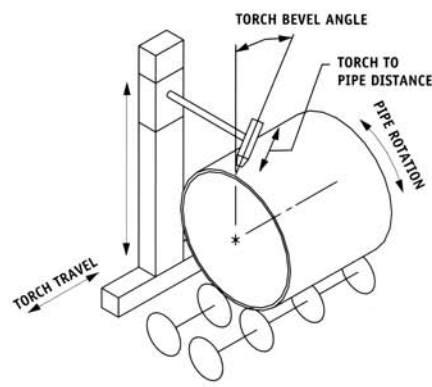
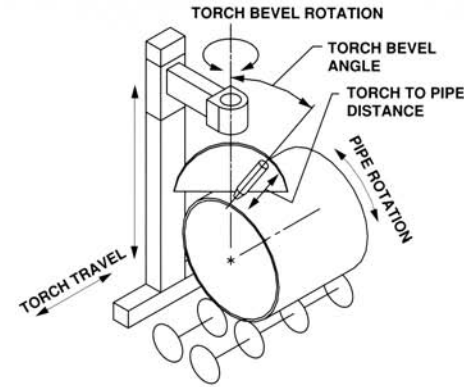


2 Axis



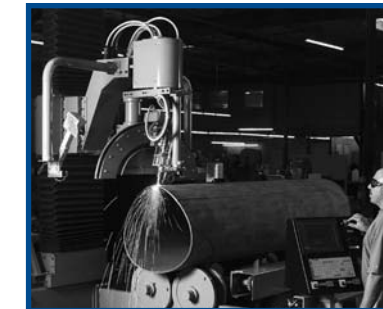
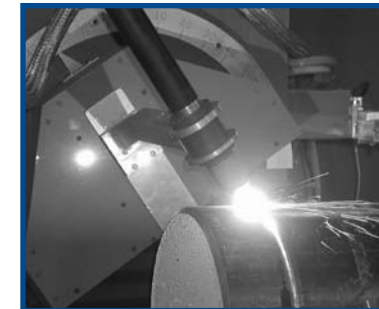
4 Axis



5 Axis

# VERNON

## Computerized Pipe Cutting Machine Specifications



### MICROPROCESSOR

Operator Console Display	All Models	Benefits:
All cut data continuously	Yes	Edit program capabilities, view all input
32-ch alphanumeric part program names	Yes	Edit program capability
Present and next position of all axes	Yes	Visual display of location of all axes
Feedrate setting	Yes	Visual display of current speed
Block number being executed	Yes	Displays current location & Operation in process
Mode - (inch/mm and oxy/plasma)	Yes	Displays programmable cutting parameters
<b>Machine Internal Program:</b>		
Windows Operating system	Yes	GUI interface; network compatible
Menu driven program	Yes	Minimal training required; no N.C. programming
Program cuts online and offline	Yes	Delegate program responsibility
Stores and recalls part programs	Yes	Ease of operation. Inexpensive data storage
Displays a directory of programs	Yes	Easy recall of stored programs and projects
Program storage capacity	100,000+	Virtually unlimited storage
Reads N.C. instructions	Yes	Add custom programs in ASCII "G-code" format
Downloads from CAD system	Yes	Flexible text file format
Lists programs and data to display	Yes	Verification of cut data input
Runs internal diagnostics tests	Yes	Ease of maintenance
Displays interactive error messages on console	Yes	Ease of maintenance
Automatically loads new operating system	Yes	Minimal downtime and programming experience required
Stores and changes machine parameters	Yes	Multi-level password security, change default values and set-up data
Connects to external network	Yes	Links online and offline programming
Internet service link with VE-Assist	Yes	Online factory operating, training & diagnostic assistance
Stores and changes cutting parameters such as:		Password security, change default values and set-up data
Kerf width	Yes	Increased accuracy
Variable lead-in/lead-out	Yes	Eliminates blow-thru marks
Weld prep angle (default value)	Yes	Simplifies input operations
Inch/metric dimensions	Yes	Simple unit measurement conversions
Oxy-fuel/plasma	Yes	Easy operation in either mode

