

DynaPath 

TOOL ROOM LATHES

2+1 Axis Flat Bed Lathe for Job Shops, Tool Rooms, and Prototyping

Featuring Semi-Automatic + Conversational Programming + G-Code



DynaPath 

TF-Series Introduction

The TF series flat bed type lathe machines are designed for versatility. The X and Z axes run on precision ground box ways driven by ball screws. The spindle motor is housed in a rigid casing fixed to the frame for enhanced rigidity. A tailstock with quill allows set up for long cylindrical parts. An optional X-Axis secondary spindle offers mill-turn functionality. The machine can perform turning, grooving, facing, drilling, threading, tapping, and cylindrical or face milling of precision parts.

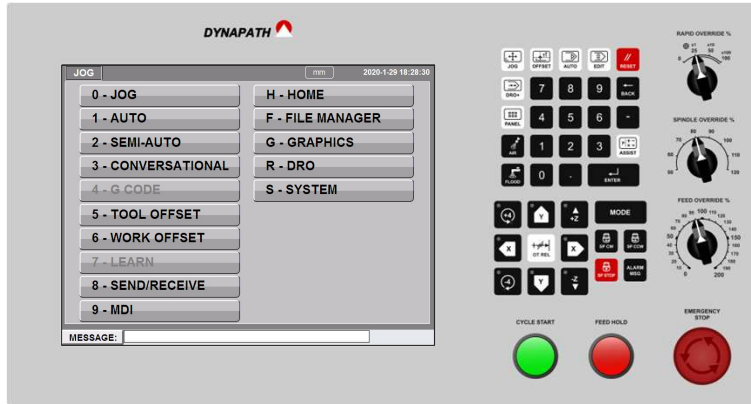


Machine Features

- Automatic Electric 4-way Tool Post
- Auto Lubrication System
- Smooth Machining with Constant Surface Speed (CSS)
- Quick Change Manual Tool Post option
- Auto Air Blow and Flood Coolant System with Front Chip Access Door
- Manual Air-Ride Tailstock with Quill
- Half or Full Enclosure options
- Fixed and Steady Rests
- Optional Secondary Spindle for Side or Front Face Mill, Drill, Bore, and Tap



DynaPath WinDelta® Lathe CNC System



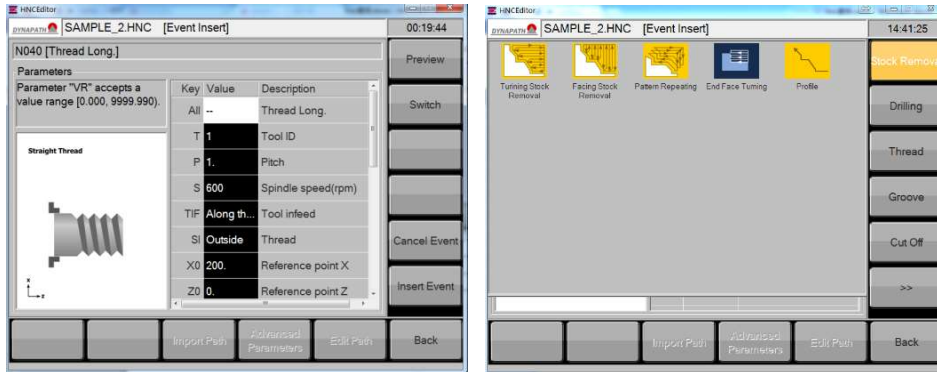
- DynaPath WinDelta® Lathe CNC System
- 10.4"/12.1" Touchscreen LCD
- 2 GB SSD Storage
- 2x USB / 2x LAN
- DRO+ Handwheel Mode
- Conversational + DXF Import + Standard G-Code Programming
- Teach/Learn Functions
- Macros & Canned Cycles
- Networked File Management
- Remote Support and Diagnostics

