

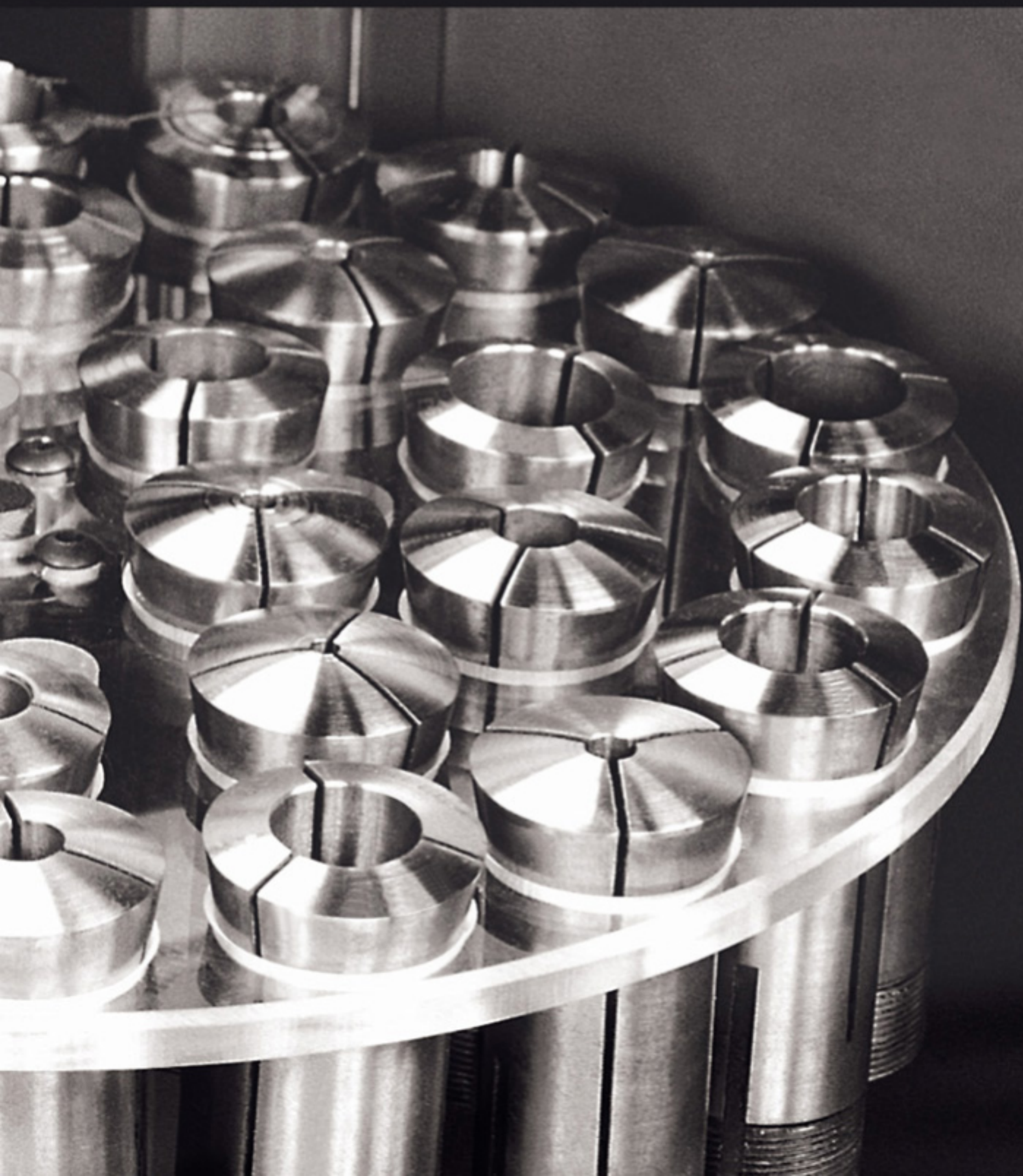
# **CYCLEMATIC** **TOOLROOM LATHE**

**TOOLROOMS / SECOND OPERATION / CHUCKING / FINISHING**

**GUARANTEED CIRCULARITY ACCURACY to 0.00125mm ( 50 millionths inch )**

**Designing, Engineering and Manufacturing to the Highest Accuracy Standards !**

***CYCLEMATIC*** *Founded in 1980*







- Guaranteed Circular Accuracy to 0.00125 mm (50 millionths of an inch).
- Hardened and precision ground alloy steel bed ways resist wear.
- Turcite-B slideway bearing surface between carriage and bed.
- FANUC CNC Controller (Standard).
- Powerful 3 HP (5 HP is optional) motor with Yaskawa current vector inverter drive for improved torque response at low end.
- Spindle mounted on high precision preloaded angular contact ball bearings.
- Precision ballscrew on X, Z axes.
- Protection guard on X, Z axis ballscrews.
- X, Z axes feeds driven by AC Servo Motor.
- Z axis ballscrews directly coupled to AC Servo Motor minimize backlash.
- Fast lever collect chucking.
