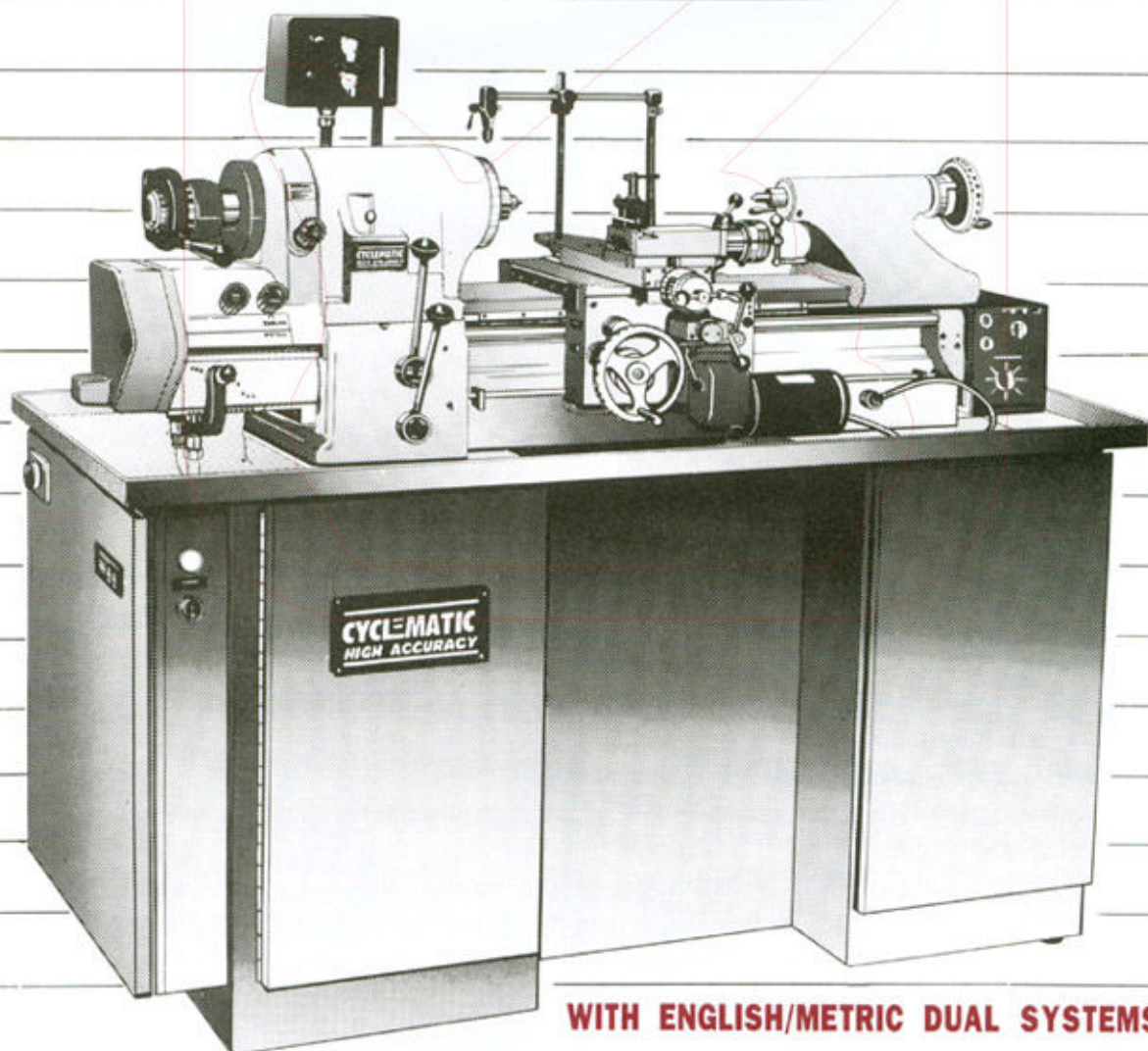


# CYCLEMATIC

*High Accuracy Machine Tools*

## TOOLROOM LATHE

Guaranteed Circularity Accuracy  
to 0.0015mm (50 millionths inch)



