

MDSL-SERIES

3-Axis Slant Bed Lathe for Job Shops, Tool Rooms, and Production

Featuring Semi-Automatic + Conversational Programming + Standard G-Code



MDSL Series Machine Features

The MDSL series slant bed type lathes are designed for speed, precision, and production. It is built on a single-base 30-degree inclined frame with the X and Z axes traveling on linear guides driven by precision ball screws. The base model spindle unit is belt driven with external encoder. A direct-drive built-in spindle upgrade enables simultaneous C-axis for mill-turn applications. The standard 12-Tool servo turret has a bolt-on type interface, while upgrade options for VDI or BMT turrets can be equipped with live tooling. The hydraulic system enables turret locking, chuck clamping, and tailstock quill advance. A conveyor system allows for easy chip removal and clean-up. The MDSL series offers a good balance of speed and accuracy, suitable for turning, grooving, facing, drilling, threading, tapping, and cylindrical or face turning of precision parts.



Machine Features

- Automatic Servo Driven 12-Tool Turret
- Auto Lubrication System
- Auto Chip Conveyor System
- Hydraulic Chuck and Tailstock Quill
- Center Hole Drilling and Rigid Tapping

Optional Features

- Direct Drive Spindle with C-Axis Control for Mill-Turn
- VDI or BMT Turret with Live Tools
- Tool Setting Probe
- Parts Catcher
- Bar Feeder
- Oil Mist Collector

DynaPath WinDelta® Lathe CNC System



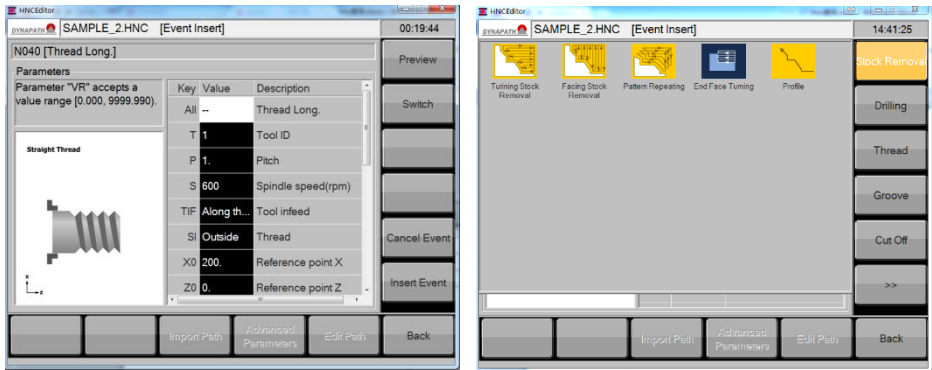
- DynaPath WinDelta® Lathe CNC System
- 15.6" Touchscreen LCD
- 16 GB SSD Storage
- 2x USB / 2x LAN
- DRO+ Handwheel Mode
- Conversational + DXF Import + Standard G-Code Programming
- Teach/Learn Functions
- Macros & Canned Cycles
- Networked File Management
- Remote Support and Diagnostics

WinDelta® Control Features

Operation	• Mode Switch, Mode Select, Touchscreen, Mouse, Keyboard	Motion	• Backlash, pitch error compensation • Tool X, Z, and wear compensation • Canned cycle and macro support • Drill, Bore, and Rigid Tapping • Constant Surface Speed • Polar and Cylindrical Interpolation
MANUAL Mode	• JOG, INCREMENTAL JOG, MPG functions		
DRO+ Mode	• Individual axis or simultaneous movement • Line, Arc, Thread Feed • Constant surface speed		
EDIT Mode	• Save to, Load from USB • Built-in FTP server for remote part program management • Conversational Programming • DXF Import	System Functions	• Remote Support and Diagnostics • Alarm and Event History database
AUTO Mode	• MDI, Memory functions • Feed, Spindle, Rapid overrides • MPG Run, Retrace at any line • ISO G/M/S/T-Code support • Background edit	Tuning	• Online servo tuning for resonance, vibration, torque filter, velocity loop, position loop, and feed-forward
Tool and Fixture Offsets	• 6 Work Offsets • 100 Tool Offsets • External Offset • Smart Align Functions		