- Optional power collet closer.
- Gang tooling option.
- Wide variety of accessories to increase versatility.

**Spindle tooling, tooling holder and optional equipment for CYCLEMATIC high speed, high accuracy toolroom lathe.**



Expanding Collet



Vacuum Chuck



Hydraulic Chuck



Chuck Back Plate



6" 3-jaw Chuck



Lathe Dog



Face Plate



Pneumatic Chuck



Precision Diaphragm Chucks



Step Chuck



### GANG TOOL TURNING NOW AVAILABLE ON CT-1118CNC (Gang Tool Block Center Height 12 mm)



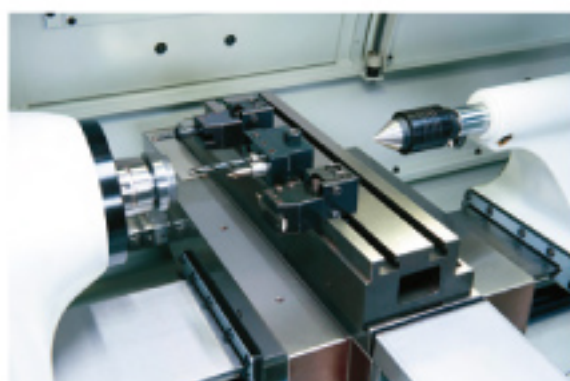
Bare cross slide with precision locator holes for custom applications.



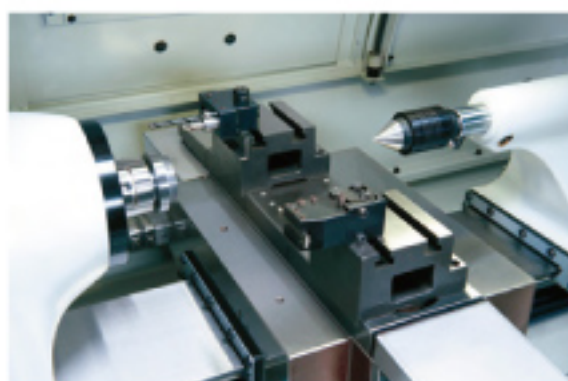
Quick change tool holder on tool block.



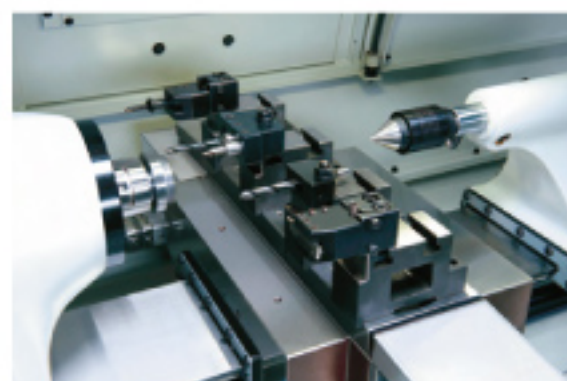
Lathe center in tailstock single tool on quick change tool holder on compound slide.



One full length gang tool block with T-slots to accommodate different kinds of tool holders.



Two "shorty" gang tool blocks leave room in the middle for longshaft work with the tailstock.



