

Clausing COLCHESTER

‘THE PROFESSIONAL’

High Performance Variable Speed Toolroom Lathes



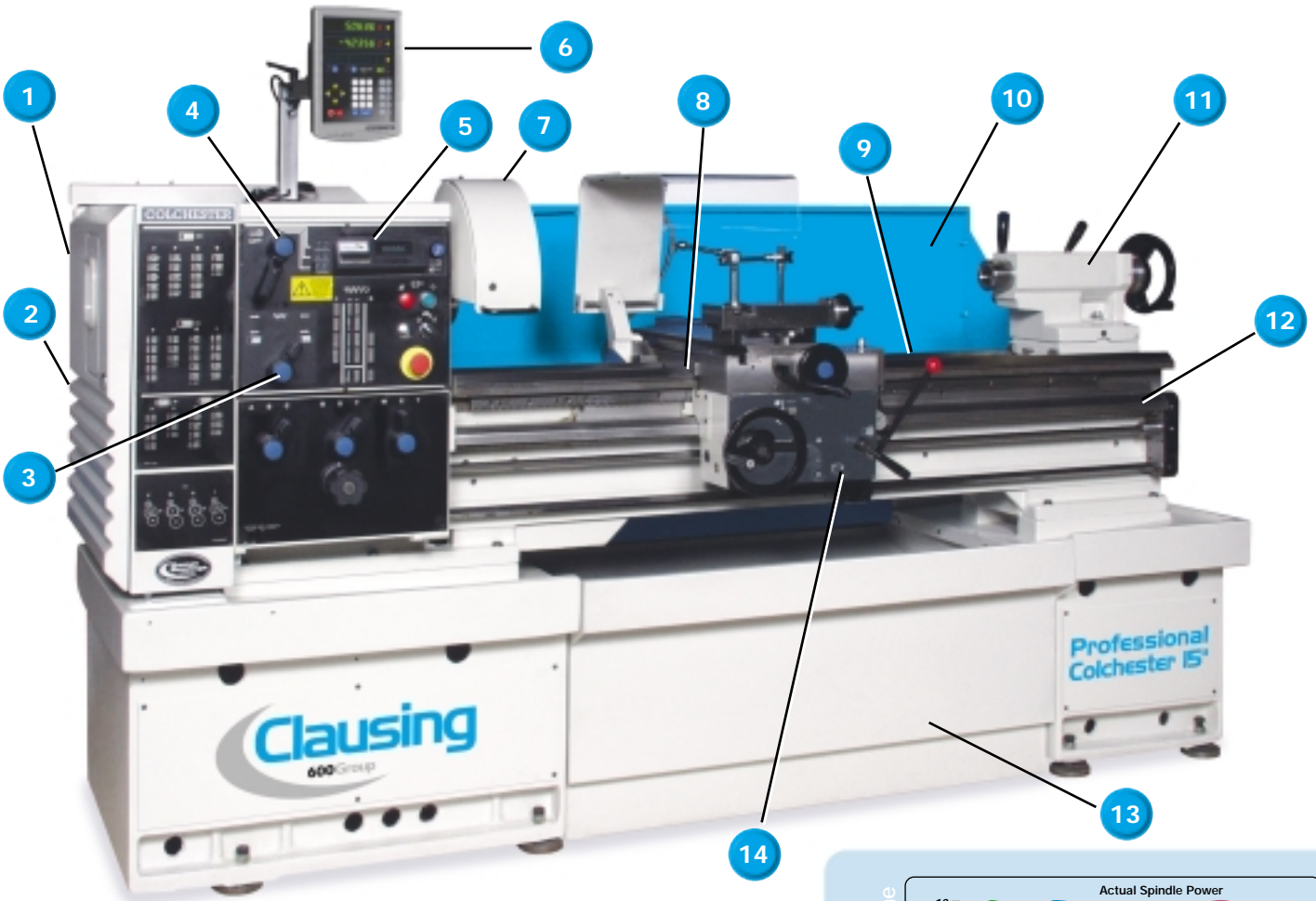
*18" and 21" Swing
Models Available
with Optional Digital
Readout and Constant
Surface Speed...*

