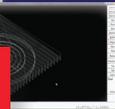


Techno Inc. *In Business Since 1986*

Educational Division **Educational CNC Machines and Curricula**



BASIC MANUFACTURING SKILLS:
An Introduction to CNC Machining



Techno Inc.
Educational Division

BASIC MANUFACTURING SKILLS:
An Introduction to CNC Plasma Cutting



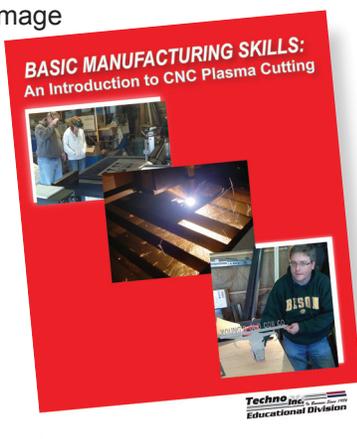
Techno Inc.
Educational Division

Your Local Techno Dealer:

HTO05571102
H803

FEATURES

- Comes fully assembled – NO ASSEMBLY REQUIRED!
- Welded steel frame construction for rigidity and accuracy, designed to hold up to 1 inch thick steel
- Automatic Torch Height Control for high cut quality and virtually no dross
- “SMART CUT” Software sets the cutting parameters without guess work for near perfect cut first time, every time
- Optional water table available to reduce up to 80% of smoke and dust
- Magnetic Breakaway Torch Mount prevents torch damage
- Plasma arc confirmation monitoring and continuous or fixed step JOG
- High-speed cutting available for good cut quality even with thinner metal sheets
- Compatible with standard GCODE files, simple intuitive user interface
- Mastercam and Enroute post processors available
- Cuts up to 1 inch thick steel capacity
- Ball screw drives on all axes, patented anti-backlash ball nuts provide play free motion and long term reliability
- Built in Emergency Stop Control, programmable in inch or metric units
- Cutting files can be resized on the machine, built-in on screen file editor
- Available with either Hypertherm or Thermal Dynamics Plasma Torches
- Preview software built into interface with ZOOM and 3D perspective



SPECIFICATIONS:

Dimensions in inch

Machine Model	Work Envelope			Foot Print			Repeatability	Resolution	High Power Speed in/min
	X	Y	Z	W	L	H			
4848	48	48	1.5	75	81	55	Less than .001	Less than .001	900
4896		96			123				
59120		120			145				

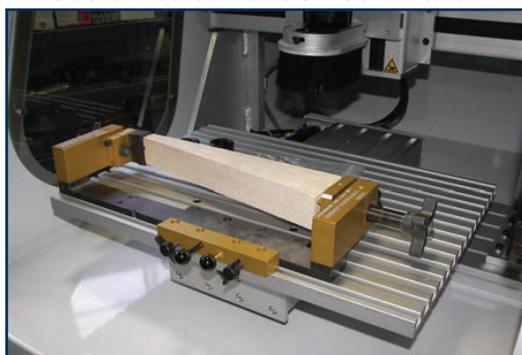
Techno, Inc. reserves the right to change all specifications, designs and documentation without prior notice.

FEATURES

- Safety enclosure with interlock, optional stand
- Ball screws drives on all axes, patented anti-backlash ball nuts provide play free motion and long term reliability
- Closed loop servomotors on all axes for smooth, reliable motion and encoder feedback
- Moving T-Slot work-surface for easy part fixturing
- 800 Watt, 8-22K RPM Spindle
- CE Compliant
- Techno Windows-based CNC Interface with free upgrades via the Internet
- Expandable I/O spindle and coolant outputs
- 110V standard, 220V optional
- Comes with 1/8", 1/4" collets and 3/16" adapter sleeve
- Includes: 2 clamp bars, 2 cam clamps, computer interface cable, PCI control card and 110V power cord, (Computer requires one free PCI slot)
- Compatible with F1, CO2 and Introduction to CNC Machining Curriculum