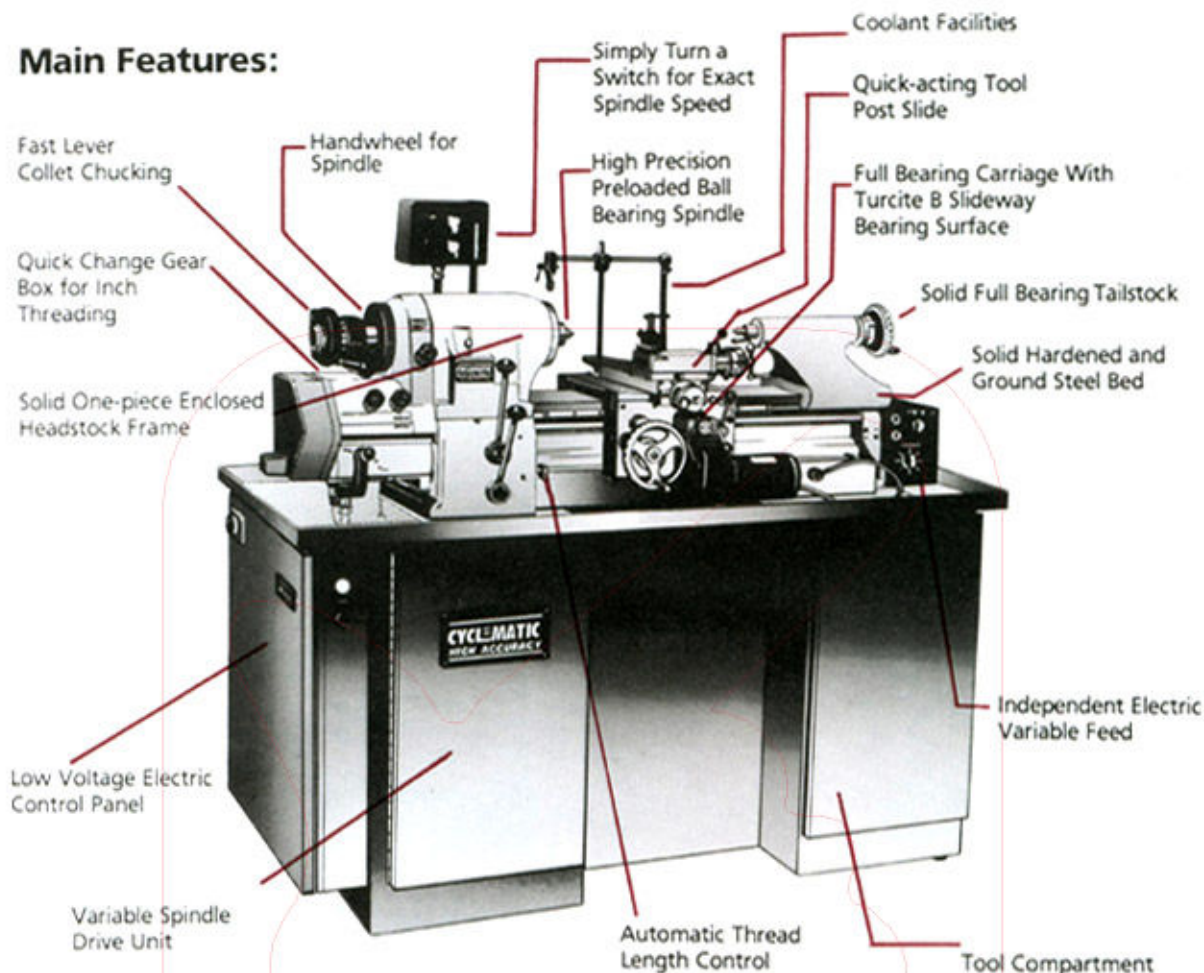
WITH ENGLISH/METRIC DUAL SYSTEMS

**MODEL : CTL-618EM • CTL-618EVS**

# HIGH SPEED • HIGH ACCURACY TOOLROOM LATHE

## MODEL CTL-618EM / CTL-618EVS

### Main Features:



- Dual range inch/metric quick change gear box.
- Dual reading inch/metric dials on all axis handles.
- The spindle is mounted in high precision preloaded angular contact ball bearings eliminating radial and end play.
- Infinitely variable spindle speeds from 135-3000 r.p.m (CTL-618EM), 0-4000r.p.m(CTL-618EVS).
- Fast lever collet chucking with a single movement.
- Independent infinitely variable feeds produce accurate cuts with efficient chip removal, and smooth surface finish.
- Quick change gear box for easy precision threading.
- Automatic thread length control with fine adjustable stops provides for accurate threading without thread relief.
- Full bearing carriage with Turcite B Slideway bearing material between carriage and bed.
- Quick-action tool post slide for threading is instantly cleared from the work for a carriage return.
- The specially designed bed ways are made of hardened and ground alloy steel, that resist wear. The angular guide ways allow chips to fall in the chip tray.
- The tailstock has full bearing contact with the bedways. The solid hard chrome spindle provides strength for maximum capacity loads.
- Hardened and ground tool steel inserts for cross slideways.

