

SHARP

PRECISION MACHINE TOOLS

JATAS Machinery Sales Inc.

503 Frontage Ave. W
Underwood, MN 56586

Tel: 612-826-6464 Fax: 612-826-6464

Email: tony@jatas.com Web: www.jatas.com

Representative: Tony Heck

Product Lines: Precision Machine Tools
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SHARP MODEL 1118H, 1118H-CNC HIGH PRECISION TOOLROOM LATHE



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MODEL 1118H-CNC HIGH PRECISION TOOLROOM LATHE

The Sharp CNC Toolroom Lathe enables full automation of the lathe to perform 2 axis simultaneous machining that makes threading, contouring, tapering and drilling operations like a breeze. It accepts conversational and G-code programming. The machine can also operate completely like a manual machine if necessary by utilizing the two Electronic Handwheels.

The Model 1118H-CNC is equipped with the FAGOR 8055 TC control. It works on conversational and G-code programming. It has a Teach-in mode that allows one to make the first part manually, generates a program, and subsequent parts made according to that program. The machine is installed with two front mounted electronic handwheels (MPG) that offers full manual operation if desired. The MPG also allows one handwheel controlling 2 axes simultaneous movement for cutting tapers.





The 1118H-CNC can function as a manual lathe along with digital readout and constant surface speed; or as a full capacity CNC machine with a complete cycle library. This CNC control has both G-code and conversational programming modes. It has solid graphics in both simulation and execution mode, as well as an on-board profile editor (mini cad/cam)

OPERATING MODES

1. Manual - the lathe is operated like a conventional lathe, using the 2 electronic handwheels in the front to move the axes. In addition, it offers convenient features such as digital readouts and constant surface speed.
2. Semi-automatic - it allows 2 axes to be controlled with the cranking of 1 handwheel. The machinist can cut arcs, tapers and chamfers.
3. Automatic - has the ability to execute any program, plus background cutting capabilities. Powerful tool inspection mode included as well as full program control from the keyboard.
4. Single step mode - the machinist can go through all or part of the process by executing the program step by step.

PROGRAMMING LANGUAGE

1. Conversational - icon key with conversational graphic screens for easy operator data input. No prior programming experience needed.
2. G-code - this programming enables utilization of some sophisticated features such as parametric or variable programming. Auto-prompt via the help key prompts operator through graphic & text help screens.

PROGRAMMING TOOLS

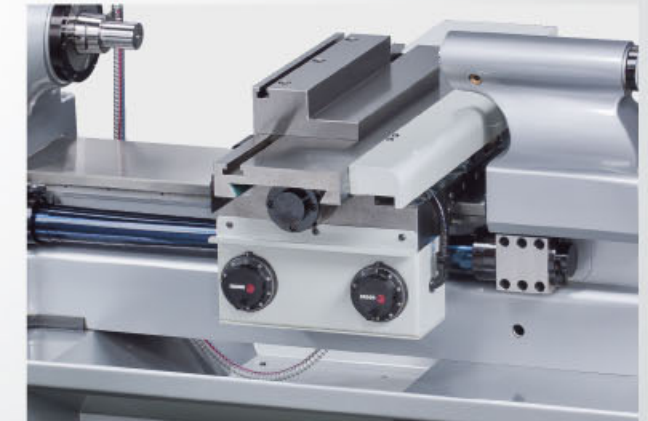
1. Teach-in mode - the first part can be made manually while the control records the corresponding program, and then additional parts can be made in automatic mode.
2. Complete cycle library - by selecting associated icon key or G-code, the CNC will prompt you through all cycles, including turning, facing, grooving and threading. It is also equipped with a thread repair cycle.
3. Onboard profile editor for easy blueprint programming. Simply enter the data right off the blueprint; the CNC automatically creates the program including complex profiles.
4. Solid graphics are standard with tool shape representation and available for use in both execution and simulation modes. It can also perform line graphics.

ENHANCEMENT FEATURES

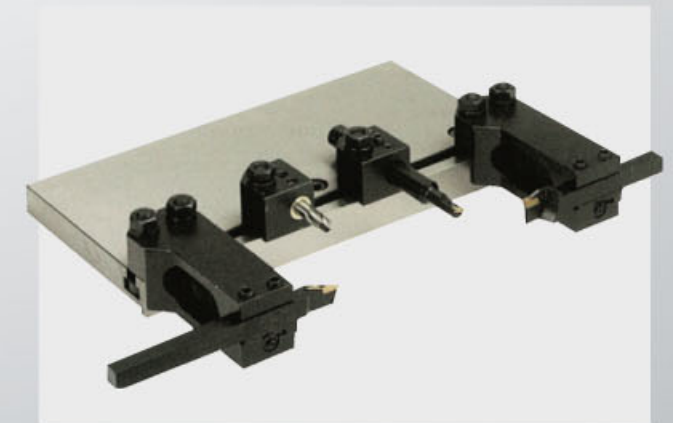
1. 10.4" LCD TFT high resolution color display.
2. Onboard profile editor for easy blueprint programming. Includes complex profiles (mini-cad/cam).
3. USB port for easy program uploading/downloading.

