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

Phone: (310) 537-2522
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web site: www.victormachines.com
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1800DCL Digital Control Lathe

MACHINE SPECIFICATIONS

- Multiple Function Lathe
  1. Manual Handwheel Operation
  2. Machining Guidance Operation
  3. Teach-in / Playback CNC Operation
  4. Automatic CNC G-Code Operation
- 18.1" swing over bed, 9.4" swing over cross-slide
- ∅2.05" diameter hole through spindle
- 39.4" or 59.8" distance between centers
- 10.5" X-axis cross-slide travel with front doors opened
- 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
- LCD color display / Keypad mounted swivel arm for easy access and viewing
- Dual left & right front sliding door to protect operator from chips and coolant
- Control panel conveniently mounted on apron for easy access with doors closed
- Vector control spindle drive – Excellent torque characteristic at all spindle speeds
- Heavy duty, manual tailstock with Inch/Metric graduations
- Tailstock taper: MT #4; Quill diameter: 2.5"; Quill Travel: 5.91"
- 10.0 HP Spindle Motor

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MACHINE SPECIFICATIONS (continued)

- Feed rates: 0.01 ~ 200.0 in/min variable by program input
- Rapid traverse: X-axis = 200 in/min, Z-axis = 300 in/min
- Spindle speeds (Variable and programmable through 4 manual ranges):
  Range 1 = 50 ~ 130 RPM
  Range 2 = 131 ~ 340 RPM
  Range 3 = 341 ~ 960 RPM
  Range 4 = 961 ~ 2,500 RPM
- Automatic spindle jog during gear changes makes gear shifts easy
- Spindle Nose: D1-6 camlock
- ***Aloris Super-Precision Quick Change Tool Post (CA Series)***
- Standard Tool size 1” x 1” square shank
- Safety interlock switch to prevent unexpected spindle movement (Chuck or Door)
- Fluorescent 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 and Operating and Machine Guidance manuals
- Floor area: 1840DCL: 98” x 73” / 1860DCL: 114” x 73”
- Net weight: 1840DCL: 5,280 lbs. / 1860DCL: 6,300 lbs.
- Full one year parts warranty on machine and CNC control

CONTROL SPECIFICATIONS

- Fanuc 20i-TB ultra-compact CNC integrated with 8.5” LCD display and 44-key keypad
- High quality engineering at FANUC ensures reliable technology and performance
- Fiber Optical Fanuc Digital Servo Amplifiers immune to interference from electrical noise
- Fanuc AC Digital Servo System with high resolution absolute encoders
- CompactFlash memory slot for program & data storage (Requires optional PC Card adapter)
- 2-axis (X & Z) digital readout screen
- Simultaneous 2-axis linear and circular interpolation
- Manual operation via handwheels
- Machining 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)
- Real time tool path line graphics (Optional 3D solid model tool path graphics available)
- 6 CNC Operation Modes: MEM, EDIT, MDI, Mchn Gdnce, Man/Hndwl, Ref Return
- 6 Auxiliary CNC Modes: M-code Teach Off, Dry Run, Single Block, Optional Blk Skip, M01 Stop, and Manual Handwheel Interrupt
- Manual Interrupt of automatic operations: Handwheel Interrupt and Spindle Interrupt

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CONTROL SPECIFICATIONS (continued)

- 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
- Auto spindle jog during gear changes
- 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, 80 meters of paper tape (262 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