Inside of Patriot with CO2 Car Fixture



*Machine Part Number:
 HX33LBME140110
 Optional Stand Part Number:
 HX3700-PATSTND*

SPECIFICATIONS:

Dimensions in inch

Machine Model	Work Envelope			Foot Print			Repeatability	Accuracy	Bridge Clearance	T Slot Table	
	X	Y	Z	L	H	W				X	Y
1410	14.7	10.8	6.8	28	42.5	31	.0004	+/- .002	5.25	20	14.75

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FEATURES

- Ships assembled and tested
- Ball screws on all 3 axes, provide high accuracy and repeatability
- THK rails and bearings on Y-axis offer smooth motion
- Can be customized with an extrusion stand or complete safety enclosure
- Available with optional automatic tool changer or fixed collet spindles
- Includes user friendly Techno Windows-based GCODE Interface
- Mastercam and Enroute post processors available
- End of travel limit switches on all 3 axes, on both ends
- Heavy-duty T-Slot table can fixture parts, or be upgraded to a vacuum table hold-down
- Includes tool calibration touch pad
- Compatible with F1, CO2 Car and Introduction to CNC Machining Curriculum
- 4th Axis Rotary Options
- Custom tooling kits for various applications

*Small Enough To
 Fit In A Classroom,
 Large Enough To
 Do Real Projects
 FAST!*



Model 5024
 Shown with Vacuum Table Setup



SPECIFICATIONS:

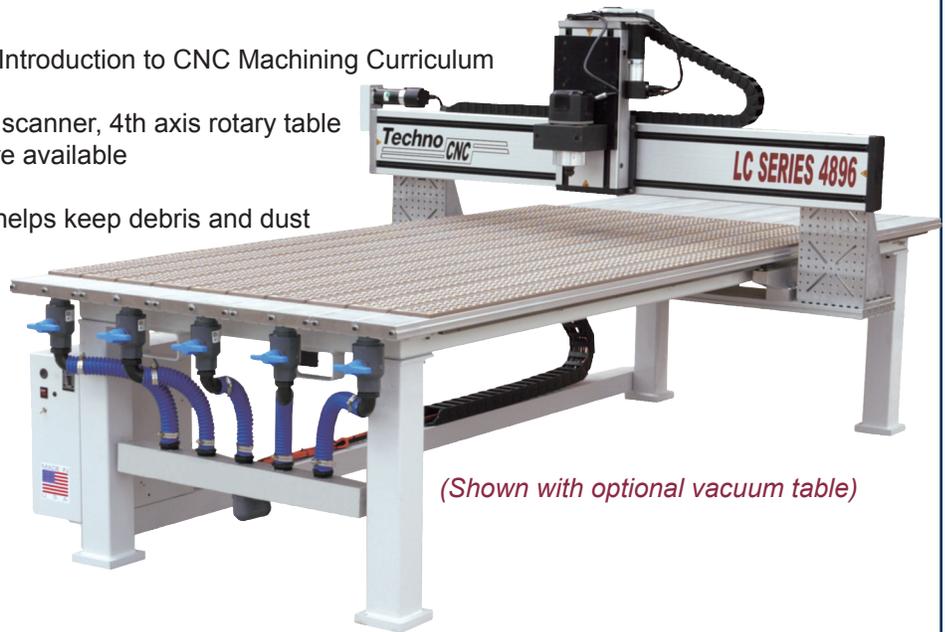
Dimensions in inch

Machine Model	Work Envelope (X x Y)	Floor Print (W x L x H)	Repeatability	Resolution	Maximum Speed in/min	Bridge Clearance	Z-Axis Travel
3024	30 x 24	47 x 49 x 37	.001	.0002	250	5.0	8.9
4040	40 x 40	57 x 65 x 37					
5024	50 x 24	67 x 49 x 37					