1118H-CNC Features

- FAGOR 8055 TC control, 10" color LCD
- 2 axes AC servo drive system
- 256K RAM compact flash
- Programmable spindle speed 4,000 rpm
- Full CNC or manual operation
- G-code or conversational programming
- 14.5" swing over bed, 12-3/8" over carriage
- Teach-in function, constant surface speed,
- 2 front mounted electronic handwheels (MPG)
- Positioning +/- 0.000080"
- Repeatability +/- 0.000040"
- Gang type or Quick change tool post Gang type
- Spindle accuracy 0.000050" TIR
- 5 HP motor
- Pneumatic 5C collet closure
- Auto lube with low level alarm
- Preloaded precision ball screws
- Splash guard, chuck guard
- Halogen work light
- 7.5" x 12" tooling plate
- Coolant system



Gang-type machining showing additional tool plate (standard) mounted on top of cross slide, equipped with various tool holders and tools (optional).



Tool plate (standard) shown with tool holders and tools (optional)



Air operated collet closure (with foot switch) is provided as a standard accessory for quick and easy release of a workpiece. A pull-down style chip guard protects the operator from flying chips. Full length splash guard is mounted at the back to contain coolant splashing and flying chips.

The bedway is made out of a one piece alloy steel material, hardened and ground. The carriage rides on the entire width of the bedway (instead of 2 narrow V ways) that ensures high accuracy on Z axis operations. The quick acting compound slide, and the adjustable thread length control ,makes threading operation easier and faster.



MODEL 1118H HIGH PRECISION TOOLROOM LATHE

The Sharp Toolroom lathes are designed for exceptionally smooth operation, precise alignment and high spindle accuracy (50 millionths inch TIR). They are equipped with high speed spindle (4,000 rpm), 5C lever type collet closure, and quick-acting compound slide that are suited for small piece works that demands fine details, perfect finish and fast repetitive operations.

The machine is equipped with Digital Variable Speed system featuring digital display of spindle speed, low voltage control, and dynamic brake. Speed change is greatly simplified by just turning a knob. The 4,000 rpm high speed spindle is mounted on precision preloaded bearings. Spindle accuracy maintains at 0.000050" TIR. The universal gearbox allows inch and metric threading. The leadscrew and gearbox are engaged only during threading operations.

Model 1118H Intelligent Design, high quality precision machine tool

1118H Features

- 130-4,000 rpm spindle
- Spindle accuracy 0.00005" TIR
- 2 angular contact bearings on spindle
- Digital Variable Speed control (DVS)
- 5 HP motor
- 11" x 18" capacity
- 1-11/16" hole through collet
- Inch and metric threading (36)
- Preset HI/LO ratio spindle speed
- Quick action compound slide for threading
- Adjustable thread length control stop
- Independent DC motor drives carriage
- Alloy steel bedway with full width support
- Hardened and ground leadscrew
- Splash guard
- Coolant system
- 5C collet closure
- Chuck guard
- Leadscrew protective cover
- Halogen work light



Compound Slide

The 1118H quick-acting compound slide speeds up the thread-cutting process. With the movement of just a single lever, the threading tool is cleared from the work without ever engaging the compound slide feed screw.



Universal Gearbox

The universal gearbox allows both metric and U.S. standard thread cutting with only a single lever to change between types and sizes. To reduce wear, the lead screw and gearbox are engaged only during threading operations.



Advanced DVS

The 1118H comes standard with the Advanced Digital Variable Speed system. Some of the features include low voltage control, dynamic electric brake, manual or auto-start safety feature, and precise digital display. The DVS runs on three or single phase.



Bedway

The 1118H bedway is crafted from rugged alloy tool steel that has been heat-treated and ground to resist distortion for long-lasting accuracy. Additionally, the bearing surface has been enlarged, so the carriage covers the entire width of the bedway.



Tailstock

The 1118H tailstock is a one-piece casting which offers maximum rigidity and accuracy. It is equipped with a tang for easy tool ejection, a unique feature on lathes of this size. The spindle is graduated in both metric and U.S. standard increments.



Bodine DC Motor

A high-quality Bodine DC motor ensures smooth, precise carriage and cross slide movements. A powerful user control system allows directional and precise feed-rate adjustments.



A high quality BODINE DC motor ensures smooth, precise carriage and cross slide movement. It controls the direction and feed rate of the carriage.

