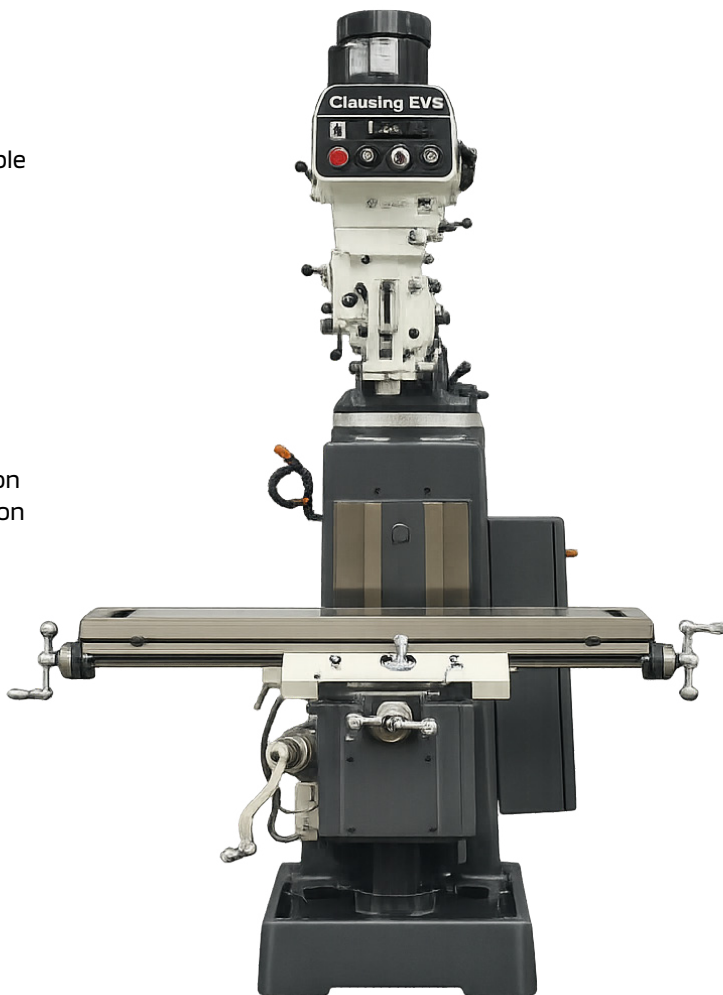
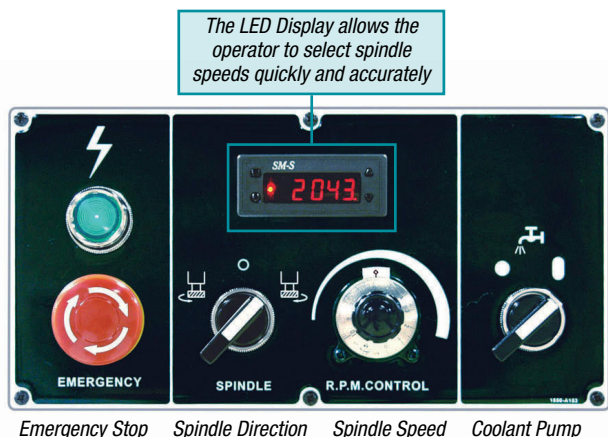


MODEL	2VS / 2EVS	3VS / 3EVS	4VSQ / 4EVSQ
A Height	88.6" (2250mm)	87" (2210mm)	88.8" (2255mm)
B Depth	66" (1675mm)	78" (1980mm)	106.3" (2700mm)
C Width	99" (2520mm)	101" (2570mm)	77.6" (1970mm)
D Table to Spindle	3.15"-17.12" (80-435mm)	4.33"-19.3" (110-490mm)	4.52"-18.50" (115-470mm)
E 45° Inward	0-19.68" (0-500mm)	0-18.89" (0-480mm)	0-18.89" (0-480mm)
F Spindle to Column	4.53"-23.03" (115-585mm)	3.5"-25.5" (90-650mm)	7.28-29.13" (185-740mm)
G 45° Outward	6.89"-25.4" (175-645mm)	7"-29.13" (180-740mm)	7.48"-29.33" (190-745mm)
H Head Tilt	90° right & left		

Get the Advantages of an EVS Mill at a Very Affordable Price.