WinDelta® Control Features

Operation	<ul style="list-style-type: none"> • Mode Switch, Mode Select, Touchscreen, Mouse, Keyboard 	Motion	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • JOG, INCREMENTAL JOG, MPG functions 	System Functions	<ul style="list-style-type: none"> • Remote Support and Diagnostics • Alarm and Event History database
DRO+ Mode	<ul style="list-style-type: none"> • Individual axis or simultaneous movement • Line, Arc, Thread Feed • Constant surface speed 	Tuning	<ul style="list-style-type: none"> • Online servo tuning for resonance, vibration, torque filter, velocity loop, position loop, and feed-forward
EDIT Mode	<ul style="list-style-type: none"> • Save to, Load from USB • Built-in FTP server for remote part program management • Conversational Programming • DXF Import 		
AUTO Mode	<ul style="list-style-type: none"> • MDI, Memory functions • Feed, Spindle, Rapid overrides • MPG Run, Retrace at any line • ISO G/M/S/T-Code support • Background edit 		
Tool and Fixture Offsets	<ul style="list-style-type: none"> • 6 Work Offsets • 100 Tool Offsets • External Offset • Smart Align Functions 		

DynaPath WinDelta® Programming

Conversational Programming + DXF Import + G-Code Editing

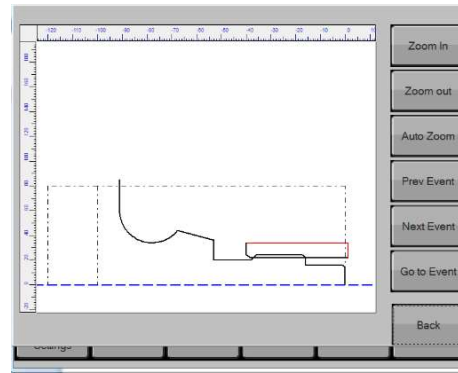
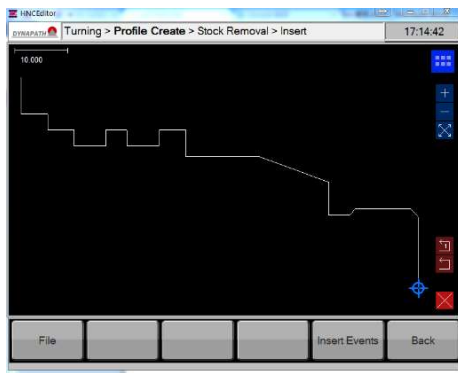
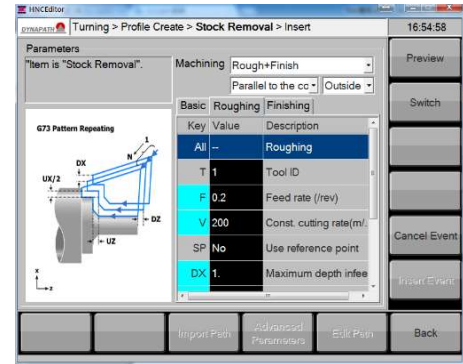
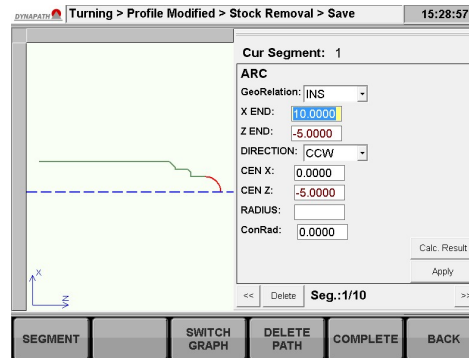


Conversational Event Based Programming allows creation of part programs by choosing from machining events and configuring parameters, without having to write G-Code.

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.

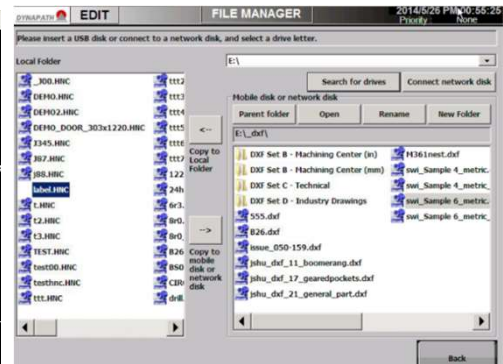
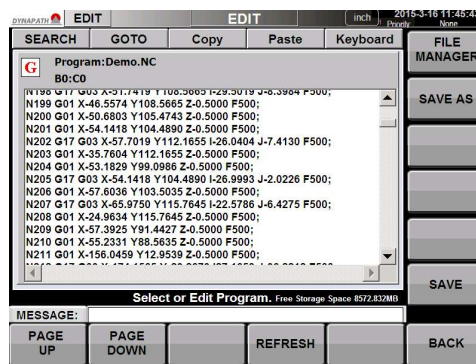


DXF Drawing Import allows opening DXF CAD drawings for geometry import via an intuitive, touch-based interface, saving programming time and reducing errors.