Specifications

MODEL	UNIT	1118H-CNC
Capacity		
Swing over bed	in (mm)	14.3 (363)
Swing over carriage	in (mm)	12 (305)
Swing over cross slide	in (mm)	6.25 (159)
Distance between centers	in (mm)	18 (460)
Cutting tool size	in (mm)	1/2 (12.7)
Gong tooling slide	in (mm)	12 x 0.75 (305 x 19)
Cross slide width	in (mm)	7 (178)
Spindle		
Spindle hole through	in (mm)	1.06 (27)
Bar capacity	in (mm)	0.6 (24)
Chucking capacity	Jaw chucks	in (mm) 5
	Step chucks	in (mm) 1-1/16 ~ 6 (26.4 ~152)
Expanding collets	in (mm)	3 (76)
Round 5C collets	in (mm)	1-1/16 ~ 6 (26.4 ~152)
Hex 5C collets	in (mm)	7 / 8 (177 / 203)
Square 5C collets	in (mm)	3 / 4
Spindle nose taper (inside)		5C (10 deg)
Spindle nose taper (outside)		4 deg, Hordinge Type
Spindle speed (programmable)	rpm	0 ~ 4,000
Pneumatic collet closure with foot switch		yes
Motor	HP	5
Travel, Feedrate, Drive System		
Carriage travel (Z-axis)	in (mm)	11.2 (284)
Cross slide travel (X-axis)	in (mm)	8.65 (220)
Maximum feedrate	ipm	200
Rapid traverse	ipm	394
AC servo motors (2)	HP	1
Ballscrews diameter	in (mm)	1 (Z-axis), 3/4 (X-axis)
Tailstock		
Quill travel	in (mm)	3-3/4
Quill diameter	in (mm)	1.36 (35)
Quill taper		MT#2
Quill with tang		yes
CNC control system		
Fagor 8055 TC System		
Accuracy		
Positioning	in (mm)	+/-0.000080
Repeatability	in (mm)	0.000040
Spindle TIR	in (mm)	0.000050
General		
Electricity		220V, 60HZ, 3 phase, 440V (OPT.)
Net Wt	lbs	2,300 lbs

STANDARD ACCESSORIES:

- Pneumatic 5C collet closure
- FAGOR 8055 TC CNC system, G-code and Conversational programming, with High Resolution 10" LCD Monitor, Full cycle library, 500 MB flash, USB port.
- 2 Electronic Handwheel (MPG) for easy operations
- Gang type tooling mounting plate (6" x 12")
- Tailstock
- Pneumatic collet closure system with foot switch
- Full length splash guard
- Pull down chip cover
- Automatic lubrication system with low level alarm
- Coolant system
- Halogen worklight
- Tool box with tools

Specifications

MODEL	UNIT	1118H
CAPACITY		
Swing over bed	in (mm)	11 (280)
Swing over carriage	in (mm)	9 (229)
Swing over cross slide	in (mm)	6 (150)
Distance between centers	in (mm)	18 (460)
Spindle		
With round 5C collets	in (mm)	11/16 (17.5)
With hexagon 5C collets	in (mm)	7/8 (22.2)
With square 5C collets	in (mm)	3/4 (19)
With expanding chucks	in (mm)	3 (70)
With step chucks	in (mm)	11/16 ~ 6 (17.5 ~152)
With jaw chucks	in (mm)	5 (130)
Spindle speed range (infinitely variable)	rpm	130 ~ 4,000
Spindle nose taper (inside)		5C (10°)
Spindle nose taper (outside)		4°
Spindle accuracy TIR	in (mm)	0.000050 (0.001)
Travel & Feed Range		
Cross slide travel	in (mm)	6 (150)
Compound slide travel	in (mm)	3 (70)
Quick-action compound slide travel	in (mm)	0.1 (2.5)
Carriage power feed range	in (mm)	5/16 ~ 7 (8 ~ 177)
Cross slide power feed range	in (mm)	5/16 ~ 4 (8 ~100)
Threading		
Leadscrew pitch, diameter		8 tpi, 1"
Inch threads (36)		11 ~ 108
Metric threads (36)		0.275 ~ 2.7
Tailstock		
Tailstock spindle diameter	in (mm)	1.358 (34)
Tailstock spindle taper		MT #2
Tailstock spindle travel	in (mm)	3.75 (95)
Quill with tang		Yes
General		
Electricity required		220V, 3 phase or single phase 440V requires optional transformer
Main motor	HP	5 (infinitely variable speed)
Coolant pump motor	HP	0.25
Feed motor (DC)		75 watt, 110 volt
Net weight (approximately)	lbs	2,300

* Proper foundation and environmental controls are required.

***All Prices and Specifications Subject to Change without Notice. Please Verify.

STANDARD ACCESSORIES:

- Coolant system
- Splash guard
- 5C lever type collet closure
- (2) 5C collet holder racks
- Halogen light
- Chuck guard
- Drive plate
- Spindle nose cover
- Headstock cover
- Drive dog
- Drive gear
- Adjustable tool setting gauges
- Tool kit