### MICROPROCESSOR

	Models	Benefits:
<b>Each program includes:</b>		
Leading and trailing profiles	All	Preprogrammed shapes and holes with color graphics with work point or baseline offsets
Distance between cuts	All	" "
Axial offsets between cuts	All	Axial centerline, workpoint and baseline offsets
Automatic wall thickness compensation	All	Reduced operator intervention, calculates optimal feedrate
Pipe intersection data on display	All	Quick, easy review and change of cut data
2D and 3D Display graphics w/shape & dimensions	All	Verify correct profile and dimensions before cutting
Constant included weld bevel	MPM-4 & MPM-5	Maximize weld joint strength & minimize weld material
<b>Operator Can:</b>		
Enter and edit data	All	Ease of operation and programming
Override feedrate	All	Operator can override internal feedrate
Load/Recall Programs	All	In "pmp" machine or G-code formats from internal or external memory
"JOG" axes	All	Reposition torch instead of pipe
Set axes "OFFSETS"	All	Operator can override computer control
Return axes to HOME position	All	Easy machine calibration
Control functions	All	Ease of operation
Singlestep	All	Step-by-step through program
Retrace	All	Step-by-step in reverse point where cut was interrupted
Dry run	All	Run program at full speed without burning, visually verify
Return to program start	All	Discontinue remainder of program and return to start point
Abort	All	Stop program and manually continue all operations
Feed Hold	All	Intentionally interrupt and/or resume program
Control conveyor functions	All	One person performs all cutting, handling and set-up
Switch automatic torch operations ON/OFF	All	Manual control if desired
Switch out-of-round sensors ON/OFF	All	On models MPM-4 & MPM-5 only
Move vertical carriage up/down	All	Easily accommodates different diameters
Plasma "Autorun"	All	Torch motion initiated by plasma ignition



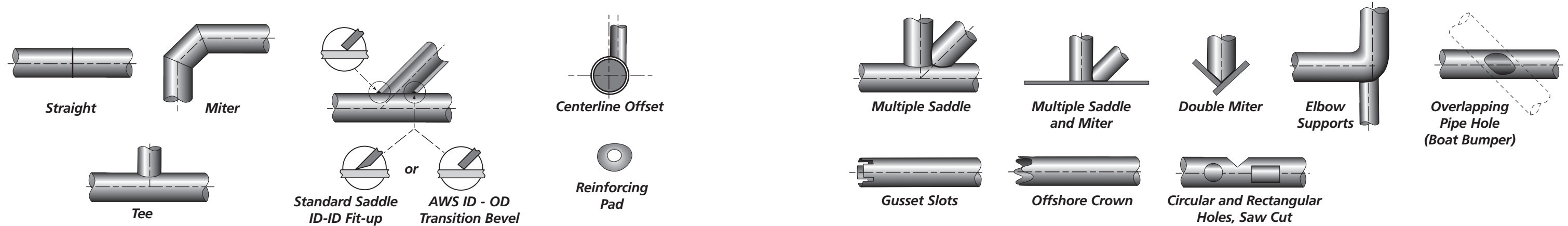
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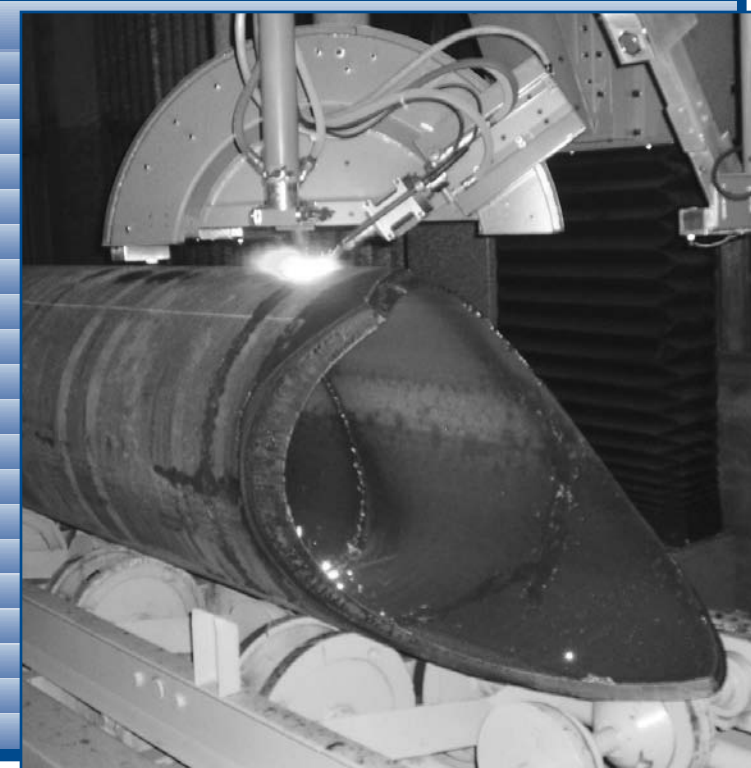
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Catalog MPM-04.06



