1000 Series Plasma

Reliable turnkey solutions for any application requiring value, performance, and versatility.

MULTICAM
Complete CNC Solutions

A BREAKTHROUGH IN PRICE & PERFORMANCE

1000 SERIES PLASMA

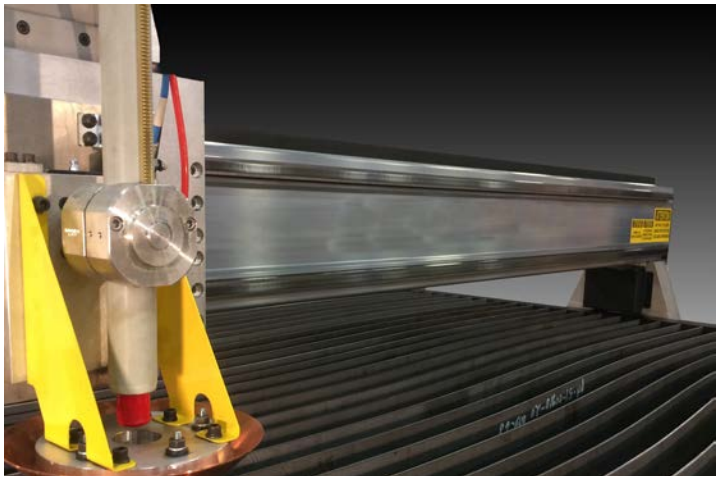
The MultiCam 1000 Series Plasma machine offers a price/performance breakthrough in CNC plasma design. Over 25 years of leading-edge design experience has allowed our engineers to meet the difficult design criteria required to produce these machines.The challenge was to build a rigid, reliable platform with excellent cutting performance at an entry-level price. The results speak for themselves.

FEATURES & SPECIFICATION GUIDE

PERFORMANCE / EASE OF USE / PRODUCTIVITY

FEATURES

No machine offers more features than the innovative and versatile 1000 Series Plasma.



Gantry

Engineered for Performance

The Gantry is custom engineered for maximum stiffness using only the highest quality aluminum extrusion. The 10mm wall thickness and extruded aluminum 6”x8” rectangular tube structure combine to make the gantry extremely rigid. References for the precision linear bearings are extruded in the design to be parallel.

Gantry Supports

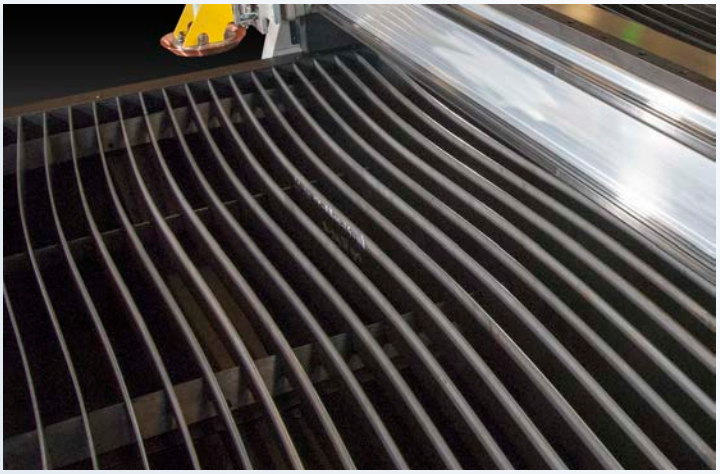
High Strength, Minimal Vibration

Cast aluminum gantry supports are used to house X-axis drive motors and bearings. The supports are machined on a four axis horizontal machining center to ensure that they are parallel and perpendicular. Castings provide extremely stable support for the gantry.

Linear Bearings

Rigid & Smooth

The 25mm linear bearing profile rails with stainless spring steel strip covers are standard in the Y and Z axes. 35mm bearings are standard in the X axis. The bearings feature high rigidity and top load capacities in all load directions, low noise level, and high-torque load capacity.



Working Surface

Versatile & Effective

The standard work surface is constructed using mild steel to form a level, slat table. The slats are 50mm on center which provides maximum support under the heaviest material. The slats are designed for high-volume air flow and have a center rib for additional strength.

FEATURES

No machine offers more features than the innovative and versatile 1000 Series Plasma.

Drive Motor System

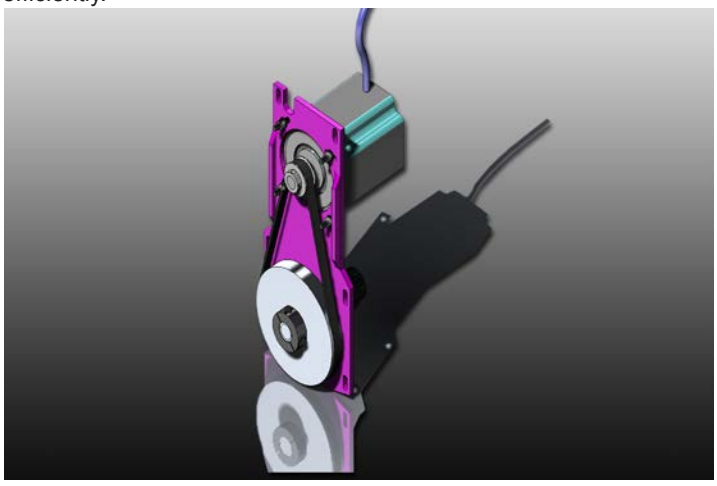
Smooth & Accurate

The 2 Phase digital, brushless, synchronous electric motors MultiCam has selected for the 1000 Series have undergone extensive testing. The inductance and resistance of the windings are optimized for system smoothness. The integrated digital motor drives have also been optimized to run these motors more efficiently.