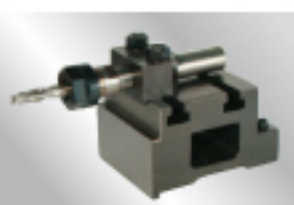
Multiple "single" gang tool blocks each holding a single tool holder.

### CT-1118CNC toolroom lathe brings you two different styles of machining capabilities.

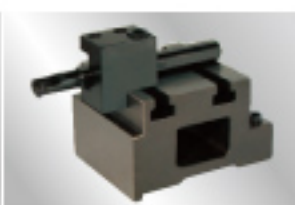
**CT-1118CNC** is the NC upgrade from the **CTL-618EVS** manual toolroom lathe. It keeps the original machine's durability and elegant exterior while automating it with servos and CNC control. With the **CT-1118CNC**'s redesign we go even further. The ability to use a tailstock and lathe center to perform shaft work is maintained, but more importantly, an innovative tool plate design adds the capability to remove the compound tool post and swap in a T-slot gang tool slide in its place. The gang tool slide works great with a completely new line-up of tool holders from **CYCLEMATIC** for gang tool turning. The traditional lathe tooling setup and gangtool setup are easy to take out and exchange one for the other. The **CT-1118CNC** is the one CNC toolroom lathe that now brings you two different styles of machining capabilities in one machine.



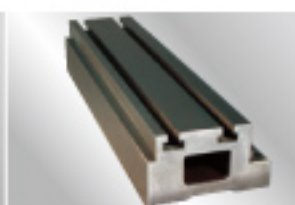
Tool Block for Quick Change Toolpost



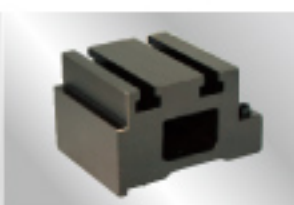
ER Collet Holder



Square Shank Tool Holder, Right Hand



Gang Tool Block 408 mm



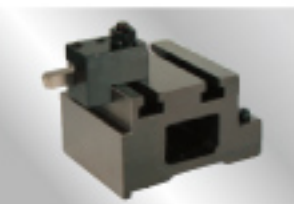
Gang Tool Block 96 mm



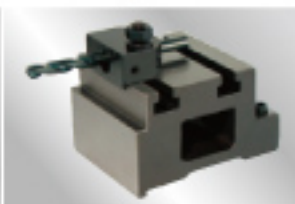
Gang Tool Block 48 mm



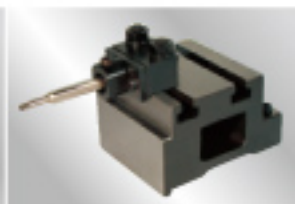
Square Shank Tool Holder, Left Hand



Square Shank Tool Holder, Right Hand



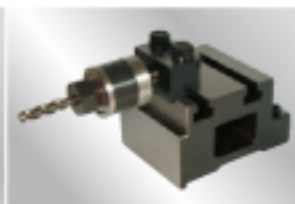
Round Shank Tool Holder, 1 Position



Drill Holder, Adjustable Center



Releasing Die Nut Holder



Tap Holder



### Digital Threading Control



**NEW** Design

The First Choice of Toolmakers!



★ Monitor 5.7" or 7"



★ CPU designed specifically for fast, reliable controls. Interface display monitor.

#### WITH INTEGRATED DRO FUNCTIONS

- Flat panel LCD display shows spindle RPM and tool feed rate to let operator easily select best turning conditions.
- LCD displays electric current value to easily check for turning overload.
- Rapid retract function shortens threading cycle.
- Guaranteed Circular Accuracy to 0.00125 mm (50 millionths of an inch)
- Infinitely variable spindle speed from 50 ~ 4000 RPM.
- Full bearing carriage with Turcite-B coated slideway bearing material between carriage and bed.
- Fast lever collet chucking with one single movement.
- The spindle is mounted on high precision preloaded angular contact ball bearings eliminating radial and end play.
- Solid hardened and ground alloy tool steel bed.
- Powerful 3 HP motor with current vector inverter drive increases low end torque.