Clausing's line of Heavy Duty EVS Mills have a convenient head mounted easy to use control panel with LED spindle speed display allowing for quick and accurate rpm setting. Requires less maintenance than a mechanical variable speed machine. Offers features found only on higher priced EVS Mills...

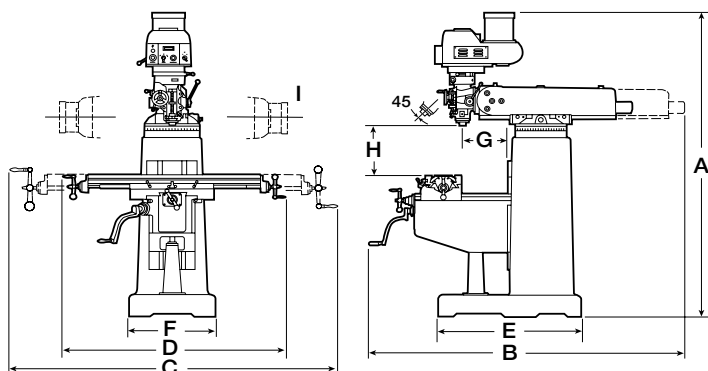
- Quick and accurate rpm setting
- Convenient, head mounted, easy to use control panel
- LCD spindle speed display
- Up to 5 hp spindle motor standard
- Spindle brake with auto power off
- Totally enclosed electrics with Yaskawa A.C. inverter variable speed drive
- Carbon steel, hardened and ground, chrome plated quill
- Coolant system
- Up to 11" x 58" table size
- Meehanite castings for superior rigidity
- Hardened and ground table with 3 ground T-slots
- Double nuts for easy backlash adjustment
- Up to 42.7" X axis travel, 16" Y axis travel, 17.7" knee travel and 5" quill travel
- All ways are hardened and ground with Turcite B coating on X and Y axis ways for wear resistance and smooth operation



Features

- Meehanite castings for superior rigidity and wear resistance
- All ways are hardened and ground with Turcite B coating on X and Y axis ways for wear resistance and smooth operation
- Ground ram ways
- Column & knee way covers
- Hardened and ground table surface
- Ground T-slots to provide reference edge for positioning workpiece
- Hardened and ground spindle
- Hardened, ground and chromed quill
- Hardened X and Y Axis leadscrew with Nickel Phosphorous treatment and double nuts for easy backlash adjustment
- Coolant system
- Flexible segmented coolant nozzle
- 3 hp AC motor on 2EVS and 3EVS
- 5 hp AC motor on 4EVSQ and 500EVS
- Inverter variable speed drive
- Lever operated manual rapid quill movement
- Handwheel for fine quill feed
- Adjustable automatic feed disengagement for quill feed in both directions
- Micrometer depth stop
- Reversing switch for clockwise or counter clockwise operation (changes direction with High/Low gear change)
- R-8 or NMTB 30 2EVS, 3EVS, 500EVS, and NMTB40 on 4EVSQ
- Spindle hand brake with auto power off
- One-shot lubrication
- Test and accuracy chart
- Tools, tool box, operation and parts manuals
- Standard voltage 230/3/60 other voltages require an optional transformer