*Constant Surface Speed
Digital Readout is Standard on
13" x 25" and 15 x 50" Models...*

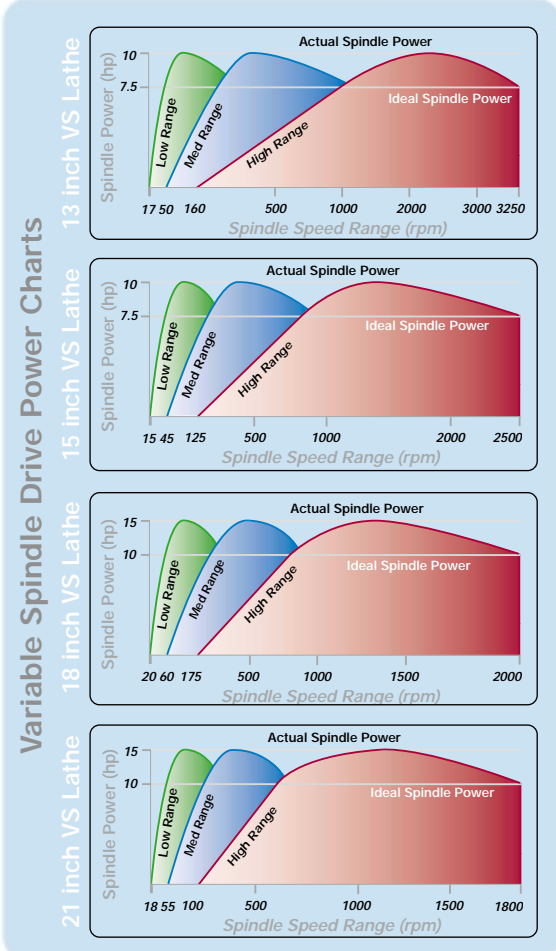
13", 15", 18" & 21" Swing Variable Speed Lathes

Simply the best

'THE PROFESSIONAL' setting a new standard for Toolroom performance



- 1 **AC Inverter Variable Speed Spindle Drive**
state of the art AC Spindle Drive featuring surface mount technology to give compact size and high reliability... 4 years parts and labor warranty on drive
- 2 **Interlocked End Guard Door**
Easy access for maintenance and changing end train gears
- 3 **Leadscrew Reversing Box**
Faster Thread Cutting - Reversal of the Leadscrew with the spindle running (at low speed)
- 4 **Three Headstock Gear Ranges**
A wide spread of constant power - 33 to 1 - better than most CNC lathes
- 5 **Infinitely Variable Spindle Speeds**
The right spindle speed very quickly with a response like a CNC lathe
- 6 **Newall Constant Surface Speed DRO**
Standard on 13 inch and 15 inch swing models
- 7 **Chuck Guard**
Chuck guard with limit switch
- 8 **Anti-Friction Carriage Ways**
Low friction "Moglice" PTFE material - minimal bedwear - longer machine life
- 9 **Extra Wide Heavy-duty Cast Iron Bed**
Very rigid wide bed with triangular webs for torsional stiffness and excellent chip clearance
- 10 **Full Rear Splash Guard**
- 11 **Heavy Duty Tailstock**
Excellent rigidity - with extra heavy-duty quill
- 12 **Covered Leadscrew**
Single Piece Leadscrew Cover protects leadscrew from chips
- 13 **Wheeled Chip Bin**
Large capacity rollout chip bin for easy chip disposal
- 14 **Saddle Mounted Controls & Rapid Power Traverse (18" & 21" models)**
Saddle mounted controls for spindle speeds, feeds. Power feed and 2 axis rapid traverse available from one lever mounted on saddle (18" & 21" models)



Big Productivity Gains-Fast Payback... 'THE PROFESSIONAL' with Constant Surface Speed (CSS) Cutting DRO System

The last word in Toolroom lathe productivity. The latest CSS Digital Readout System gives you productivity gains up to 25% on Clausing/Colchester 'THE PROFESSIONAL' over conventional engine lathes.