## STANDARD TOOLS

- ST-01 Hexagon Wrench Keys
- ST-02 Open End Wrench (10-12mm)
- ST-03 Open End Wrench (14-17mm)
- ST-04 Open End Wrench (17-19mm)
- ST-05 Cross-Head Driver
- ST-06 Screw driver
- ST-10 Tool box
- ST-11 Open End Wrench (21-23 mm)
- T-CT-02 Test Bar

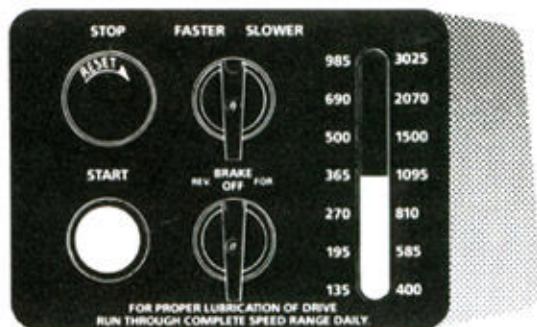
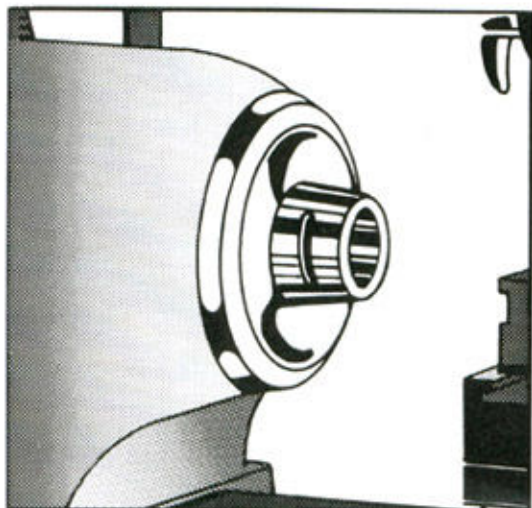
## HEADSTOCK

Solid one-piece enclosed headstock has high precision preloaded angular contact ball bearing spindle with 5C collet capacity. Infinitely variable spindle speeds from 135 to 3000 r.p.m.(CTL-618 EM) 0-4000r.p.m(CTL-618EVS)

CYCLEMATIC high-precision preloaded angular contact ball bearing spindle is mounted in the solid one-piece enclosed headstock providing maximum rigidity and sustained precision. The bearings require no adjustment and are permanently lubricated to operate at all speeds, Preloading eliminates all radial and end play assuring accurate turning.

The collet seats directly in the hardened and precision ground spindle thus eliminating troublesome sleeves and adaptors that introduce costly inaccuracies.

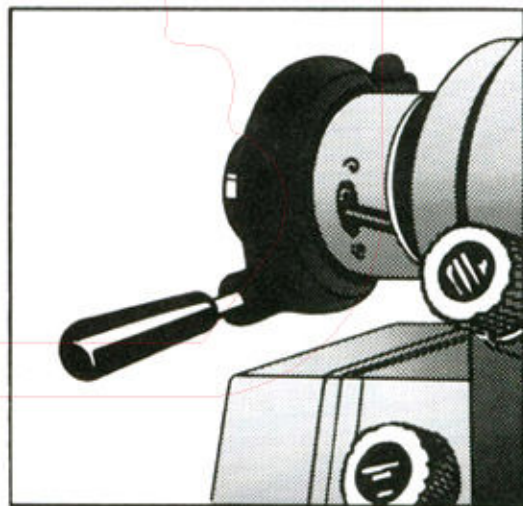
The rigidity provides for sustained accuracy and support for the work when cutting.



## INFINITELY VARIABLE SPINDLE SPEEDS

Infinitely variable spindle speeds are available with the CTL-618EM accuracy tool room lathe. The spindle speed can be increased or decreased with a turn of a switch.