#### What is Digital Threading Control ?

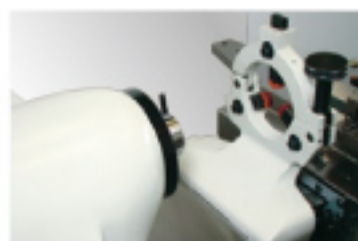
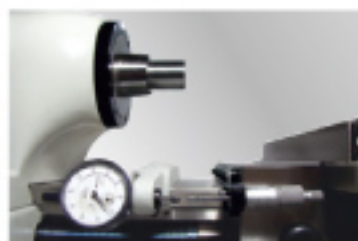
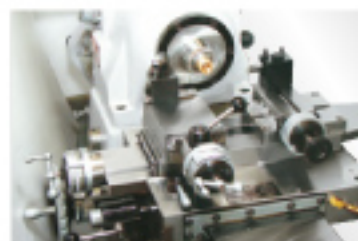
**CTL-618e** toolroom lathe with Digital Threading Control replaces traditional threading gearboxes with microprocessor-controlled, servo-driven leadscrew. In the past, when a machinist was faced with a workpiece that called for thread pitch not supported on a conventional lathe, he had to locate and order a custom gear set and take the time to swap out the gears in the gearbox. This is not economically justifiable unless the volume is large enough. **CTL-618e** toolroom lathe's design eliminates this time-consuming process. With the new digital threading system, the user's threading wishes can be easily and immediately realized. Simply type in the desired thread pitch on the numeric keypad on the touch screen LCD control panel and then start the threading cycle as on other conventional lathes. **CTL-618e**'s system controls and synchronizes main spindle rotation and Z-axis feed rate to produce a precise threading cycle for the given TPI or mm thread pitch. Besides being able to cut thread pitches not previously available on manual lathes, noise and vibration are significantly reduced because there are actually no gears in the gearbox. Since **CTL-618e** already has a custom IC and an LCD panel to enable threading control, the next logical step is to integrate DRO functions for an all-in-one versatile machine. The **CTL-618e** has in fact done that. DRO capabilities are built-in and come standard with no extra charge. **CTL-618e** features linear scales on the X and Z axes from Mitutoyo. For people experienced with the super high precision of **CYCLEMATIC**'s toolroom lathes, the **CTL-618e** adds another dimension of capabilities. It builds on the same foundation as the **CTL-618EVS** toolroom lathe. They are all ideal for super high precision lathe work on small parts (usually those that fit in 5C collets).



**Control Panel**

- Spindle run out within 0.00125 mm (50 millionths of an inch)
- Hardened and precision ground spindle mounted on high-precision preloaded angular contact ball bearings maximizes rigidity and sustained precision.
- Infinitely variable spindle speed provides desired speed on demand.
- EVS model has 3 HP motor with current vector inverter drive for increased low end torque.
- Fast lever collet closer allows chucking with one single movement.
- Independent electric variable feeds for carriage and cross slide provide freedom of operation.
- Hardened and precision ground alloy steel bed ways resist wear.
- Turcite-B slideway bearing surface between carriage and bed.
- Inch / Metric quick change gearbox
- Inch / Metric dual dial and quick action compound slide for threading.
- Automatic thread length control

### Spindle tooling, tooling holder and optional equipment for CYCLEMATIC high speed, high accuracy toolroom lathe

**Four Station Turret****Step Chuck****Follow Rest****Steady Rest****Vertical Cut-off Slide****Quick Change Tool****Indicator Carriage Stop****Radius Turning Attachment****Taper Turning Attachment****Rear Tool Holder Slide Assembly**



### Digital Threading for Toolroom Chucker



★ Monitor 5.7" or 7"