EZ Control

Easy-To-Use

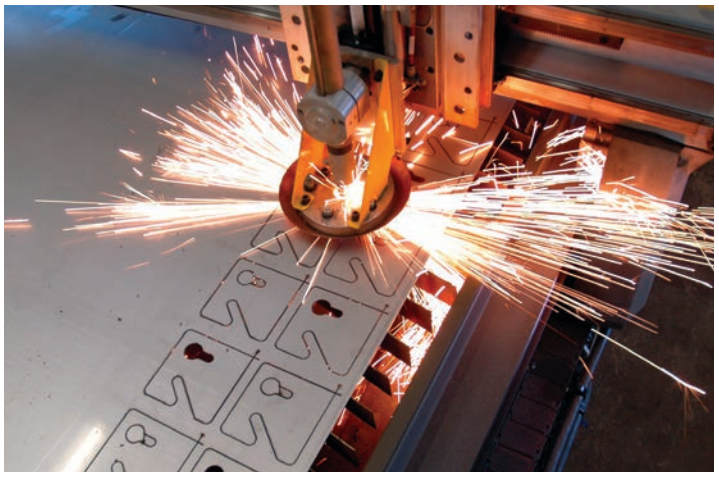
MultiCam's EZ Control is one of the most powerful yet easy-to-use motion contol systems available on the market. It allows for multiple job reference positions as well as automatic Z surfacing, proximity restart, and cut speed & spindle RPM override.



Drive Transmission Assembly

High Acceleration, Excellent Cut Quality

The transmissions on both X and Y axes, use the same assembly mechanisms. These are based on an aluminum castings and feature steel cable reinforced urethane belt drives. The output pinions are supported by a dual bearing arbor with wide bearing separation for optimum stiffness.



Plasma Torches

Versatility & Power

The 1000 Series Plasma exclusively uses Hypertherm PowerMax and HSD torches. Ask your MultiCam distributor for additional details and capabilities of the Hypertherm torches.

ADVANCED FEATURES

ADAPTIVE AUTOMATIC TORCH HEIGHT CONTROL

MultiCam engineered one of the most advanced automatic torch height control systems on the market today. The challenge was to make the torch height control extremely responsive when cutting thin metals and very smooth when cutting thick metals.

To achieve the best cut quality possible it is critical to keep the torch-tip to work-distance very consistent. If the torch height control is too responsive on thick metals the cut edge quality will not be smooth. If the torch height control is not responsive enough when cutting thin metals the torch will not be able to adjust quickly enough.

The cut height will not be ideal and the torch may even crash into the material.

Competitive torch height control systems are limited as they are independent of the motion control system. They cannot automatically adapt to changes in cut speed and material thickness. The only connection to the motion control system is a signal that disables the torch height controller when the machine drops below 100% of the set cut speed. Because of this limited integration, the torch height controller is forced to use a set of parameters that is somewhere in the middle. This averaging produces just that, an average cut.

Unlike competitive control, the MultiCam Torch Height Control is fully integrated with the EZ Control. The sensitivity of the Torch Height control is automatically adjusted based on the current cutting parameters.

MultiCam EZ Control gives the customer the best of both worlds; very fast response when cutting thin metals, smooth slower adjustments when cutting thick plate. The best part is that all of these adjustments happen automatically for the end user. Height control is an integral function of EZ Control itself; there are fewer parts, which translate into less maintenance cost. MultiCam Adaptive Automatic Torch Height Control is a cut above the rest!

ADVANCED FEATURES

AUTO REFERENCE VOLTAGE

Most systems have the user manually enter in a reference voltage for torch height. The MultiCam system automatically samples the voltage at the beginning of each program and sets this value for you. This gives you a better cut, longer consumable life, and reduces the chance for error. Why is this important? Many parameters can affect the torch height voltage. When cutting faster or slower the book value of the torch height voltage will change. It is nearly impossible for the end user to guess the correct voltage. MultiCam eliminates this guess work by automating the process.