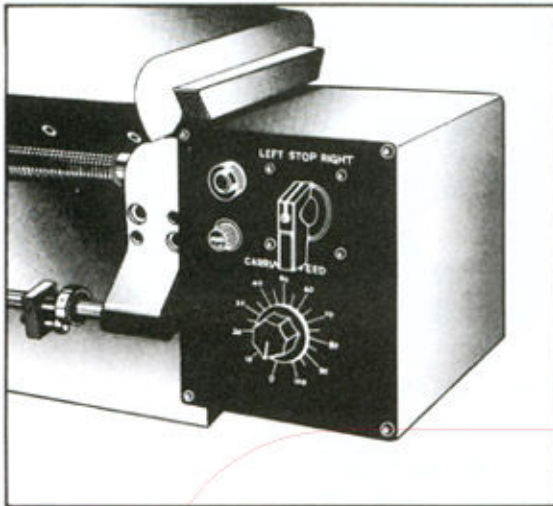
Selecting the exact speed required can be done when cutting. It is easy to vary the spindle speed to obtain desired rate of production and specified surface finish.



## FAST LEVER COLLET CLOSER

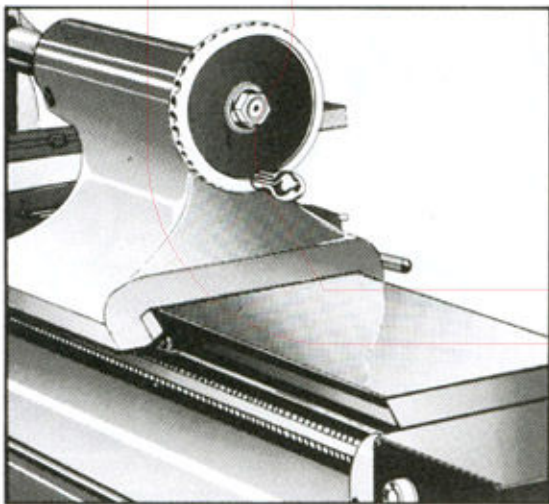
The fast lever collet closer provides faster chucking. The lever control end of the closer assembly is balanced and rides on a precision bearing. Movements to the left closes the collet and to the right opens the collet. Collet tension is instantly adjustable throughout the full range from light to heavy holding power without the use of tools.

The spindle handwheel is built into the end of the spindle. It is used by the operator for inspecting or indicating precision work.



### INDEPENDENT ELECTRIC VARIABLE FEEDS

Independent Electric Variable Feeds. The drive for the carriage is independent from the cross slide and provides complete freedom of operation. The feed can be changed instantly at any time. Simply turn a knob even when the tool is cutting without wasting valuable production time stopping the machine to shift gears.



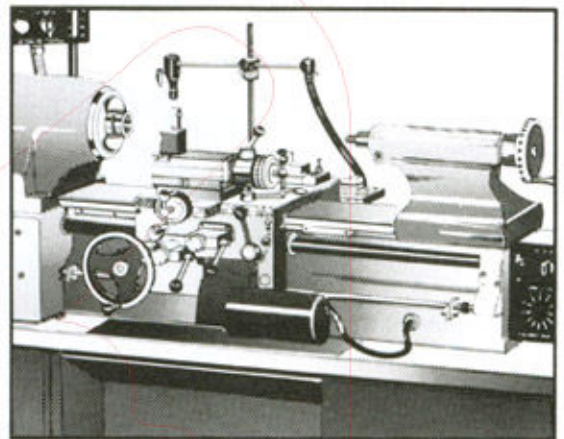
### HARDENED AND GROUND STEEL BED WAYS

The specially designed bed ways are made of hardened and ground alloy steel that resist wear. The angular guide ways prevent chips from falling upon them. No slots or under cuts to wedge chips.

The cross slide ways are hardened and ground tool steel inserts and provide smooth accurate movement of the cross slide.