DynaPath WinDelta® Programming

Conversational Programming + DXF Import + G-Code Editing



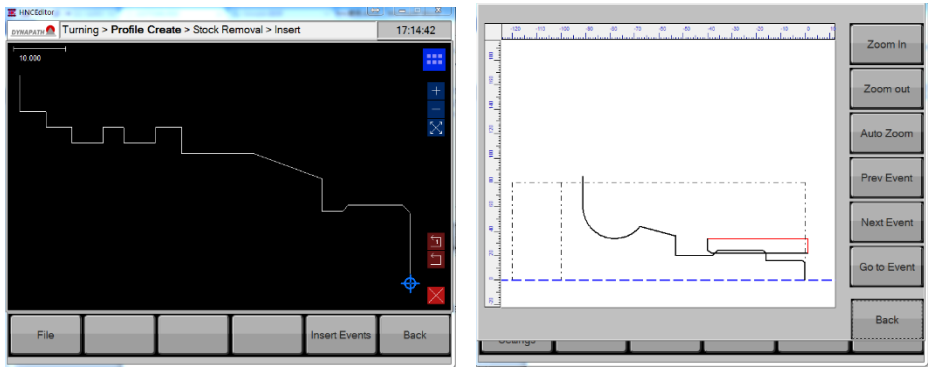
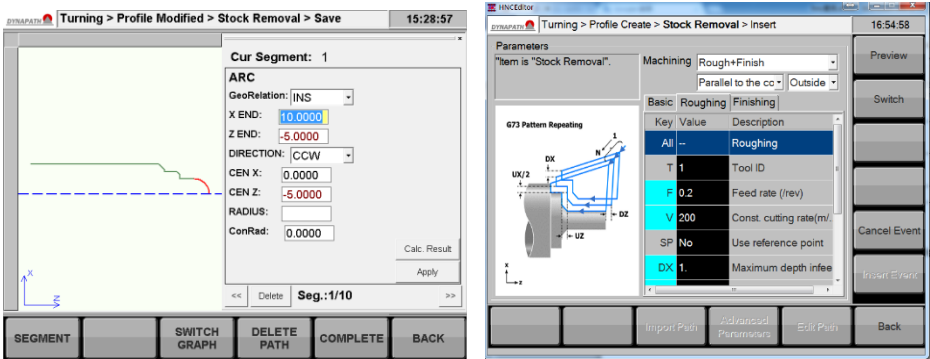
Conversational Event Based Programming

allows creation of part programs by choosing from machining events and configuring parameters, without having to write G-Code.

Built-in Events include standard contouring, grooving, threading, cutoff, drilling, boring, tapping, and auxiliary events.

Smart Profile Editor allows quick and easy path creation and assists with geometric calculations.

Conversational Graphics convey detailed information about event parameters using graphical illustrations to assist with data entry.

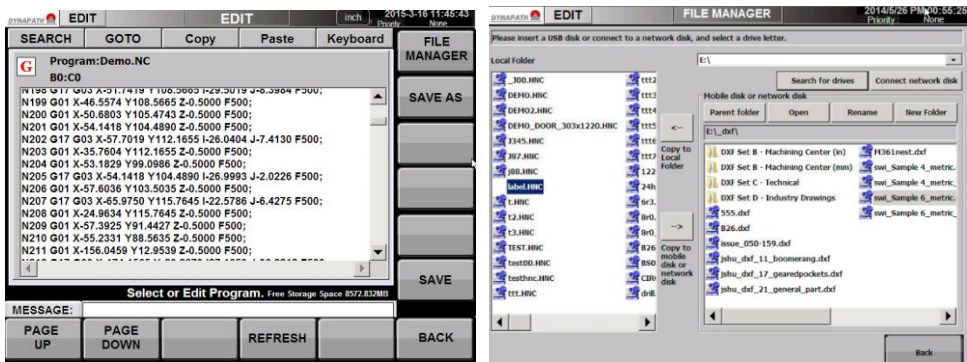


DXF Drawing Import allows the opening of DXF CAD drawings for geometry to be imported out via an intuitive, touch based interface, saving programming time and reducing errors.