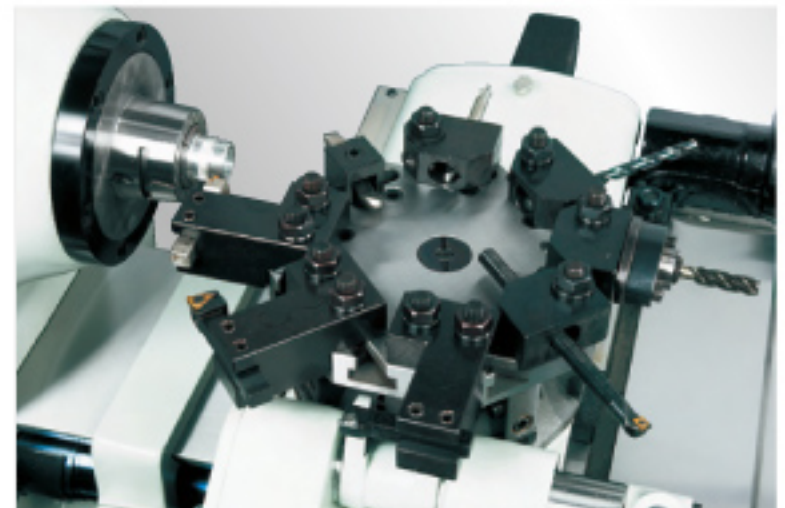


★ CPU designed specifically for fast, reliable controls. Interface display monitor.

• Center Height 12 mm

Digital threading makes threading on a chucker lathe easier than ever and provides touchscreen LCD to select thread pitch. Choose target TPI or mm pitch on the screen, set spindle rpm and start threading just like on conventional lathes. Simple no threading attachment. No threading gearbox. Less moving parts, quiet operation, maintenance free design. Servo driven design.

An internal, servo motor drives the leadscrew so the feed rate is synchronized to spindle rpm.



- Spindle run out within 0.00125 mm (50 millionths of an inch)
- Hardened and precision ground spindle with 5C collet spindle nose
- Spindle mounted on high precision preloaded angular contact ball bearings
- Eight station turret with preloaded ball bearing

- Turcite-B coated slideway bearing surface between carriage and bed
- Hardened and precision ground alloy steel bed way
- Fast lever collet chucking with a single movement
- Eight-position carriage stop



Straight and Taper Turning Slide for Double Tool Cross Slide



Quick Change Adjustable Tool Holder



Quick Acting Recessing Tool



Knee Tool



Slide Tool



Boring Tool Holder



Centering and Facing Tool



Releasing Tap Holder



Tool Holder Extension



Adjustable Rotary Stops



Adjustable Tool Holder



Releasing Tap Holder



## CTS - 27EVS

## MANUAL SERIES

HIGH SPEED / HIGH ACCURACY **SECOND OPERATION MACHINE**



Six-Station Turret

- High/Low Speed Quick Change Lever for Convenience
- Screw Feed Tailstock
- Double Tool Cross Slide for Many Practical Applications
- 229 mm (9") swing over bed.
- The spindle is mounted in high precision preloaded angular contact ball bearings eliminating radial and end play.
- Fast lever collet chucking with a single movement.
- Variable spindle speeds 50~4000 RPM.
- Solid hardened and ground alloy tool steel bed ways.
- The preloaded ball bearing turret head eliminates all play between the turret head and the turret slide.
- Powerful 3 HP frequency controlled motor.

## CTL - 27EVS

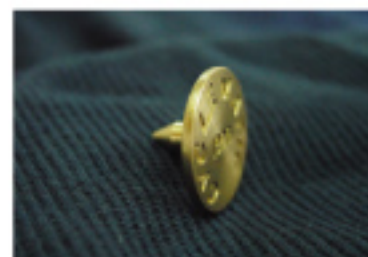
## MANUAL SERIES

HIGH SPEED / HIGH ACCURACY **SECOND OPERATION / TOOLMAKER'S LATHE**



Control Panel

- High/Low Speed Quick Change Lever for Convenience
- Screw Feed Tailstock
- X, Z Axis Compound Slide
- Designed to Machine Precision Small Diameter Parts
- High Performance Machining of Shafts
- Chucking or Collet Hold Workpiece
- 229 mm (9") swing over bed.
- The spindle is mounted in high precision preloaded angular contact ball bearings eliminating radial and end play.
- Fast lever collet chucking with a single movement.
- Variable spindle speeds 50~4000 RPM.
- Solid hardened and ground alloy tool steel bed ways.
- Powerful 3 HP frequency controlled motor.