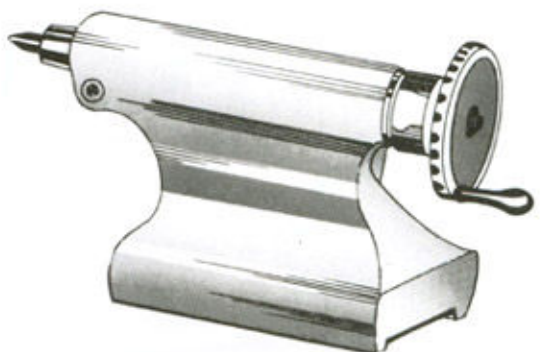
### FULL BEARING CARRIAGE

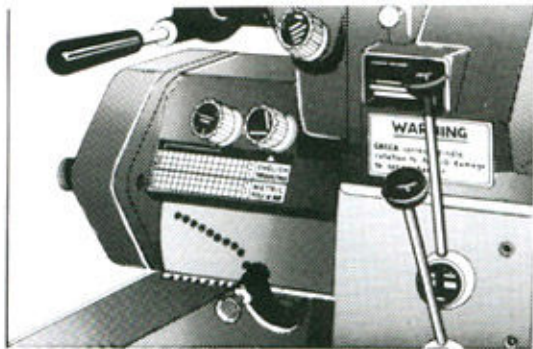
The carriage has three full bearing surfaces, on the top of the bed, and on the front and rear slides. This provides maximum rigidity for maximum accuracy. The CTL-618EM pressure lubricates all three of these slides together. The longitudinal and cross slide feed controls are properly located for convenient operation. All the precision gears and clutches run in a oil bath completely enclosed by a double walled apron. Turcite B Slideway bearing surface between carriage and bed greatly reduces friction and permits precise gib adjustment for increased accuracy.



### TAILSTOCK

The solid full bearing tailstock supports any load to the preloaded ball bearing spindle headstock. The tailstock has  $3\frac{1}{4}$  (95mm) travel. The spindle is graduated in eighth of an inch for easy reading. A spindle lock and base lock is provided. Standard shank 2 morse taper tools are automatically discharged for easy operation.





## DUAL DIALS AND GEARBOX FOR INCH/METRIC THERADING

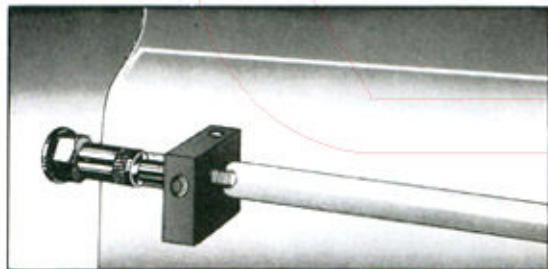
The Dual Gearbox provides high accuracy english or metric thread cutting. The CTL-618EM Lathe has a quick change gearbox designed and built for threading. The gearbox and lead screw operate only when sustained for threading operations. With standard change gears. Pitches are available from 11 to 108 threads per inch or from .275 to 2.7mm. Additional english and metric threads can be cut with optional change gears.



METRIC DIAL POSITION



INCH DIAL POSITION



## AUTOMATIC THREAD LENGTH CONTROL

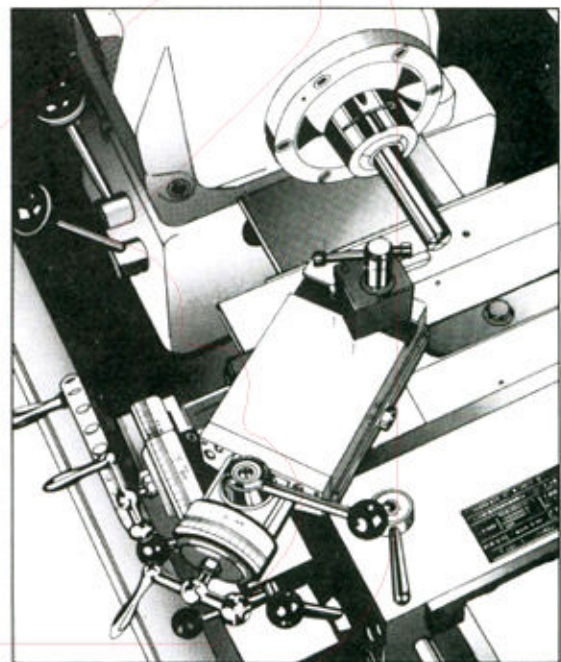
The Automatic Thread Length Control makes threading easy at turning speeds, even when threading to a shoulder or into a blind hole without a threading relief. The lead screw nut is engaged at the start of the thread and remains engaged until the thread is completed. These fine adjustable, positive stops accurately control the automatic stopping of the carriage for either left or right hand threads at the starting and finishing position.

## QUICK-ACTING TOOL POST SLIDE

The Quick-Acting Tool Post Slide for threading is standard equipment.

At the end of the threading cut, the threading tool is instantly cleared from the work by the operator for the return of the carriage to the next cut. This is accomplished by means of the ball-handled lever actuating the tool post slide entirely independent of the tool post slide feed screw.

This feature coupled with the automatic thread length-control simplifies threading to the point where toolroom thread cutting is no longer an "art." Anyone can cut good threads fast on CTL-618EM lathe.