MODEL	2EVS		3EVS		4EVSQ		500EVS	
TABLE & WAYS								
Table Size	9" x 49" (230 x 1245mm)		10" x 54" (254 x 1372mm)		10" x 54" (254 x 1372mm)		11" x 58" (279 x 1473mm)	
Number of T-Slots	3		3		3		3	
T-Slot Width	.638" (16mm)		.638" (16mm)		.638" (16mm)		.638" (16mm)	
T-Slot Center Distance	2.08" (52mm)		2.48" (63mm)		2.48" (63mm)		2.48" (63mm)	
Table Ways (X)	Dovetail		Dovetail		Dovetail		Dovetail	
Cross Feed Ways (Y)	Dovetail		Square		Square		Square	
Knee Ways (W)	Dovetail		Dovetail		Square		Square	
TRAVELS	MANUAL	W/PWR FEED	MANUAL	W/PWR FEED	MANUAL	W/PWR FEED	MANUAL	W/PWR FEED
X Longitudinal	38.2" (970mm)	35" (890mm)	39.6" (1005mm)	34.1" (865mm)	41.3" (1050mm)	38.2" (970mm)	38.2" (970mm)	35.2" (894mm)
Y Cross	14.2" (360mm)	14.2" (360mm)	15.6" (395mm)	15.6" (395mm)	15.4" (390mm)	15.4" (390mm)	16" (406mm)	16" (406mm)
Knee	15" (380mm)	15" (380mm)	15" (380mm)	15" (380mm)	14" (355mm)	14" (355mm)	17.7" (450mm)	17.7" (450mm)
Ram	18.5" (470mm)	—	22" (560mm)	—	21.9" (555mm)	—	22" (560mm)	—
MOTORS AND SPINDLE								
Spindle Motor	3 hp		3 hp		5 hp		5 hp	
Amp. Draw 230v.	11		11		17		17	
Amp. Draw 208v.	10		10		16		16	
Amp. Draw 460v.	5		5		8		8	
Variable Spindle Speed rpm	70–4200		60–4300		60–4300		50–5000	
Low Range rpm	70–500		60–500		60–500		50–500	
High Range rpm	550–4200		550–4300		550–4300		500–5000	
Main Spindle Taper	R-8 or NMTB30		R-8 or NMTB30		NMTB40		R-8 or NMTB30	
Spindle Travel	5" (127mm)		5" (127mm)		5" (127mm)		5" (127mm)	
Quill Feed in/rev (mm/rev)	0.0015" / 0.0031" / 0.006" (0.004 / 0.008 / 0.015mm)		0.0015" / 0.0031" / 0.006" (0.004 / 0.008 / 0.015mm)		0.0015"/0.0031"/0.006" (0.004/0.008/0.015mm)		0.0015"/0.0031"/0.006" (0.004/0.008/0.015mm)	
Quill Diameter	3.38" (86mm)		3.38" (85mm)		4.13" (105mm)		3.28" (83mm)	
CONSTRUCTION AND WEIGHT								
Column Turret Diameter	14.96" (380mm)		14.96" (380mm)		15.35" (390mm)		16.54" (420mm)	
Knee Width	11.42" (290mm)		12.99" (330mm)		13.39" (340mm)		15.35" (390mm)	
Column Bearing Length	16.54" (420mm)		17.91" (455mm)		16.93" (430mm)		19.69" (500mm)	
Saddle/Table Bearing Length	19.88" (505mm)		20.28" (515mm)		20.28" (515mm)		25.59" (650mm)	
Ram/Turret Bearing Length	16.14" (410mm)		17.32" (440mm)		17.13" (435mm)		17.72" (450mm)	
Ram Length	28.94" (735mm)		32.68" (830mm)		33.46" (850mm)		32.75" (832mm)	
Table Load	665 lbs. (302kg)		665 lbs. (302kg)		1,108 lbs. (503kg)		1,108 lbs. (503kg)	
Machine Net Weight	2,100 lbs. (950kg)		2,985 lbs. (1,350kg)		3,190 lbs. (1,450kg)		3,300 lbs. (1,497kg)	
Machine Shipping Weight	2,500 lbs. (1,136kg)		3,385 lbs. (1,538kg)		3,610 lbs. (1,641kg)		3,700 lbs. (1,678kg)	



MODEL	500EVS
A Height	90.6" (2300mm)
B Depth w/ Ram Travel	82.7" (2100mm)
C Width w/ Table Travel	110" (2795mm)
D Width	74" (1880mm)
E Base Depth	44" (1118mm)
F Base Width	25" (635mm)
G Spindle to Column	5.3"–27.2" (135–690mm)
H Spindle to Table	1.57"–19.2" (40–488mm)
I Head Tilt	90° Right or Left, 45° Front or Back

SPINDLE ASSEMBLY

Part No.	Description and Model	Approx. Weight
ISOR8	R-8 Spindle for 2VS & 3VS	10 lbs.
ISO30	NMTB 30 Spindle for 2VS & 3VS	15 lbs.
ISO40	NMTB 40 Spindle for 4VSQ	15 lbs.
EVS124	R-8 Spindle and Quill Assembly All EVS	15 lbs.
EVS125	NMTB 30 Spindle and Quill Assembly All EVS	15 lbs.