Marker

- A compact machine with proven design!
- Superior surface finish!
- 229 mm (9") swing over bed
- 27 mm ( $1\frac{1}{16}$ ") 5C collet capacity.
- Fast lever collet chucking.
- Hardened and precision ground alloy tool steel bed ways 229 mm (9") length.
- Preloaded angular contact ball bearing spindle.
- Spindle speeds 50~4000 RPM.
- Quick change spindle speeds
- 1 HP frequency controlled motor

| MODEL                            | CT-118CNC                               |                   |
|----------------------------------|---|-------------------|
| Maximum Swing                    | Ø380 mm                                 |                   |
| Maximum Turning Diameter         | Ø150 mm ( Ø6")                          |                   |
| Distance Between Centers         | 457 mm                                  |                   |
| Bar Stock Diameter ( 5C Collet ) | Ø27 mm ( Ø1 $\frac{1}{16}$ ")           |                   |
| Hole Through Spindle             | Ø31.75 mm ( Ø1 $\frac{1}{4}$ ")         |                   |
| CNC Controller                   | FANUC (STANDARD)                        |                   |
| Spindle Speeds (Variable)        | 50~4000 RPM (3HP)                       | 50~6000 RPM (5HP) |
| Spindle Nose I.D./O.D.           | 5C (10° ) / 4° Taper                    |                   |
| Chuck Diameter                   | Ø150 mm ( Ø6")                          |                   |
| Maximum X Axis Travel            | 220 mm                                  |                   |
| Maximum Z Axis Travel            | 340 mm                                  |                   |
| Rapid Traverse                   | 20 m/min                                |                   |
| Inverter Spindle Motor           | 3 HP                                    | 5 HP              |
| X, Z Axis Servo Motor            | X: B2    Z: B2                          |                   |
| Coolant Pump                     | 1/4 HP                                  |                   |
| Tailstock Spindle Taper          | MT No.2                                 |                   |
| Tailstock Spindle Travel         | 95 mm                                   |                   |
| Machine Dimensions (L x W x H)   | 2050 x 1000 x 1650 mm (81" x 40" x 65") |                   |
| Machine Weight                   | 1200 kg (2640 lbs.)                     |                   |

\*To allow for the continuing innovation, product dimensions are subject to change without prior notice.