## COOLANT FACILITIES

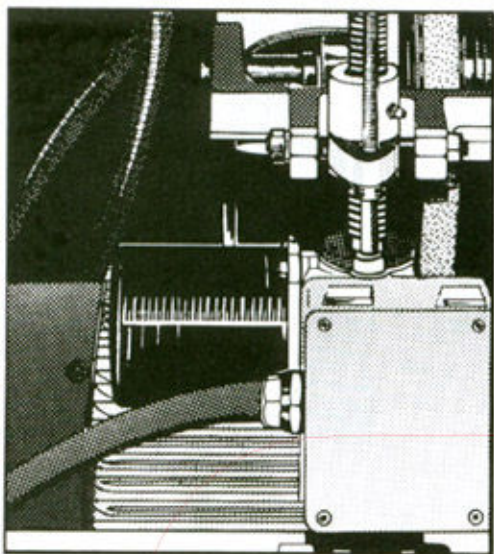
The coolant facilities are standard equipment. There is an adjustable nozzle which directs coolant to the work piece.

The individually motorized pump is controlled by a selector switch on the control head.

With switch in "On" position, coolant flow is continuous.

With switch in "Auto" position, coolant will run only when main motor is engaged.

Increased Chip Space is available in new style chip and coolant pan.



### SPINDLE DRIVE UNIT

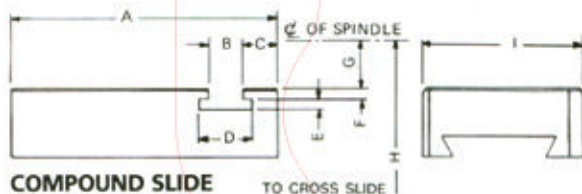
The unit provides infinitely variable speeds from 135 to 3025 r.p.m. To change the spindle speed start the spindle, turn the selector to the left to increase the speed and right to decrease the speed. High or low spindle speeds are instantly available with the lever operated two speed motor.

### Model : CTL-618EVS



Electronic vari-speed system with inverter infinitely variable spindle speeds can be instantly set from 0 to 4000 RPM while the spindle is running. The actual RPM is viewed in an easy to read digital display enclosed in the speed control unit.

### TOOLING DIMENSIONS



COMPOUND SLIDE

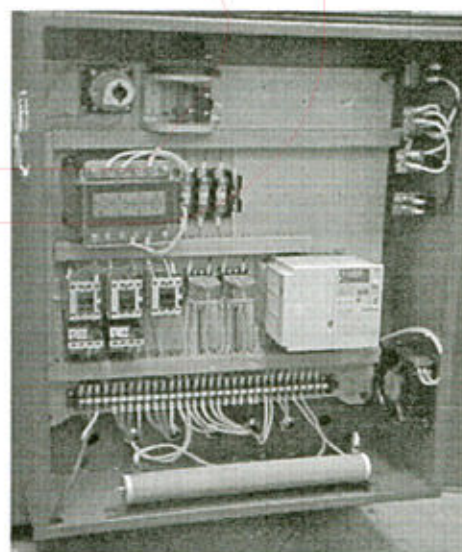
TO CROSS SLIDE



BED PLATE

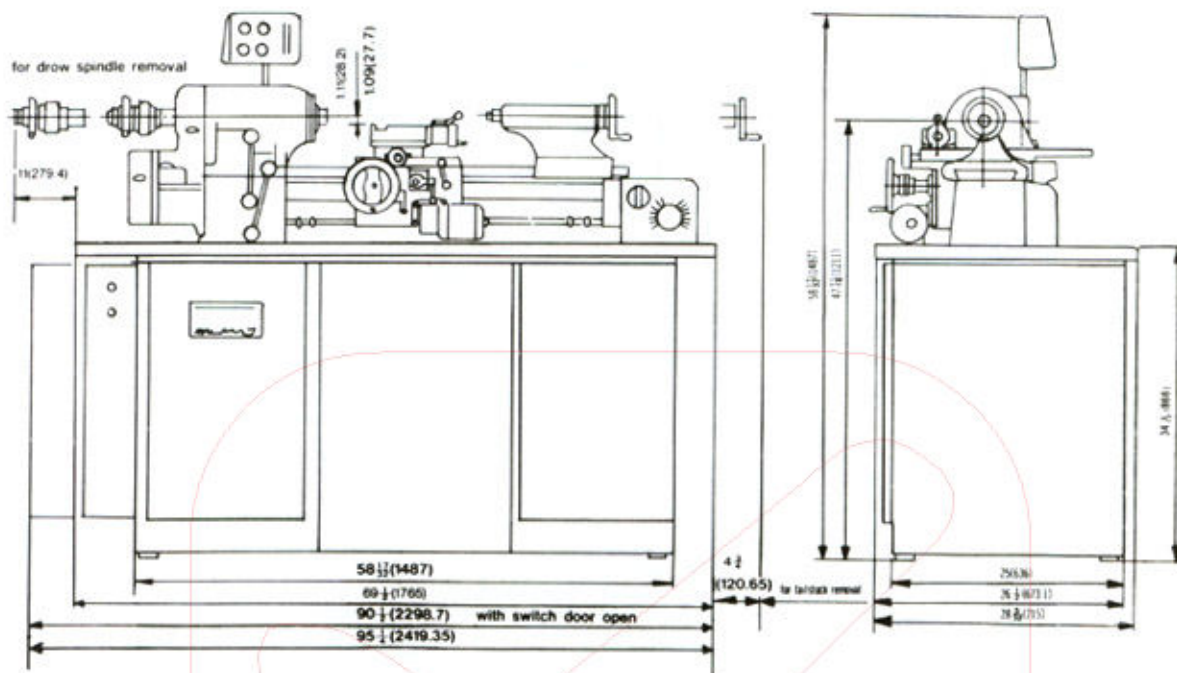
A	6.023°	153mm
B	Max. 0.755° Min. 0.750°	Max. 19.18mm Min. 19.05mm
C	0.750°	19.05mm
D	1-5/32°	29.4mm
E	0.228°	5.8mm
F	7/32°	5.5mm