General Assembly & Capabilities:	Model 0224	Model 0342	Model 0454	Model 1460	Model 2084	Benefits
Pipe diameter	2"-24" (50 - 600 mm)	3"-42" (75 - 1050 mm)	4"-54" (100 - 1370 mm)	14"-60" (350 - 1500 mm)	20"-84" (500 - 2100 mm)	Wide range of diameters on each machine
Standard machine bed length	20'/40' (6.1/12.3 m)	20'/40' (6.1/12.3 m)	20'/40' (6.1/12.3 m)	20'/40' (6.2m/12.3m)	20'/40' (6.2 m/12.3m)	Fully support and rotate entire length of pipe
Min. - max pipe length/w machine extension	3-20'/40' (1 - 6/12m)	3-20'/40' (1 - 6/12m)	5' - 50' (1.5 - 15 m )	5'-20'/40' (1.5 - 6/12m)	5'-40- (1.5 - 12 m)	Most pipe received in 20' or 40' lengths
Max. weight per foot	250 lb/ft (375kg/m)	500 lb/ft (750 kg/m)	1500 lb/ft (2215 kg/m)	1500 lb/ft (2250 kg/m)	2000 lb/ft (3000 kg/m)	
Max. total load	5000 lb (2250 kg)	10,000 lb (4500 kg)	50,000 lb (22,700 kg)	50,000 lb (22,500 kg)	90,000 lb (41,000 kg)	
Cutting methods	oxy-fuel/plasma	oxy-fuel/plasma	oxy-fuel/plasma	oxy-fuel/plasma	oxy-fuel/plasma	Adaptable to all cutting systems
Max. Cutting speed	200 ipm (3 m/ min)	200 ipm (3 m/min)	200 ipm ( 3m/min)	200 ipm (3 m/min)	200 ipm (3 m/min)	Adequate for plasma
Automatic ignition - std	Yes	Yes	Yes	Yes	Yes	Less operator intervention to initiate cut
Gas Valves (fuel, preheat, & cut oxy)	Set of 3	Set of 3	Set of 3	Set of 3	Set of 3	Less operator intervention during cutting
Movable control console	Yes	Yes	Yes	Yes	Yes w/elevating platform	Better visibility, avoid slag and sparks
Rotation drives	Anti-backlash worm	Anti-backlash worm	Anti-backlash worm	Anti-backlash worm	Anti-backlash worm	Minimum backlash, precision and durability
Horsepower - Rotation	2 HP	3 HP	3 HP	3 HP	5 HP	
Lifting method	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Self-contained unit, no compression under load
Conveyor power feed	Var. Speed, reversible	Var. Speed, reversible	Var. Speed, reversible	Var. Speed, reversible	Var. Speed, reversible	Streamlines material, handling, one-person operation
Horsepower - Conveyor	1/2 HP	1 HP	3 HP	3 HP	5 HP	Improves speed and safety
Speed - Conveyor	0 - 55 fpm (0 - 17 m/min)	0 - 55 fpm (0 - 17 m/min)	0 - 32 fpm (0 - 10 m/min)	0 - 32 fpm (0 - 10 m/min)	0 - 32 fpm (0 - 10 m/min)	
Voltage	220/460VAC 60Hz 3 Ph	220/460VAC 60Hz 3 Ph	220/460VAC 60Hz 3 Ph	220/460VAC 60Hz 3 Ph	220/460VAC 60Hz 3 Ph	Other voltages available upon request
Power required	10kVA	10kVA	20kVA	20kVA	30kVA	May vary with options selected
Temperature	40 - 100°F (4 - 38°C)	40 - 100°F (4 - 38°C)	40 - 100°F (4 - 38°C)	40 - 100°F (4 - 38°C)	40 - 100°F (4 - 38°C)	
Humidity (noncondensing)	0 - 80%	0 - 80%	0 - 80%	0 - 80%	0 - 80%	NOTE: Other specifications available upon request