# SPECIFICATIONS

| MODEL                                   |                         | CTL-618 <sup>e</sup><br>CTL-618EVS  | CTS-27EVS<br>CTL-27EVS                                 | CHR-68 <sup>e</sup>                                    | CP-27EVS   |
|---|-------------------------|---|--|--|--|
| SPINDLE CAPACITY                        | With Chuck              | 150 mm (6")   | 150 mm (6")  | 150 mm (6")  | 127 mm (5")  |
|   | With Expanding Collets  | 76 mm (3")  | 76 mm (3")   | 76 mm (3")   | 76 mm (3")   |
|   | With Round 5C Collets   | 27 mm (1 <sup>1</sup> / <sub>16</sub> ")                                  | 27 mm (1 <sup>1</sup> / <sub>16</sub> ")               | 27 mm (1 <sup>1</sup> / <sub>16</sub> ")               | 27 mm (1 <sup>1</sup> / <sub>16</sub> ")               |
|   | With Hexagon 5C Collets | 22 mm (7/8")  | 22 mm (7/8")   | 22 mm (7/8")   | 22 mm (7/8")   |
|   | With Square 5C Collets  | 19 mm (3/4")  | 19 mm (3/4")   | 19 mm (3/4")   | 19 mm (3/4")   |
|   | With Step Chuck         | 27 ~ 152 mm<br>(1 <sup>1</sup> / <sub>16</sub> " ~ 6")                    | 27 ~ 152 mm<br>(1 <sup>1</sup> / <sub>16</sub> " ~ 6") | 27 ~ 152 mm<br>(1 <sup>1</sup> / <sub>16</sub> " ~ 6") | 27 ~ 152 mm<br>(1 <sup>1</sup> / <sub>16</sub> " ~ 6") |
| Spindle Nose Diameter                   |                         | Ø55.5 mm  | Ø55.5 mm   | Ø55.5 mm   | Ø55.5 mm   |
| Spindle Nose I.D./O.D.                  |                         | 5C (10°) / 4° Taper   | 5C (10°) / 4° Taper                                    | 5C (10°) / 4° Taper                                    | 5C (10°) / 4° Taper                                    |
| Spindle Speeds (Variable)               |                         | 50~4000 RPM   | 50~4000 RPM  | 50~4000 RPM  | 50~4000 RPM  |
| Inverter Spindle Motor                  |                         | 3 HP  | 3 HP   | 3 HP   | 1 HP   |
| Hole Through Spindle                    |                         | 31.75 mm (1 <sup>1</sup> / <sub>4</sub> ")                                | 31.75 mm (1 <sup>1</sup> / <sub>4</sub> ")             | 31.75 mm (1 <sup>1</sup> / <sub>4</sub> ")             | 31.75 mm (1 <sup>1</sup> / <sub>4</sub> ")             |
| Bar Stock Diameter (5C Collet)          |                         | Ø27 mm (Ø1 <sup>1</sup> / <sub>16</sub> ")                                | Ø27 mm (Ø1 <sup>1</sup> / <sub>16</sub> ")             | Ø27 mm (Ø1 <sup>1</sup> / <sub>16</sub> ")             | Ø27 mm (Ø1 <sup>1</sup> / <sub>16</sub> ")             |
| Distance Between Centers                |                         | 457 mm  | 380 mm (CTL-27EVS)                                     | No tailstock   | No tailstock   |
| Swing Over Bed                          |                         | 280 mm  | 229 mm   | 330 mm   | 229 mm   |
| Swing Over Carriage                     |                         | 230 mm  | —  | —  | —  |
| Swing Over Cross Slide                  |                         | 152 mm  | —  | —  | —  |
| Carriage Power Feed Range (Variable)    |                         | 8~178 mm/min  |  | 6~250 mm/min   | —  |
| Cross Slide Power Feed Range (Variable) |                         | 5~102 mm/min  | —  | 9~160 mm/min   | —  |
| Cross Slide Travel                      |                         | 152 mm  | 95 mm —  | 114 mm   | —  |
| Quick Action Compound Slide Travel      |                         | 2.5 mm  | —  | —  | —  |
| Compound Slide Travel                   |                         | 76 mm   | X: 114 mm<br>Z: 140 mm                                 | —  | Optional X: 114 mm<br>Z: 140 mm                        |
| Coolant Pump                            |                         | 1/8 HP, 220V  | 1/8 HP, 220V   | 1/8 HP, 220V   | Optional   |
| Feed Inverter                           |                         | 1/2 HP  | —  | 1/2 HP   | —  |
| Tailstock Spindle Travel                |                         | 95 mm   | 95 mm  | No tailstock   | No tailstock   |
| Range of Threads                        |                         | 618e 0.05~6.55mm<br>(3.175~500 TPI)<br>618evs 0.275~2.7mm<br>(11~108 TPI) | —  | 0.05~6.55 mm<br>(3.175 ~ 500 TPI)                      | —  |
| Net Weight (Approx)                     |                         | 1000 kg (2200 lbs.)   | 450 kg (990 lbs.)                                      | 1000 kg (2200 lbs.)                                    | 300 kg (660 lbs.)                                      |
| Gross Weight (Approx)                   |                         | 1050 kg (2310 lbs.)   | 420 kg (1364 lbs.)                                     | 1020 kg (2320 lbs.)                                    | 370 kg (820 lbs.)                                      |
| Machine Dimensions (LxWxH)              |                         | 1850 x 750 x 1700 mm<br>(73" x 30" x 67")                                 | 1750 x 700 x 1600 mm<br>(69" x 28" x 63")              | 1850 x 750 x 1700 mm<br>(73" x 30" x 67")              | 900 x 900 x 1400 mm<br>(36" x 36" x 55")               |

\*To allow for the continuing innovation, product dimensions are subject to change without prior notice.





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