Only Clausing/Colchester 'THE PROFESSIONAL' Toolroom Lathes gives you features that will let you achieve cutting performance similar to a CNC lathe. CSS automatically controls spindle speed during machining, allowing high performance tooling and very high cutting speeds during finishing operations.

- Extended tool life do to optimum cutting speeds
- 25% productivity increase
- Gain full use of high performance cutting tools
- Better surface finish



newall Outstanding Features with Leading Edge Technology



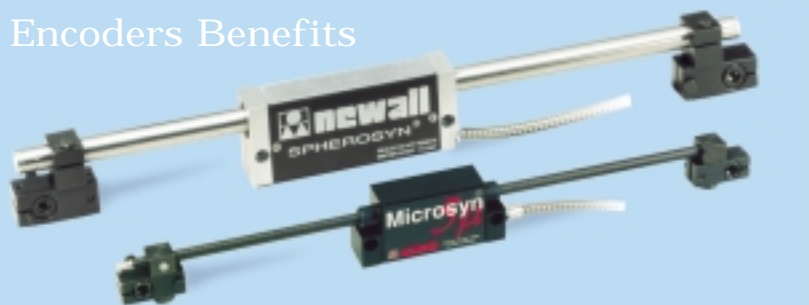
The Newall CSS DRO technology was developed to work seamlessly with the Clausing/Colchester AC Inverter Variable Speed Spindle Drive technology.

The NEWALL C80-CSS Features

The C80-CSS is a powerful Constant Surface Speed DRO that sets a new standard for performance and utilizes the latest in DRO technology. The C80-CSS is easy to use and loaded with features...

- Rugged die cast chassis
- One touch selection of CSS or DRO mode
- 2 axes DRO with optional 3rd axis
- Sealed wipe down key pad
- Absolute/Incremental operation
- Inch/metric conversion
- Zero approach warning
- Zero reset/data preset
- Data recall
- Radius/diameter reading
- Center find
- Home reference
- Linear error compensation
- Gear change detection
- Self diagnostic
- Encoder failure alert
- 0.0002" resolution
- Surface speed rate display
- Upgradeable software via Internet
- Tool library - 49 tools
- Assignable tool speeds - up to 49 tools

Encoders Benefits



- IP67 environmental rating (fully submersible), completely sealed
- Withstands dust, dirt, oil and other environmental conditions
- No mechanical wear characteristics
- Vibration and shock resistant
- No more broken or scratched glass scales
- Requires no cleaning or maintenance
- Vibration and shock resistant
- Stainless steel armored cables for maximum protection

Linear Encoders

Consistent accuracy and reliability even under the harshest shop condition...



Based on the principle of electromagnetics, Newall's Spherosyn® and Microsyn® encoders are truly innovative design in which all of the electronic and measuring components are sealed and protected.

