



MACHINERY SOLUTIONS, INC.

3111 Via Mondo, Rancho Dominguez
CA 90221 U.S.A.

Phone: (310) 537-2522
Fax: (310) 637-0490

web site: www.victormachines.com
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*Machine shown with optional accessories and configuration

MACHINE SPECIFICATIONS

35/40/4500 DCL: Digital Control Lathe

- Multiple Function Lathe
 1. Manual Handwheel Operation
 2. Machine Guidance Operation
 3. Teach-in / Playback CNC Operation
 4. Automatic CNC G-Code Operation
- 34.6" / 39.8" / 44.7" swing over bed
- 20.1" / 25.2" / 30.3" swing over cross-slide
- 80" / 120" / 160" / 200" distance between centers
- Ø6" diameter hole through spindle (Ø9" and Ø12.5" optional)
- 26.3" X-axis cross-slide travel
- Main casting pieces are by massive Meehanite castings for superior dampening and rigidity
- Headstock gears are made from chromium molybdenum steel (SCM21), hardened by carbonization, and precisely ground to provide smooth and quiet running
- Forced lubrication of headstock gears
- Spindle is supported by three precision bearings to insure accuracy and rigidity during heavy cutting (Suitable for large diameter work-pieces)
- Ribbed bed constructed from an annealed processed casting insures no deformation occurs on the slideways
- Hardened and ground bed ways
- Saddle is coated with TURCITE-B to provide wear resistance
- Rigid construction of the tailstock is able to withstand heavy drilling and cutting
- Automatic force type lubrication system to all sliding surfaces & ballscrews
- Hardware overtravel limit switch for all travel directions
- Tailstock overtravel limit switch to avoid unexpected crashes
- Complete FANUC System with Fanuc AC Brushless Servo Motors & Drives
- Triple electronic handwheels for manual and automatic turning operations
- Control panel conveniently mounted on apron for easy access
- Splash guards to protect the operator from chips and coolant
- CRT Screen / CNC Keyboard mounted swivel arm for easy access and viewing
- 30 HP Spindle Motor (40 HP optional)



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MACHINE SPECIFICATIONS (continued)

- Vector control spindle drive – Excellent torque characteristic at all spindle speeds
- Heavy duty, manual tailstock with Inch/Metric graduations
- Tailstock taper: MT #6; Quill diameter: 4.5", Quill Travel : 11.8"
- Feed rates: 0.01 ~ 200.0 in/min variable by program input
- Rapid traverse: X-axis = 225 in/min, Z-axis = 300 in/min
- Spindle speeds: Ø6" Bore: 3-450 RPM / Ø9" Bore: 2-305 RPM / Ø12.5" Bore: 2-254 RPM
- Spindle Nose: Ø6" Bore: A2-11 Nose / Ø9" Bore: A2-15 Nose / Ø12.5" Bore: A2-20 Nose
- Automatic CNC programmable gear change system (M41 – M44)
- *Aloris Super-Precision Quick Change Tool Post (EA Series)*
- Standard Tool size 1½" x 1½" square shank
- Chuck guard with safety interlock switch to prevent unexpected spindle movement
- Halogen work light – Fully integrated to allow for CNC control of on/off function
- Coolant System – Fully integrated to allow for CNC control of on/off function
- Removable frontal chip pan under bed
- Set of leveling pads, screws, and nuts
- Set of wrenches for operating machine
- Set of Operating and Machine Guidance manuals
- Floor area:

3580, 4080, 4580 DCL:	172" x 71"
35120, 40120, 45120 DCL:	212" x 71"
35160, 40160, 45160 DCL:	252" x 71"
35200, 40200, 45200 DCL:	292" x 71"
- Net weight (for 80" models, add 2,200 lbs. for each 40" incremental increase in length):
3580DCL - 26,400 lbs / 4080DCL - 27,500 lbs / 4580DCL 28,600 lbs
- Full one year parts warranty on machine and CNC control

CONTROL SPECIFICATIONS

- Fanuc 20-TA Industry Standard CNC
- 9" monochrome monitor & 44 key keypad
- 2-axis (X & Z) digital readout screen
- Simultaneous 2-axis linear and circular interpolation
- Manual operation via handwheels
- Machine guidance operation via handwheels
- Teach-in / Playback operation: manually run 1st part, then Playback for automatic operation
- Automatic Generation of G-code from Geometry data during teach in operation
- Full CNC G-code, M-code, T-code, and S-code Functions
- Simultaneous multiple M-code processing (Up to 3 M-codes)
- Custom Macro B Programming Language for G-code programming (optional)
- Background Editing of G-code programming during program execution (optional)
- 6 CNC Operation Modes: MEM, EDIT, MDI, Mchn Gdnce, Man/Hndwl, Ref Return
- 5 Auxiliary CNC Modes: Dry Run, Single Block, Optional Blk Skip, Manual Handwheel Interrupt, and Auxiliary Function lock



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CONTROL SPECIFICATIONS (continued)

- Manual Interrupt of automatic operations: Handwheel Interrupt and Spindle Interrupt
- Constant Surface Speed (CSS) control for manual and automatic operations (Standard)
- Conversational graphics programming
- Diameter / Radius programming
- Absolute and incremental programming
- Inch / Metric input and display
- On-line calculator function to aid in data input
- On screen tool path graphics to verify part program
- Taper, Chamfer, Radius, Roughing, Grooving, & Drilling in Manual and Automatic modes
- Inch/Metric threading; Straight, Taper, and Multi-lead threading
- X-Area Minus Area Cutting Function (Cutting from backside of part)
- User programmable “Software Travel limits” to limit the travel for X & Z axes
- Intelligent hardware travel limits - only stops movement in the over-travel direction
- Inch / Metric feed rate input: inch/rev and inch/min or mm/rev and mm/min
- Gear indicator lights on status panel
- Automatic CNC programmable gear change system (M41 – M44)
- Spindle load meter: 0% - 180% of rated load
- Lock switch for disabling parameter and program modification
- Conveniently mounted machine controls on apron - E-Stop, Playback, Start, Stop
- Aux. Controls on apron: work lamp, coolant, and CSS on/off
- Spindle control on apron: forward, reverse, stop, and speed dial
- Auto/Jog feedrate override: 0% to 200%
- User selectable Jog / Feedrate override profiles: Linear or Exponential
- Spindle override: 50% to 150%
- Rapid Traverse override: 12.5%, 25%, 50%, & 100%
- Incremental / continuous jog for X & Z axes
- Intelligent Bi-directional home search for X & Z axes
- Triple electronic handwheels for manual and automatic turning operations (Simultaneously)
- Multiplier switch for handwheel sensitivity: 0.0001”, 0.001”, & 0.01”
- CNC “**RUN VERIFY**” by Joystick or handwheel for all automatic operations
- Easy one touch X-Z Part Coordinate System setting
- Full CNC control of coolant on-off functions via M-codes
- Full CNC control of work light on-off functions via M-codes
- CNC M-Code Controlled Power Contactors for controlling various accessories (Optional)
- Three coordinate systems: Machine, Absolute, & Relative
- Program storage 63 part program storage, 40 meters of paper tape (131 feet)
- Backlash error compensation
- Ballscrew pitch error compensation (from Laser Calibration Data)
- Built-in RS-232 port for loading/unloading of part programs and other CNC data
- 16 Tool Geometry and 16 Tool Wear offsets with tool nose radius compensation
- Self diagnostics with error messages on screen