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

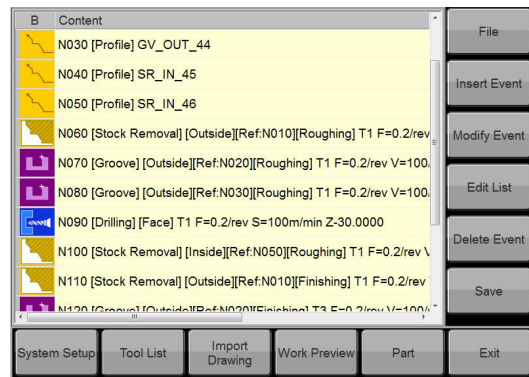
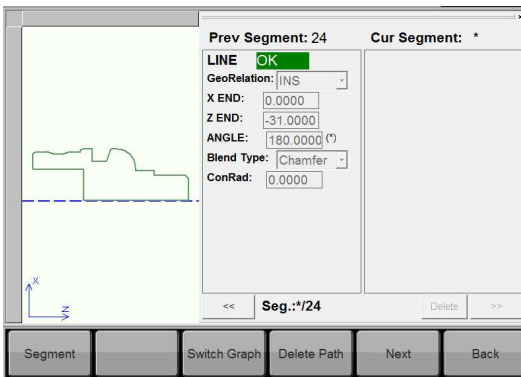
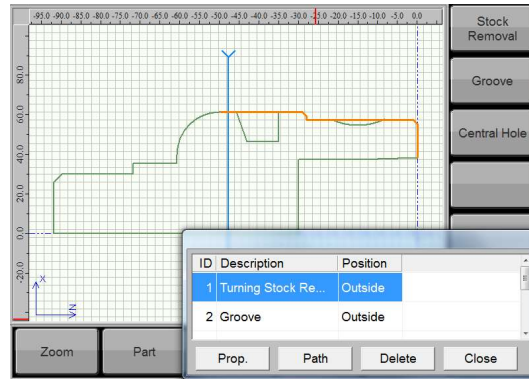
G-Code Editor enables direct ISO/EIA G-Code editing for users to write standard G-Code or fine tune CAD/CAM part programs.

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

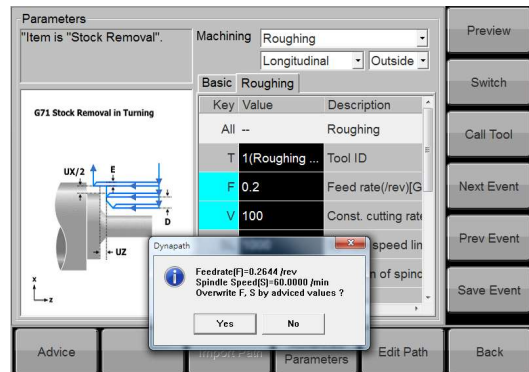
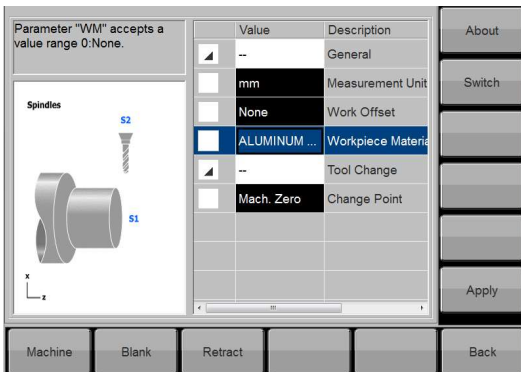
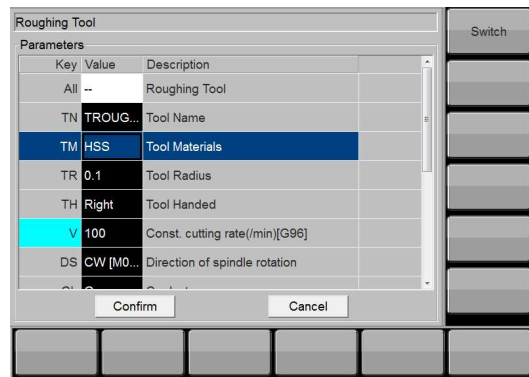


WinDelta® Advanced Conversational Programming Features

A/B Side Programming Function provides a quick and easy workflow for drawing a profile, defining sides, setting up zeros, and choosing event geometry for the programming of a two-sided part.