Specifications	13" VS	15" VS	18" VS	21" VS
Capacity				
Height of center	6.7"	7.67"	9"	11.02"
Swing over bed	13.75"	15.75"	18.1"	21.81"
Swing in gap	21"	23"	28.74"	32.68"
Width in front of faceplate	6.5"	6.5"	8.5"	8.5"
Swing over cross slide	7.75"	9.75"	10.62"	14.57"
Bedway width	12.5"	12.5"	15.75"	15.75"
Headstock				
Spindle bore	1.65"	2.12"	3"	4.09"
Spindle nose (camlock)	D1-4	D1-6	D1-8	D1-11
Spindle nose taper	3MT	4MT	5MT	5MT
Number of spindle speeds	3	3	3	3
Spindle Speed Range (rpm)	0-3250	14-2500	20-2000	18-1800
Low range (rpm)	17-340	15-275	20-225	18-200
Mid range (rpm)	50-1010	45-795	60-675	55-605
High range (rpm)	160-3250	125-2500	175-2000	100-1800
Cross/Top Slide				
Travel of cross slide	9.8"	9.8"	11.81"	11.81"
Width of cross slide	7.09"	7.09"	8"	8"
Travel of top slide	3.9"	5.1"	7.5"	7.5"
Width of top side	3.54"	3.93"	6.8"	6.8"
Tailstock				
Quill travel	5.5"	5.5"	7"	7"
Quill Diameter	2.48"	2.87"	3.74"	3.74"
Quill taper	4MT	5MT	6MT	6MT
Feeds and Threading				
Longitudinal feed range	0.018-1.2in/rev	0.018-1.2in/rev	0.0016-0.11in/rev	0.0016-0.11in/rev
Cross feed range	0.0007-0.048in/rev	0.0007-0.048in/rev	0.0008-0.055in/rev	0.0008-0.055in/rev
Number of inch pitches	56	56	73	73
Range of inch pitches	2-56 TPI	2-56 TPI	2-84 TPI	2-84 TPI
Number of metric pitches	51	51	51	51
Range of metric pitches	0.2-14mm	0.2-14mm	0.2-14mm	0.2-14mm
Number of diametral pitches	20	20	27	27
Range of diametral pitches	8-56	8-56	8-72	8-72
Number of module pitches	51	51	51	51
Range of module pitches	0.2-3.5	0.2-3.5	0.2-3.5	0.2-3.5
Motor				
Spindle motor	10 hp	10 hp	15 hp	15 hp

Standard Features:

- Newall CSS DRO (13" & 15" models)
- Spindle Center Bushing
- Two MT Centers
- Splash Guard
- Chuck Guard
- Leadscrew Cover
- Coolant System
- Inch Threading Dial
- Set of Wrenches and Keys
- Instruction and Parts Manual
- Accuracy Chart
- Emergency Stop Button
- Lockable Isolator Switch
- One Shot Saddle and Cross Slide Lubrication
- Rapid Power Traverse to Cross Slide and Carriage (18" & 21" models)
- Saddle Mounted Controls and Power Meter (18" & 21" models)
- Forward/Reverse/Stop Switch
- 208/230 v. or 460 v. 3 ph 60Hz

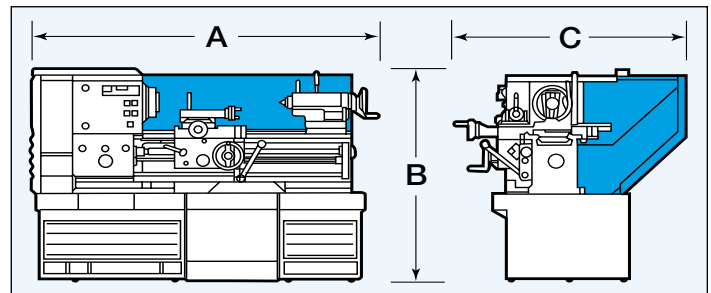
Optional Equipment:

- Quick Change Toolpost
- Quick Change Rear Toolpost
- Turret Tool Post
- Full Range of Chucks
- Hi-speed Threading Attachment
- Live Center
- Drive Plate
- Face Plate
- Work Light
- Telescopic Taper Attachment
- Follower Steady Rest - Plain and Roller Fingers
- Steady Rest - Plain and Roller Fingers
- Single and 5 Position Bedstop
- 2 and 3 axis DRO, or CSS DRO for All Bed Lengths (18" & 21" models)

Due to ongoing design improvements, specifications and design are subject to change without notice.

Models and Dimensions

Model	Swing and Center Distance	A	B	C	Weight
8016CS	13" x 25" Gap	75"	51"	49"	2,790 lbs
8044CS	15" x 50" Gap	99"	51"	49"	3,300 lbs
8054VS	18" x 60" Gap	120"	51"	49"	5,765 lbs
8116VS	21" x 80" Gap	140"	51"	49"	6,283 lbs
8119VS	21" x 120" Gap	180"	51"	49"	7,960 lbs



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