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FEATURES

- Ships assembled and tested
- Ball screws on all 3 axes, provide high accuracy, repeatability and long maintenance free life
- THK rails and bearings on Y-axis offer smooth motion
- Available in 5 different sizes, high-speed upgrade
- Available with optional Automatic Tool Changer or fixed collet spindles
- Includes user friendly Techno Windows-based CNC Interface
- Mastercam and Enroute post processors available
- End of travel limit switches on all 3 axes, on both ends
- Heavy-duty T-Slot table can fixture parts, or be upgraded to a vacuum table hold-down
- Includes tool calibration touch pad
- Compatible with F1, CO2 Car and Introduction to CNC Machining Curriculum
- Laser pointer, reverse engineering scanner, 4th axis rotary table and digitizing probe accessories are available
- Proprietary X-Z axis beam design helps keep debris and dust away from drive components



(Shown with optional vacuum table)

SPECIFICATIONS:

Dimensions in inch

Machine Model	Work Envelope (X x Y)	Floor Print (W x L x H)	Repeatability	Resolution	Maximum Speed in/min	Bridge Clearance	Z-Axis Travel
3024	30 x 24	47 x 58 x 60	.001	.0002	250 or 800	5.0	8.9
4848	48 x 48	74 x 83 x 60					
4896	48 x 96	74 x 125 x 60					
59120	59 x 120	82 x 149 x 60					
78120	78 x 120	109 x 149 x 60					

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FEATURES

- Ships fully assembled, plug-in and operate
- 3-axis linear and 2-axis circular interpolation
- Enclosed linear bearing system with steel shafting and recirculating bearings
- Ball screw drive system adjusted for zero backlash
- Stepper motor or closed-loop servomotor drive system options
- Fixed-bridge moving table design
- Axis limit switches on all three axes
- T-Slot table surface for easy part fixturing
- Servo model has tool calibration pad
- Moving work piece setup saves space
- Both stepper and servo options are compatible with various Education Curricula such as the CO2 Car, F1, Reverse Engineering and More!



Model 1012
(Shown with Safety Enclosure)

Techno Stepper DaVinci Educational CNC Router Package

(Similar package available for servo model.)

Model 1012 includes the following:

- (1) 1012 DaVinci Router
- (1) 800 W Variable Speed Router (with Dust Shroud)
- (2) CAM Clamps
- (2) Clamp Bars
- (1) Router Bit & Engraving Tool Bit Set
- (1) 1/4", 1/8" collets (each)
- (1) 3/16" collet adapter
- (1) GCODE CNC Interface

Training and installation are included in this package!

Package Part Number: HL33SBME242515

DaVinci Package Upgrades and Tooling Kits

- Safety Enclosure **HX3500-242123V**
- Enclosure Computer Shelf **HX3500-242SHLF**
- C02 Car Fixture (M9) **H30I90-C02CAR**
- C02 Car Fixture (M10) **H30I10-C02CAR**
- F1 Car Adapter **H30I10-F1**
- 3D Torch Probe Adapter **H22X10-3DPROBE**
- DaVinci Machine & Engrave Bits **H25X00-DAV1**
- 14-Piece Engraving Tool Set **H25X00-ENGRAVE**
- Wood & Plastic Tool Set **H25X00-WP1**

SPECIFICATIONS:

Dimensions in inch

Machine Model	Work Envelope		Repeatability	Maximum Speed	Bridge Clearance	Z-Axis Travel	Motor Drive Type
	X	Y					
1012	10.0	12.0	.004	150	3.5	5.0	Stepper
1419	19.6	14.7		250	4.9	6.8	Servo

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General

- Suitable for aluminum, brass and mild steel
- Spindle supported by precision tapered roller bearings
- Hardened, ground dovetail ways
- Anti-backlash ball screws on both axes
- Adjustable tailstock
- All cables and power supplies included.