Intelligent Process, Tool, and Materials Wizard dynamically retrieves data from a built-in database to automatically suggest recommended tools, cutting speeds, feeds, and depth data for standard or custom user-defined cutting operations.



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

Manual Operation + Conversational Programming + G-Code

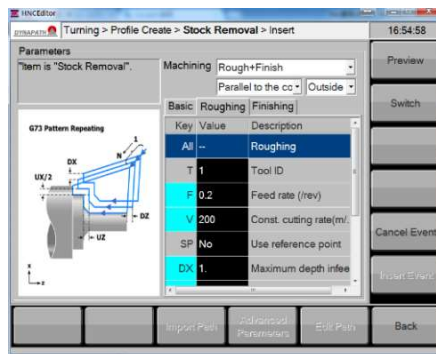
MANUAL + SEMI-AUTO OPERATION

For quick and simple jobs or work requiring the skilled hands of an experienced machinist, **Manual Operation with DRO** functionality offers operators the most efficient way to do the job. A Semi-automatic mode enables teach-in or learning of manually generated



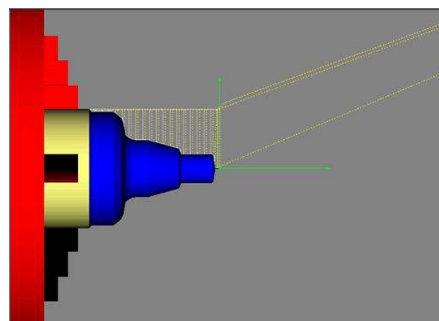
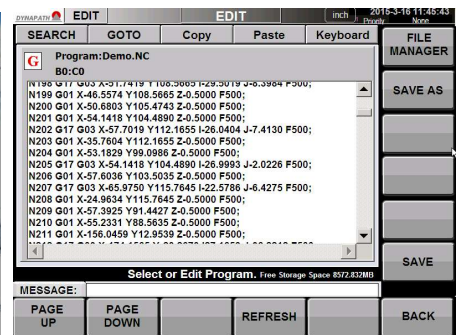
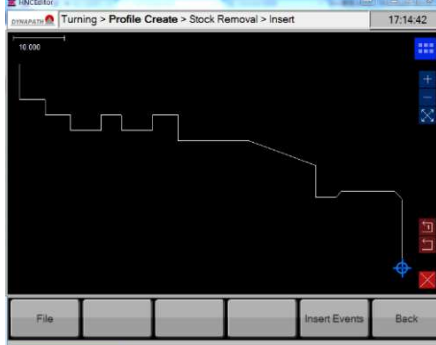
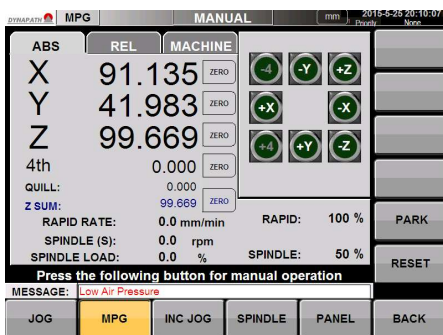
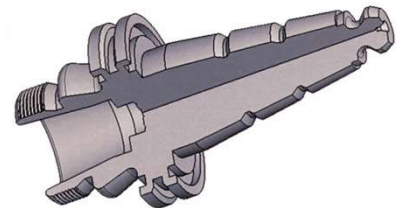
CONVERSATIONAL PROGRAMMING

Conversational Editor with DXF Import feature enables any operator to generate part programs by importing geometry and setting parameters, without the need to write any G-Code. The **3D Simulation** function takes a part program and generates a 3D representation of the final cut part for instant verification.




CAD/CAM G-CODE

For experienced G-Code or CAD/CAM users, simply input **ISO/EIA G-Code**, or transfer the part program via **USB or networked file transfer** to the control, and fully leverage the power of CNC production.