CPU/Motion Controller:	MPM-2	MPM-4	MPM-5	Benefits
Display	Color VGA Touchscreen	Color VGA Touchscreen	Color VGA Touchscreen	Ease of operation, all variables displayed
Keyboard with mouse	116-key alphanumeric	116-key alphanumeric	116-key alphanumeric	Improved programmability & versatility
Processor (minimum)	Windows compatible	Windows compatible	Windows compatible	100% PC-compatible, improves speed and spare part availability
Floppy Drive	Yes	Yes	Yes	Data transfer and program upgrades
CD ROM	No	Yes	Yes	Ease of program updates
Motion control	UMAC 4-axis	UMAC 8-axis	UMAC 8-axis	Continuous path closed loop servo encoder feedback
Motors	Tachless DC Servo	Tachless DC Servo	Tachless DC Servo	Electronic tuning from console
Machine accuracy	.030"	.030"	.030"	
Machine repeatability	.010"	.010	.010	
Control accuracy	≤0.0001" (0.03mm)	≤0.0001" (0.03mm)	≤0.0001" (0.03mm)	
Control repeatability	≤0.0001" (0.03mm)	≤0.0001" (0.03mm)	≤0.0001" (0.03mm)	
Data I/O options	Floppy disk, CD, Ethernet, USB	Floppy disk, CD, Ethernet, USB	Floppy disk, CD, Ethernet, USB	Numerous communication and file transfer alternatives
No. of axes standard	2	4	5	Simultaneous movement of all axes, no operator intervention
Max. torch travel w/extension	7.5' (2.8 m)	45' (13.8 m)	45' (13.8 m)	Finish entire piece w/o repositioning or marking pipe
Max. prep angle oxy/plasma	Manually set	±70/55°	±70/55°	Greater weld prep angle (software parameter)
Max. torch tip-pipe travel	N/A	2" (50 mm)	2" (50 mm)	Constant distance between torch and pipe surface
Intersection angle range	1-179°	1-179°	1-179°	
5-axis bevel head rotation	N/A	N/A	± 360°	Faster speed, constant circumferential bevel angle on holes
Cutting carriage drive	Rack & pinion	Rack & pinion	Rack & pinion	Greater precision and durability
Vert. out-of-round compensation	None	(2) Analog proximity	(2) Analog proximity	No vibration, no pipe creep, sensor close to cut



# VERNON

## MASTERTUBE PROFILING MACHINE SPECIFICATIONS

### Machine:

Diameter Range:	1"-6"
Rectangular Range:	4"x6" & 5"x5" (to max. 7-1/2" cross section)
Min-max tube length:	2'-24' expandable to 44'
Max. weight per foot:	30 lbs.
Max. total weight:	600 lbs.
Intersection angle:	+/- 89°
Max. cutting speed:	200 ipm
Max. torch bevel angle:	+/- 45°
Tube rotation drive:	Precision planetary gearhead and gear belt
Tube advance/retract drive:	Precision rack & pinion
Voltage: Machine	120 VAC 60 Hz
Plasma:	208/240/480 VAC, 60 Hz
Temperature:	40-100° F (1-38°C)