Safety Features

- Fully enclosed work area with polycarbonate shield and full safety door interlock
- Door cannot be opened while spindle is on
- Spindle cannot be turned on while door is open
- Emergency Stop Button
- Emergency program stop from keyboard
- Toolpath view/confirmation from screen.



Mechanical

Swing over bed	9 in.
Swing over cross slide	4 in.
Distance between centers	20 in.
Hole through spindle	25/32 in.
Spindle taper with sleeve	MT-3
Carriage travel (z-axis)	15 in.
Cross slide travel (x-axis)	4 in.
Max tool size	1/2x1/2 in.
Tailstock travel	1.5 in.
Tailstock taper	MT-2
Ball screw pitch	2.5 mm.
Position resolution	.000025 in
Feed rate	50 in./min.
Rapid travel	200 in./min.

Axes Motors

Type	Servo
Drive	Servo
Resolution	.000025 in.
Repeatability	.0005 in.

Spindle

Spindle RPM	0-2000 RPM
Spindle Speed increment	1RPM
Spindle Speed adjustment	software
Spindle motor	3/4 HP AC brushless

Electric

Power	120VAC/800W 220VAC (optional)
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Standard Equipment

- 7" 4 jaw chuck
- 3" 3 jaw chuck
- Manual quick change tool post
- 2 dead centers
- 1 live center
- Tail stock
- Drill chuck
- Tool box and tools

Software

- Fanuc compatible standard G-Code
- MDI capable
- Incremental/Absolute
- Imperial/Metric
- Fixed hard home sensors on all axes
- Toolpath preview
- Unlimited program size
- Linear/Circular interpolation
- Continuous/Incremental Jog
- Programmable feed rate
- Programmable spindle speed
- CAD/CAM compatible
- Spindle RPM override
- Feed-rate override
- Resume after pause
- Automatic tool offset touch probe

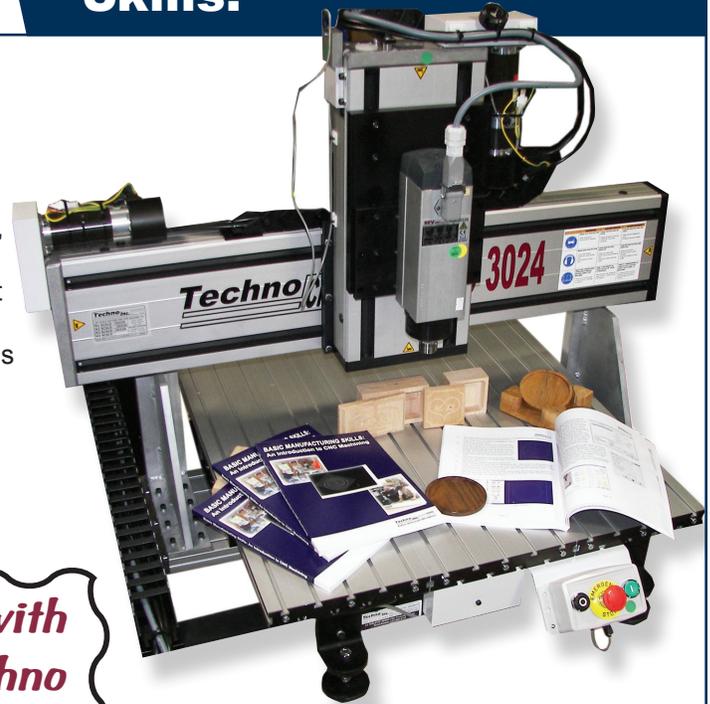
Metal Lathe Part #: HX32VBMEL10103

Lathe Stand Part #: HX3500-EL10102

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An Introduction to CNC Machining

Techno's New curriculum, Basic Manufacturing: An Introduction to CNC Machining, is now available! This self-contained curriculum was developed with over 20 years experience in CNC technology education. The easy-to-follow manual covers the basics of GCODE programming, machine operation, introduction to Mastercam, and basic machining skills. All activities guide the student from concept through production with detailed step by step instructions. All tests, setup files and project files are included, making this exciting new curriculum perfect for any educational setting.