Preview Simulation allows visual inspection of generated tool paths and final dimensions.

G-Code Editor enables direct ISO/EIA G-Code editing for users to write standard G-Code or fine tune CAD/CAM part programs.

File Manager and Server allows USB file transfer and Networked FTP file management of part programs and drawings.



WinDelta® CNC is the most versatile control for all your operations:

Manual Operation + Conversational Programming + G-Code

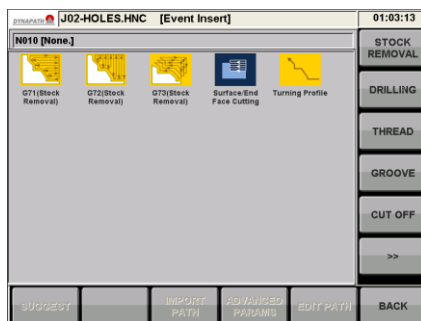
MANUAL + SEMI-AUTO OPERATION

For quick and simple jobs or work requiring the skill of an experienced machinist, **Manual Operation with DRO** using electronic precision handwheels offers operators the most efficient way to do the job. In addition, the **Semi-Auto Mode** enables manual operation mixed with CNC functions such as feed line, arc, or thread.



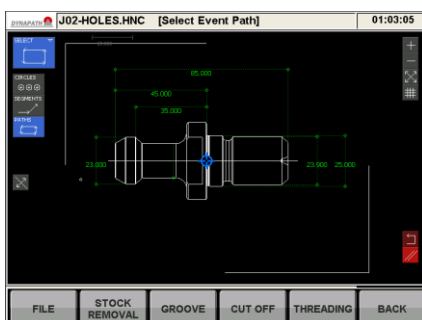
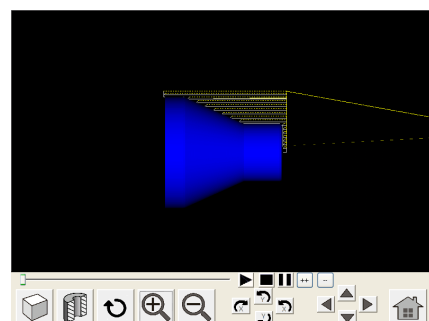
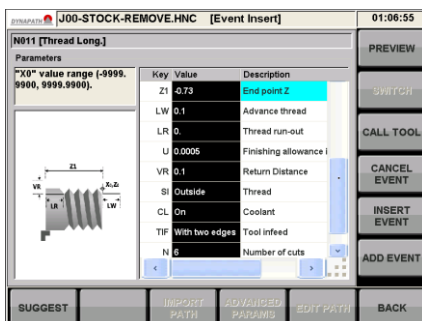
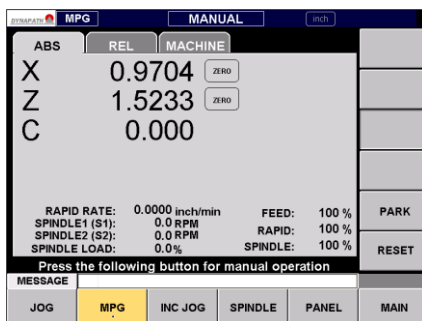
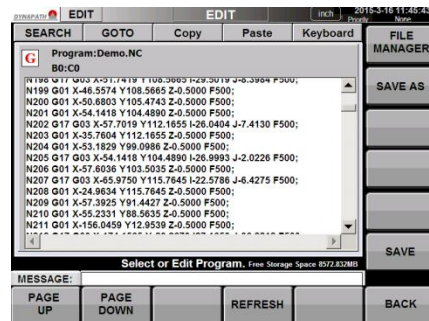
CONVERSATIONAL PROGRAMMING

The **Conversational Editor** enables an operator to create part programs without writing any G-Code, by choosing from turning, grooving, facing, threading, part off, and hole making events. It features a **DXF CAD Editor and DXF Import** function that allows opening, creating, or modifying DXF drawings, and selecting geometry as machining events.