RIGHT ANGLE MILLING ATTACHMENT

Note cannot be used with power draw bar option



Part No.	Description, Spindle or Model	Approx. Weight
2VS031P	R-8 Rt. Angle Milling Attachment 2VS	20 lbs.
2VS031AP	NMTB 30 Rt. Angle Milling Attachment 2VS	20 lbs.
3VS031P	R-8 Rt. Angle Milling Attachment 3VS	20 lbs.
3VS031AP	NMTB 30 Rt. Angle Milling Attachment	20 lbs.
4VS031BP	Rt. Angle Milling Attachment for 4VSQ	20 lbs.



HORIZONTAL MILLING ATTACHMENT

3 Piece Set (includes Right Angle Attachment, Arbor Support, 1" Arbor)

Part No.	Description, Spindle or Model	Approx. Weight
2VS030P	R-8 Horizontal Milling Attachment 3 Pc Set VS Series	20 lbs.
2VS030AP	NMTB 30 Horizontal Milling Attachment 3 Pc Set VS Series	20 lbs.
4VS030BP	NMTB 40 Horizontal Milling Attachment 3 Pc Set VS Series	20 lbs.
EVS131	R-8 Horizontal Milling Attachment 3 Pc Set All EVS Series	15 lbs.
EVS131A	NMTB30 Horizontal Milling Attachment 3 Pc Set All EVS Series	10 lbs.

CHIP TRAY



Part No.	Description and Model	Approx. Weight
2VS001P	Chip Tray for 2VS	15 lbs.
3VS001P	Chip Tray for 3VS/4VSQ	15 lbs.

MILLING CHUCK KIT

Milling Chuck Kit with 7 ER collets, in sizes 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" & 1" in carrying case.



Part No.	Description and Spindle	Approx. Weight
2VS020	Milling Chuck Kit for R-8 Spindle	6 lbs.
2VS021	Milling Chuck Kit for NMTB 30 Spindle	6 lbs.
2VS022	Milling Chuck Kit for NMTB 40 Spindle	6 lbs.

RISER BLOCKS



Part No.	Description and Model	Approx. Weight
2VS040P	4" Riser Block for All VS Series	75 lbs.
2VS041P	6" Riser Block for All VS Series	90 lbs.
2VS042P	8" Riser Block for All VS Series	100 lbs.
EVS123	6" Riser Block for 400EVS & 450EVS	90 lbs.
EVS123A	8" Riser Block for 400EVS & 450EVS	100 lbs.
EVS223	6" Riser Block for 500EVS	90 lbs.
EVS224	8" Riser Block for 500EVS	100 lbs.

CLAMPING KIT

52 pc. Clamping Kit for all models.
Part No. 2VS010
Approx. Weight 20 lbs.



R-8 ROUND COLLET SETS



Part No.	Description	Approx. Weight
Z384-SET-1	R-8 Metric Set 2mm–20mm by 1mm, 19 Collets	15 lbs.
Z384-SET-5	R-8 Inch Set 1/8"–3/4" by 32nds, 21 Collets	18 lbs.
Z384-SET-6	R-8 Inch Set 1/8"–3/4" by 16ths, 11 Collets	10 lbs.
Z384-SET-7	R-8 Inch Set 1/8"–3/4" by 8ths, 6 Collets	7 lbs.