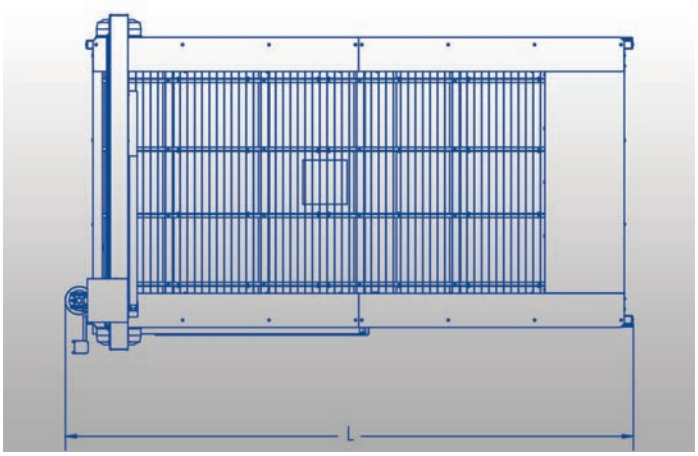
ADVANCED KERF CROSSING

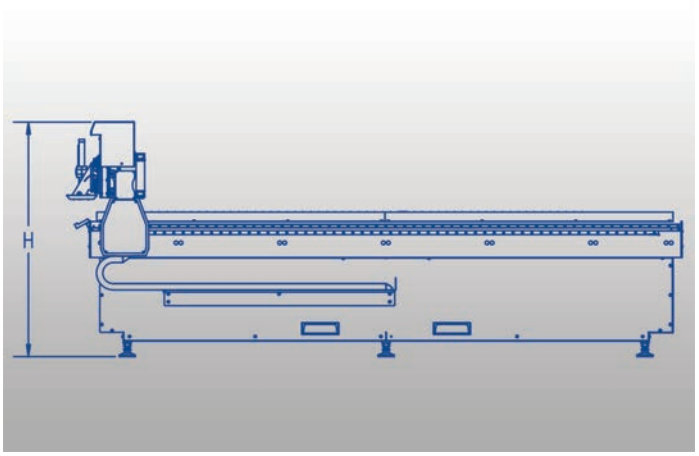
EZ Control automatically samples the torch height voltage at 500 times per second. The data is fed into a series of algorithms. Most of the algorithms are designed to adjust the smoothness and sensitivity of the torch height control. This is done by averaging the data over varying periods of time. When the voltage drastically changes the controller locks out torch height control.

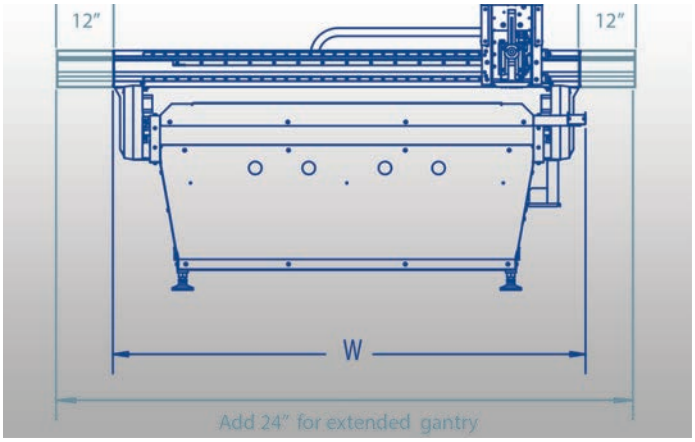
These drastic changes in voltage are usually caused by cutting back over the kerf. Normally this occurs at the end of the cut when the lead out crosses over the lead in. Systems that do not properly adjust to kerf crossing can dip the torch at the end of the cut or even crash the torch into the material. This can cause the part to be destroyed or not properly cut out. EZ Control Advanced Kerf Crossing detects these changes in voltage and instantaneously locks out the torch height control. Once the voltage stabilizes, torch height control will resume.

- 300 IPM High Speed Z axis
- 2 process surface detection.
- Extremely responsive Ohmic sensor for high speed surface sensing. This keeps from bending material and giving a false material surface.
- Z float sensor. If the Ohmic sensor fails to read the surface, the backup sensorwill read the movement in the Z axis when the torch makes contact with the material surface. Smooth and Accurate Arc Voltage Height Control. The voltage is sampled at 500 times per second; the data is averaged and then used to control the torch height level.
- 25 mm Z-axis linear bearing rails for rigid, smooth, accurate motion.

SPECIFICATIONS







Specifications	Inches	Metric
Z-Axis Clearance	4.5"	114.3mm
Z-Axis Travel	6"	152.3mm
Reapeatability	+/-0.001	+/-0.0254
Cut Speed	800 IPM	20.3 MPM
Rapid Traverse	1000 IPM	25.4 MPM
Drive System (X,Y)	Rack & Pinion	Rack & Pinion
Drive System (Z)	Lead Screw	Lead Screw

Model	Length (in./mm)	Width (in./mm)	Height (in./mm)	Working Area	Weight (lbs./Kg)
1-103P	155"/3937mm	71"/1803mm	54"/1371mm	50"x100"/1270x2540	2612/1184
1-204P	177"/4495mm	81"/2057mm	54"/1371mm	60"x120"/1524x3048	3157/1431
1-205P	199"/5054mm	81"/2057mm	54"/1371mm	60"x144"/1524x3657	3474/1575
1-304P	177"/4495mm	101"/2565mm	54"/1371mm	84"x120"/2133x3048	3828/1736
1-305P	199"/5054mm	101"/2565mm	54"/1371mm	84"x144"/2133x3657	4193/1901
1-306P	225"/5715mm	101"/2565mm	54"/1371mm	84"x170"/2133x4318	4988/2262

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