STANDARD G-CODE

For operations with **CAD/CAM** systems to generate CNC machining programs or experienced G-Code programmers, simply output **Standard ISO/EIA G-Code** and transfer the program files into the control via **USB or FTP Networked File Transfer** to fully leverage the power of CNC production.



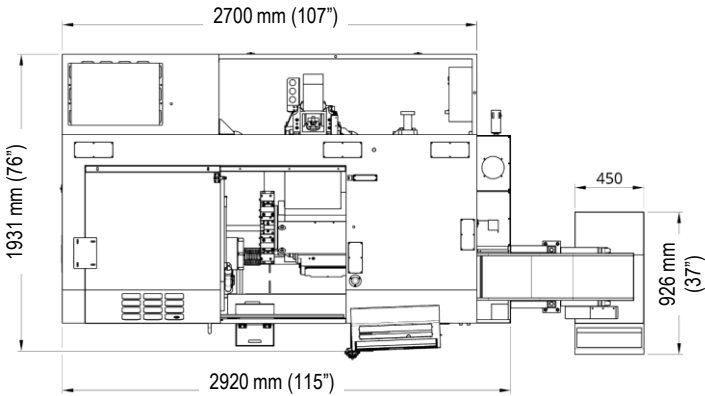
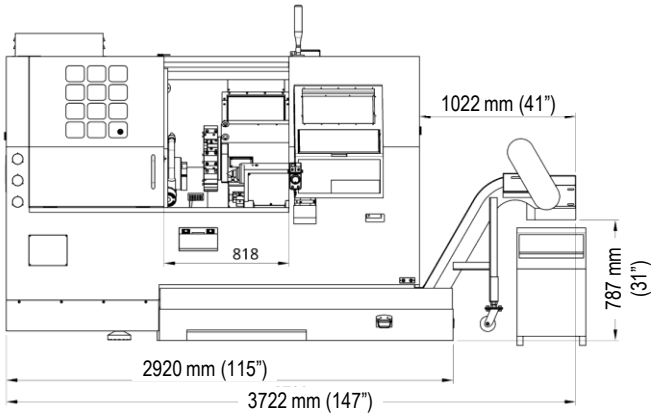
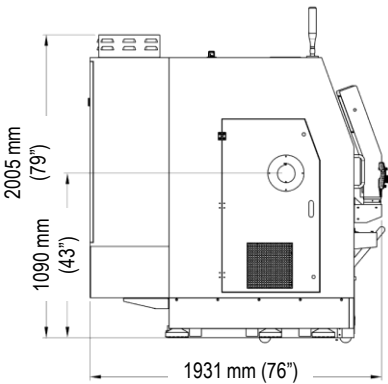
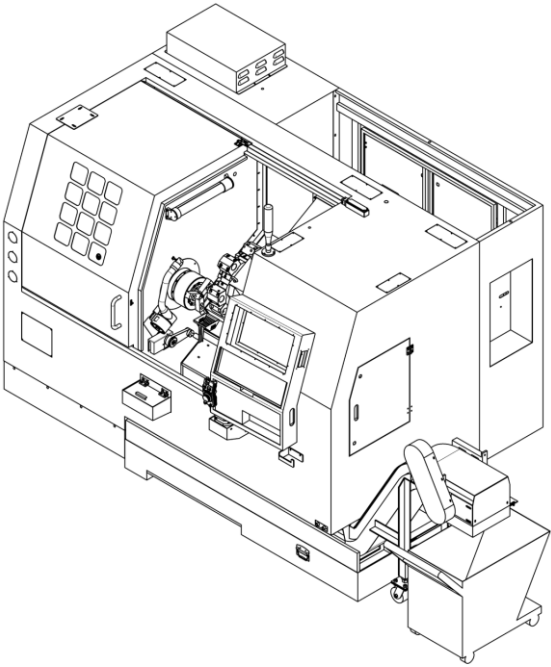
MDSL SERIES MACHINE SPECIFICATIONS