FAGOR INNOVA 40i

DRO for 2, 3 and 4 axes milling machines



DRO Features

- Linear and angular axes
- Easy setup and diagnosis
- Feedback signal monitoring
- Linear and multi-point compensation
- Radius or diameter display
- Preset and zero setting of the axes
- Incremental and distance-coded reference marks
- Tool radius compensation
- Direct mm/inch conversion
- Fine/coarse axis resolution
- Buzzer
- Absolute / Incremental measurement
- Easy software update through USB adapter
- Alarms for excessive feed rate and travel limit overrun
- "Display OFF" mode
- Calculator
- 3D color display of tool path
- Bolt-hole drilling calculation
- Up to 50 part references (datum points)
- Linear drilling calculation
- Part centering
- Part alignment
- Axis coupling

NEWALL NMS800 DIGITAL READOUT

Setting new performance standards



DRO Features

- Large PMVA LCD display with wide viewing angle
- Available in 2-, 3-, or 4-axis configurations
- Absolute and incremental positioning
- Inch/mm conversion
- Axis preset and zero reset
- Feed rate display
- Center-find function
- Datum and tool memory
- Built-in calculator
- Linear and segmented error compensation
- Digifind® reference mark recovery
- User-programmable function keys
- USB port for firmware updates and settings backup
- Zero approach warning with visual and audible alerts
- Newall encoder auto-detection
- RPM and angular display capability (optional encoder required)
- Stand-alone or panel-mount installation
- Sleep mode and scaling factor capability

POWER FEEDS



Part No.	Description and Model	Approx. Weight
2VSX350	X-Axis Servo Feed for 2VS, 3VS & 4VSQ	20 lbs.
EVS250-X	X-Axis Align Power for 2VS, 3VS & 4VSQ	20 lbs.
2VSY350	Y-Axis Servo Feed for 2VS, 3VS & 4VSQ	20 lbs.
EVS250-Y	Y-Axis Align Power for 2VS, 3VS & 4VSQ	20 lbs.
2VSK350	Knee Servo Feed for 2VS & 3VS	20 lbs.
2VSKA	Knee Align Power for 2VS, 3VS & 4VSQ	20 lbs.

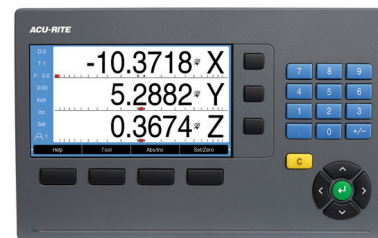
POWER DRAWBAR



Part No.	Description and Spindle	Approx. Weight
2VS8408	Power Drawbar for R-8 Spindle	25 lbs.
2VS8430	Power Drawbar Kit for #30 Spindle	25 lbs.
2VS8440	Power Drawbar Kit for #40 Spindle	25 lbs.

ACU-RITE® DRO203

An industry standard in digital readout systems, the Acu-Rite DRO203 offers state-of-the-art features for milling applications.



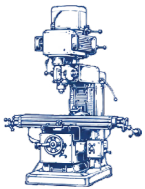
DRO Features

- 2 or 3 axes
- Crystal-Clear 7" color display
- Feed Rate Display
- Multiple Language Support
- Absolute/Incremental
- Near-Zero Warning
- Help Function
- 16 Tool Offsets/Diameter
- Preset and zero reset
- 4 Function Calculator/Trig
- Calculator
- Instant Inch/mm conversion
- Position-TracTM
- Bolthole pattern calculations with graphics (full and partial circles/linear patterns)
- Centerline calculation enables you to establish workpiece zero and midpoints
- Edge finder input
- I/O (option)

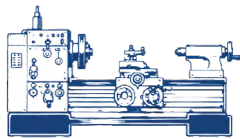
Clausing

— Committed to Excellence Since 1911 —

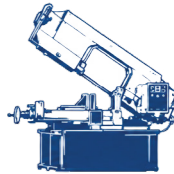
Delivering precision machine tools, dependable support, and trusted solutions for manufacturers for over a century.



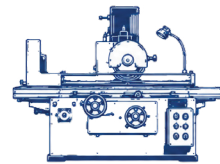
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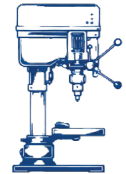
Lathes



Saws



Grinders



Drills

Need More Information?
CONTACT US



Scan to contact our team for product information, dealer support, and inquiries.

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