G	Max. 1.110° Min. 1.090°	Max. 28.2mm Min. 27.7mm
H	3-1/4°	82.55mm
I	3-5/8°	92mm
J	6-13/16°	173mm
K	0.393°	3.6mm
L	0.878°	22.3mm



Control Unit

# MACHINE FLOOR PLAN

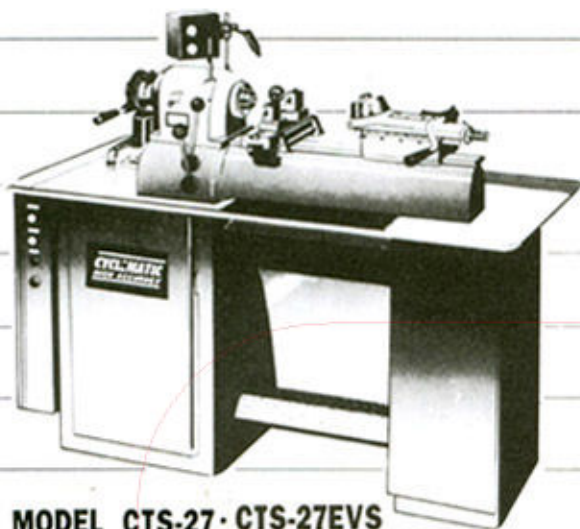


## SPECIFICATIONS

ITEMS		MODELS	CTL-618EM	CTL-618EVS
SPINDLE CAPACITY	With jaw chucks		5" (127 mm)	
	With expanding collets		3" (76 mm)	
	With round 5C collets		1-1/6" (27 mm)	
	With step chucks		1-1/16" to 6" (27~152.4 mm)	
Spindle nose diameter			φ 2.189" (φ 55.6 mm)	
Spindle nose I.D/O.D.			5C(10°)/4° Taper	
Variable spindle speeds			130-3,000 rpm	0~3,000 rpm for 6" 3-Jaw Chuck 0~4,000 rpm for 5C Collet
Hole through spindle			1-1/4" (31.75 mm)	
Distance between center			18" (457 mm)	
Swing over bed			11" (280 mm)	
Swing over carriage			9" (228.6 mm)	
Swing over cross slied			6" (152.4 mm)	
Carriage power feed range			5/16"~7"(8~178 mm)	
Cross slide power feed range			3/16"~4"(5~102 mm)	
Cross slide travel			6"(152.4 mm)	
Quick-action compound slide travel			0.1"(2.5 mm)	
Compound slide travel			3"(76 mm)	
Tailstock spindle diameter			1.358"(φ 34.5 mm)	
Tailstock spindle taper			MT. #2	
Tailstock spindle travel			3-3/4" (95 mm)	
Coolant pump			1/8 HP, 220V, 3 PH	
Lead screw diameter			φ 1"~8 thread per inch (φ 25.4 mm)	
Main motor			1 HP, 220/440V, 3 PH, 4P/12P	5 HP, 220V, 3 PH
D.C. feed motor			110V, 70W	
Thread lead (mm) : 36 lead changes			0.275, 0.2875, 0.30, 0.325, 0.375, 0.40, 0.4375, 0.45, 0.50, 0.55, 0.575, 0.60, 0.625, 0.65, 0.675 0.70, 0.75, 0.80, 0.857, 0.90, 1.0, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.5, 1.6, 1.75, 1.8, 2.0, 2.5, 2.7	
Actual thread cut : 36 thread changes			11, 11.5, 12, 13, 14, 15, 16, 17.5, 18, 20, 22, 23, 24, 25, 26, 27, 28, 30, 32, 35, 36, 40, 41, 44, 46, 48, 50, 52, 54, 56, 60, 64, 70, 72, 80, 100, 108 DPI	
Net/Gross weight			1,826/2,222 lb. (830 / 1,010 kg.)	
Machine packing dimension			74"×34"×74"(1,880×864×1,880 mm)	