H22T12-HTCNC2CD

Instructor's Resources CD Includes:

- Curriculum Project Files
- Mastercam Software Files
- Techno CNC G-Code Interface Files
- Editable Test/Answer Keys
- Software Setup Files

Works with any Techno Servo CNC!

H22T12-HTO0521

170 pg. Workbook Includes:

- History of Manufacturing and CNC
- GCODE Programming
- How-to Use Techno's CNC Interface
- Introduction to Mastercam (includes step-by-step instructions for 4 complete projects in full detail)
- Curriculum Resources CD

H22T12-HTCNC1KIT Includes:

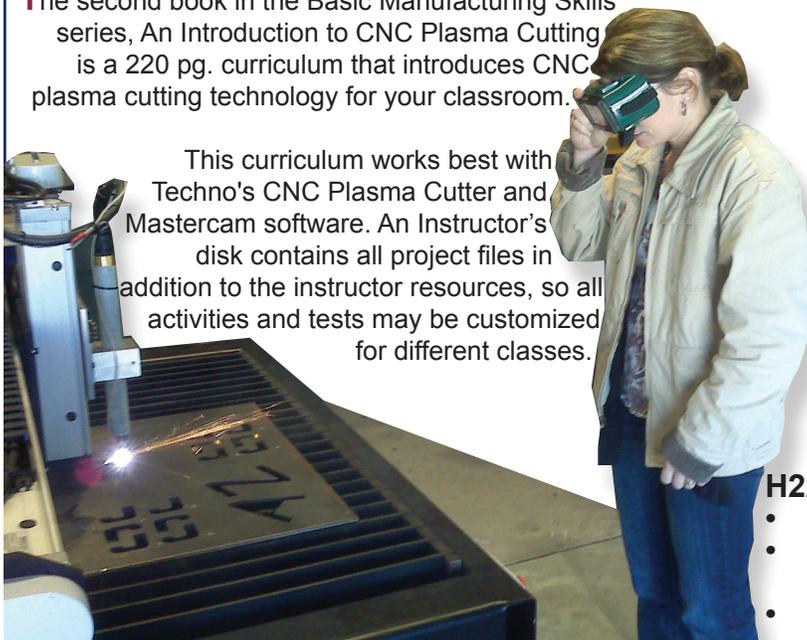
- 10 Copies of the Intro to CNC Machining 170 pg. Book
- 1 Instructor's Resources CD-ROM
- License to make copies and prints from CD-ROM

Tool Kit H25X00-EDUKIT

An Introduction to CNC Plasma Cutting

The second book in the Basic Manufacturing Skills series, An Introduction to CNC Plasma Cutting is a 220 pg. curriculum that introduces CNC plasma cutting technology for your classroom.

This curriculum works best with Techno's CNC Plasma Cutter and Mastercam software. An Instructor's disk contains all project files in addition to the instructor resources, so all activities and tests may be customized for different classes.



H22T12-HTPLS2CD

Instructor's Resources CD Includes:

- Curriculum Project Files
- Mastercam Software Files
- Techno CNC G-Code Interface Files
- Editable Test/Answer Keys
- Software Setup Files

H22T12-HTPLASMA1

220 pg. Workbook Includes:

- History of Manufacturing/CNC Plasma
- GCODE Programming
- How-to Use Techno's CNC Interface Software
- Introduction to Mastercam Software
- Curriculum Resources CD

H22T12-HTPLS1KIT: Kit Includes:

- 10 copies of Intro to CNC Plasma Cutting Curriculum
- 1 CD with PDF of Intro to CNC Plasma Cutting (Curriculum and Instructor's Resource Information)
- License to make copies and prints from CD

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