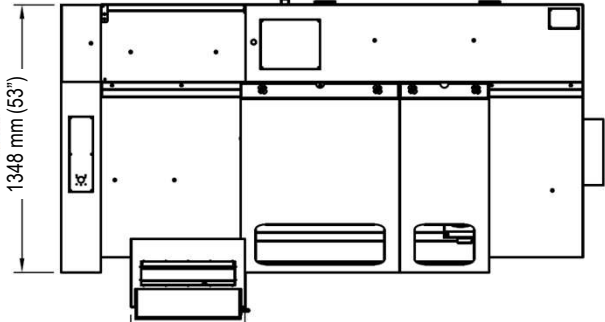
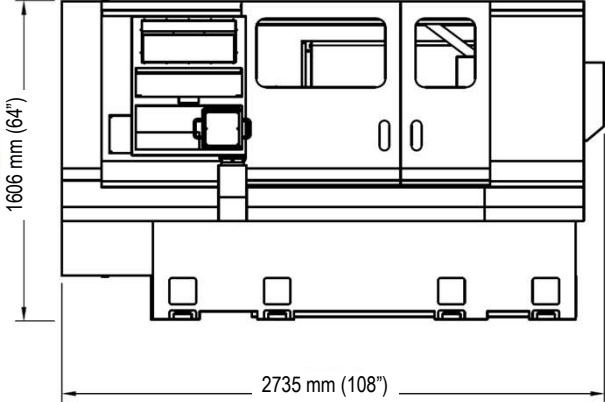
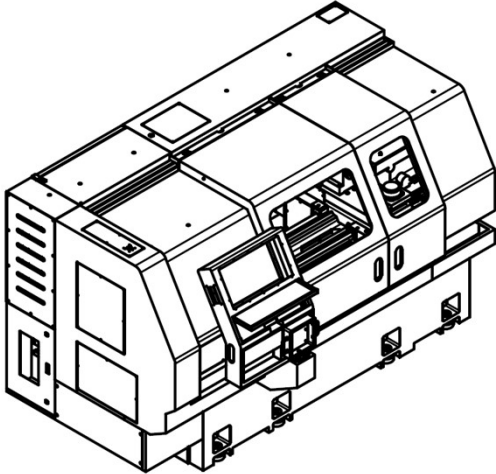