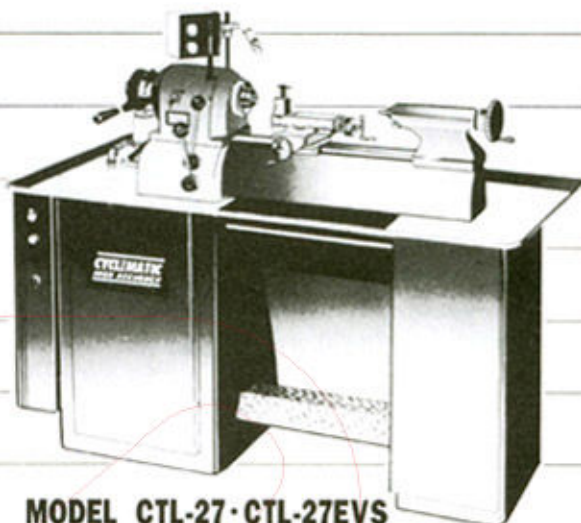
• Specifications are subject to change without notice for further design improvements.

## ADDITIONAL MODELS FROM **CYCLEMATIC**



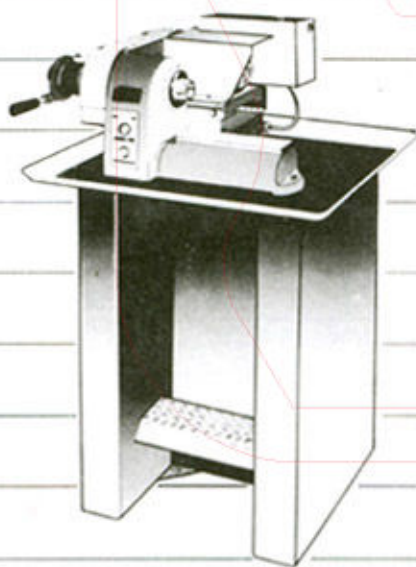
**MODEL CTS-27 · CTS-27EVS**

HIGH SPEED · HIGH ACCURACY  
SECOND OPERATION LATHE



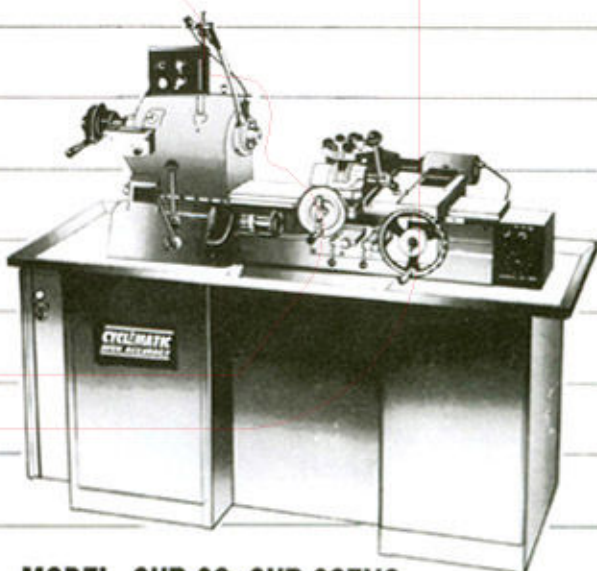
**MODEL CTL-27 · CTL-27EVS**

HIGH SPEED · HIGH ACCURACY  
SECOND OPERATION/TOOLMAKERS LATHE



**MODEL CP-27 · CP-27EVS**

HIGH PERFORMANCE  
FINISHING LATHE



**MODEL CHR-68 · CHR-68EVS**

HIGH SPEED · HIGH ACCURACY  
CHUCKING LATHE

**DISTRIBUTOR:**

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