### Software:

Operating system:	MS Windows GUI, LAN compatible, text format cut programs
Preprogrammed shapes:	Miters, saddles, centerline offsets, multiple intersections, elbow supports, gusset slots; round, rectangular, saw cut, overlapping pipe holes and re-pads with axial offsets and baseline or work point offsets
Auxiliary shapes:	Vernon "Sketch 'n Cut " CAD-CAM using AutoCAD platform
Graphics:	Menu-driven prompts with color icons, 2D & 3D dimensioned graphics, interactive software and hardware error messages
CAD-CAM:	Compatible with popular 3D modeling & isometric software. Reads G-code programs.
Internet service:	Ve-Assist web-link direct to Vernon factory for remote computer diagnostics

### Computer Motion Control:

Display:	Color VGA touch screen
Keyboard:	96-key alphanumeric with pointer device
Processor:	Industrial PC with RAM & ROM
Motion control:	UMAC 4-axis
Motors:	Tachless DC servo drives with optical isolation
Machine accuracy:	.030"
Machine repeatability:	.010"
Data I/O options:	Floppy disk, CD, network



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Catalog: MTC-06.02

**MasterTube**  
**PLASMA PROFILER**

*Versatile, accurate and fast tube fabrication*

Part 2 see Drwg no. 110130

Part 3 see Drwg no. 1102  
(System)

# MasterTube

## PLASMA PROFILER

*Plasma cut round and rectangular tubing.*

### Vernon innovation spawns economic solutions.

A pioneer in computerized cutting, plasma technology, and specialized operating systems, Vernon relies on innovation to sustain market leadership. Adapting new technologies leads to improved production with Vernon's "load & go" approach to tube fabrication.

With simple, rugged construction, the MasterTube machine employs a 4-axis computer control with tachless drives. PLC solid-state relays and LED readouts simplify maintenance.

A single 4-axis motion control card drives two axes of motion to advance, retract, and rotate raw tubing. Two more axes simultaneously vary torch angle and horizontal travel across flat surfaces. Computer controls and out-of-round compensation perform even the most difficult corner cuts.

Plasma power supplies offer immediate ignition, laser-like cutting speeds, and excellent cut quality on carbon, stainless, and non-ferrous materials.

Programming parts and running the machine are simple. Windows-based software employs menus and simple graphical icons to make cuts like saddles, miters, multiple intersections, centerline offsets, and holes. Dimensioned 2D and 3D illustrations, interactive error

messages, and an on-line instruction manual simplify machine operation and maintenance.

Network compatibility allows management to delegate part-programming responsibilities to the shop floor or to remote engineering groups. Simple text format files are compatible with common CAD modeling programs.

A secure broadband connection between the plasma profiler and Vernon's service department solves operating and maintenance questions in real time. A Vernon technician is virtually side-by-side your operator or maintenance engineer at the machine.

Copyrighted "Sketch & Cut" software burns unlimited patterns on round and rectangular tubing. AutoCAD files are converted into precision finished end and mid-section shapes.

### Together we prosper through shared success.

The MASTERTUBE machine is ideally suited to miscellaneous steel construction like space frames, pedestrian handrails, machinery and vehicle safety guards, recreational structures, and automotive aftermarket components. Many new applications await this versatile, economic cutting machine at a fraction of laser machine prices.

Field proven mechanical design and simple touch-screen operation ensure a refreshing approach to repetitious, time-consuming operations. Consolidate several operations into a single set-up to improve fabrication operations.

The MasterTube machine is performance-engineered to produce maximum profits with minimum investment. 4-month investment payback periods are not uncommon. Every detail is engineered to improve production, decrease costs, and promote customer satisfaction.

Vernon sells solutions to the most difficult fabrication challenges. We listen and you profit. Together we succeed through applied technology.

*Compact design and accessibility ensure easy maintenance.*



*Windows-based software produces tubing connections for space frames to handrails.*



*Touch-screen programming and cutting are controlled from the operator's console.*



*Your partner in success through innovation.*