TF SERIES MACHINE SPECIFICATIONS

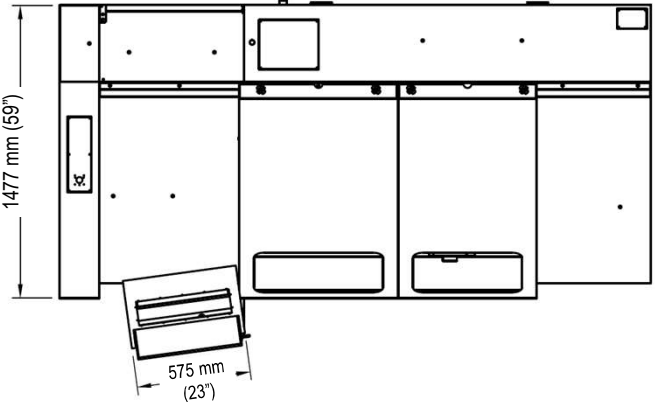
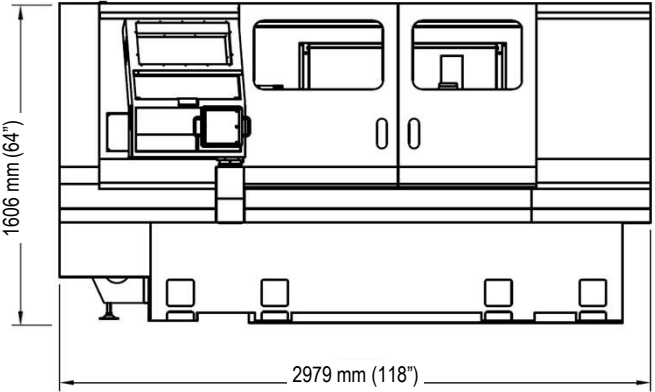
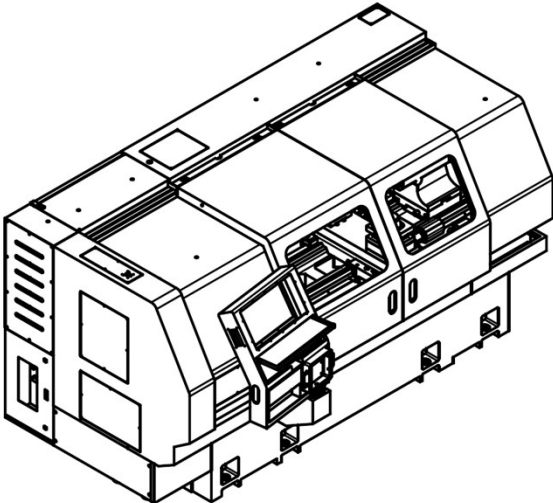
MODEL		TF-410	TF-480
WORK ENVELOPE	SWING OVER BED	410 mm (16.14")	480 mm (18.89")
	SWING OVER CROSS SLIDE	260 mm (10.23")	260 mm (10.23")
	DISTANCE BETWEEN CENTERS	1050 mm (41.33")	1250 mm (49.21")
	WIDTH OF BED	400 mm (15.75")	400 mm (15.75")
SPINDLE	SPINDLE SPEED	50 - 3500 RPM (8" CHUCK)	50 - 2500 RPM
	SPINDLE TAPER / BORE / NOSE	MT6 / Φ 54 mm (2.125") / A2-6	MT6 / Φ 79 mm (3.1") / A2-6
	MOTOR RATING	7.5 kW (10HP)	7.5 kW (10 HP)
2ND SPINDLE	SPINDLE SPEED	10 - 4000 RPM	10 - 4000 RPM
	MOTOR RATING	1.0 kW, 3.18 N-m (2.35 ft-lb)	1.0 kW 3.18 N-m (2.35 ft-lb)
CHUCK	CHUCK TYPE	Manual 8", 3-Jaw	Manual 10", 3-Jaw
AXES	XZ TRAVEL	230 x 820 mm (9.06" x 32.28")	250 x 1000 mm (9.84" x 39.37")
	XZ RAPID RATES	5 / 5 m/min (197 / 197 IPM)	
	XZ MAX TORQUE	9 / 12 N-m (6.64 / 8.85 ft-lb)	
TOOL CHANGER	ATC TYPE	4-Tool Turret, 25mm Max tool Height	
	ATC DRIVE	Electric	
TAILSTOCK	TAILSTOCK QUILL SIZE	Φ 52 mm (2.17") / MT4	Φ 52 mm (2.17") / MT4
	TAILSTOCK QUILL TRAVEL	150 mm (5.91")	150 mm (5.91")
	TAILSTOCK QUILL	Manual	Manual
ACCURACY/ PRECISION	REPEAT ACCURACY X/Z	0.005 / 0.006 mm (0.00020" / 0.00024")	
	POSITIONING ACCURACY X/Z/C	0.010 mm/0.016 mm/0.1Deg (0.00039" / 0.00063")	
	TURNING ACCURACY	0.003 mm (0.00012")	
	TURNING UNIFORMITY	0.006 mm/100 mm (0.00024" / 3.94")	
MACHINE	FLOOR SPACE	265 x 160 x 165 cm (105" x 63" x 65")	300 x 175 x 165 cm (119" x 69" x 65")
	TOTAL WEIGHT	2000 kg (4400 lbs)	2200 kg (4840 lbs)
	AIR REQUIREMENTS	6 kgf/cm ² (85 PSI), 0.03 m ³ /min (1 CFM)	
	POWER REQUIREMENTS	3 Phase, 208 to 230 V, 50 A, 15 kVA	

CONTROL SPECIFICATIONS	MACHINE FEATURES	ADDITIONAL OPTIONS
<ul style="list-style-type: none"> • 12.1" Touchscreen LCD Display • 2 GB Program Storage • 2 USB, 1 LAN • Yaskawa M-II 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 • 3D Solid Model Simulation 	<ul style="list-style-type: none"> • Dual Electronic Handwheel Station • Automatic 4-Way Tool Turret • Air Driven Hydraulic Spindle Disc Brake • Auto Lubrication System • Manual 8" Chuck • Manual Tailstock with Quill • Semi-Auto/Teach-in/Learning Mode • Work Light • Tri-Color Light Post <p style="text-align: center;">DynaPath </p>	<ul style="list-style-type: none"> • Spindle C-Axis Mode with Disc Brake Clamp • Secondary Spindle for fixed C-Axis side Drill, Bore, Tap, and Milling. • Hydraulic Chuck • 10" Chuck (for TF-480)

TF-410 Dimensions



TF-480 Dimensions





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