MODEL	SPEC	MDSL-202		MDSL-203LTC
WORK ENVELOPE	SWING OVER BED	Φ560 mm (22")		
	DISTANCE BETWEEN CENTERS	520 mm (25.5")		
	MAX TURNING DIAMETER	Φ500 mm (19.69")		
	MAX BAR DIAMETER	Φ52 mm (2.05")		
SPINDLE	SPINDLE BORE	Φ66 mm (2.6") A2-6		
	SPINDLE SPEED	4000 RPM		
	MOTOR RATING	10 kW (13.5 HP) S1 Rated 15kW (20 HP) S3 Rated	22kW (30HP) S1 Rated Synchronous Motor	
CHUCK	TYPE / CENTER HOLE	Hydraulic 8" / Φ210 mm		
TRAVEL AND FEED RATES	X/Z TRAVEL	450 mm / 510 mm (17.7" / 20")		
	X/Z RAPID SPEEDS	18 m/min (709 IPM)		
	X/Z MOTOR RATING	9 N-m / 12 N-m (6.64 / 8.85 ft-lb)		
TOOL CHANGER	TYPE	12-Tool Bolt On Type (25x25mm)	12-Tool Turret BMT-55 (25x25mm) 2.2kW Live Tool Spindle	
	TOOL SPEC: TURNING / BORING	25 x 25 mm / Φ40 mm (0.98" x 0.98" / 1.57")		
	DRIVE METHOD	Servo Driven with Hydraulic Lock		
TAILSTOCK	QUILL DIA / TRAVEL / TAPER	Φ80 mm (3.15") / 80 mm (3.15") / MT5		
	DRIVE METHOD	Manual + Hydraulic Quill + Servo Driven Option		
PRECISION	REPEAT ACCURACY XZ	0.003 mm (0.00012")		
	POSITIONING ACCURACY XZ	0.006 mm (0.00024")		
	TURNING UNIFORMITY DEV / DIA	0.006 mm / 100 mm (0.000236" / 3.94")		
SIZE	FLOOR SPACE	2920 x 1931 x 2005 mm (115" x 77" x 79") 3722 x 1931 x 2460 mm (147" x 77" x 97") *Conveyor + Oil Mist Collector		
	WEIGHT	4800 kg (10,560 lbs)		
INPUTS	ELECTRICAL	3-Phase, 220V, Max 50A, 40 KVA		
	COOLANT	120 L Coolant Capacity		

CONTROL SPECIFICATIONS	MACHINE FEATURES	ADDITIONAL OPTIONS
• 12.1"/15.6" Touchscreen LCD Display • 16 GB Program Storage • 2 USB, 1 LAN • EtherCAT Digital Link Interface • MPG Handwheel Operation • ISO G-Code Motion Interpreter Core • Shop Floor Conversational Programming • DXF Drawing Import via Touch • File Send / Receive thru LAN / USB • FTP Networked File Management • Remote Diagnosis & Support • Remote Monitoring and Reporting • Program Retrace, MPG Run • Real Time Tool Path Graphics	• Handheld MPG Handwheel • Automatic 12-Tool Servo Turret • Auto Lubrication System • Hydraulic 8" Chuck • Hydraulic Tailstock Quill • Hydraulic Foot Pedal Station • Work Light • Tri-Color Light Post • Flood Coolant System • Full Enclosure • Servo Driven Turret	• Direct Drive Spindle with C-Axis Control for Mill-Turn • BMT-55 Turret with Live Tools • Tool Setting Probe • Parts Catcher • Bar Feeder • Oil Mist Collector • Servo Driven Tailstock • Safety Interlocks • Bar Feeder • A2-8 Spindle



MDSL-202 Dimensions





MACH

MACHINE TOOLS

PRECISION MACHINE TOOLS · SALES · SERVICE · SUPPORT

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