

CNC

6000 Series Plasma

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



MULTICAM
Complete CNC Solutions

RUGGED, HEAVY-DUTY...

...HIGH-PERFORMANCE

6000 SERIES BRIDGE & RAIL PLASMA

Designed for manufacturers who need to cut heavy plate or need a large processing area without sacrificing accuracy or cut quality. The 6000 Series motion platform is independent of the cutting surface helping to insure that the motion platform will not be damaged from material loading or from the high heat of oxyfuel cutting. Available widths are from 8'-20', with lengths starting at 12'. Add additional 10' sections to make the 6000 Series system the perfect complement to your production facility.



FEATURES & SPECIFICATION GUIDE

PERFORMANCE / EASE OF USE / PRODUCTIVITY

FEATURES

No machine offers more features than the innovative and versatile 6000 Series Plasma.



Gantry

Engineered for Performance

The gantry is made of 1/4" thick 12" square tubular steel and reinforced by 1/4" thick structural steel that is welded, stress-relieved, and precision machined. The gantry has been engineered to provide a smooth, vibration free cut and FEA (Finite Element Analysis) was used to ensure minimum deflection of wide spans.



Gantry Supports

High Strength, Minimal Vibration

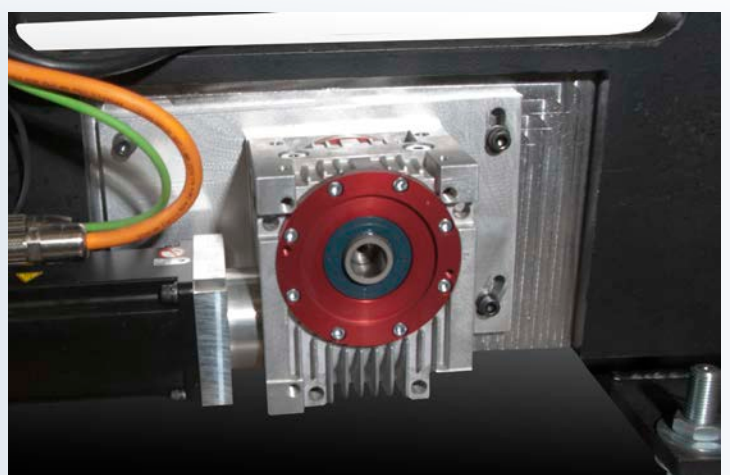
The 6000 Series gantry supports are manufactured from 1.5" thick flame cut steel plate. They are welded, stress-relieved, and precision machined. Wide X-Axis bearing spacing and heavy plate help dampen vibration and give the structural tube gantry extremely rigid support.



Modular Base Rails

Rigid & Smooth

The MultiCam 6000 Series modular base rails are made from 1/2" thick 8"x12" tubular steel. 1" by 1.5" steel bars are welded to the steel tubes, stress relieved, and precision machined. This extremely rigid base reduces vibration and allows for the best cutting quality. 5' and 10' modular sections can be added for longer machine lengths.



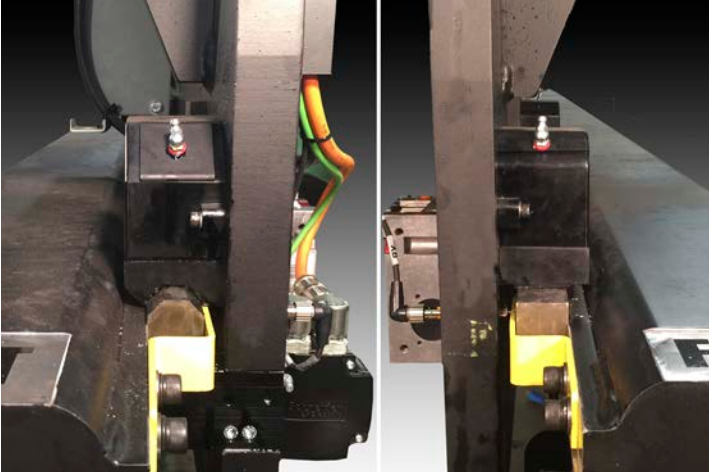
Precision Worm GearBoxes (X-Axis)

Solid, Heavy-Duty Construction

We use high-performance worm gearboxes specially developed for use in servo driven systems. The backlash is adjustable to zero and is set by rotating the two eccentric flanges located on either side of the gearbox housing. These high torque, low backlash gearboxes are ideal for positioning the heavy gantry at high speeds and acceleration rates.

FEATURES

No machine offers more features than the innovative and versatile 6000 Series Plasma.



Guide Way System (X-Axis)

Smooth & Accurate

MultiCam's legendary motion is a result of our manufacturing process. The 6000 Bridge and Rail features a combination hexagonal capture and floating rail system that provides for super smooth, accurate motion on a platform that will allow for our precise automatic squaring routine and glide effortlessly down the rails, no matter the length you require.



Linear Bearings (Y & Z Axes)

Precise & Sturdy

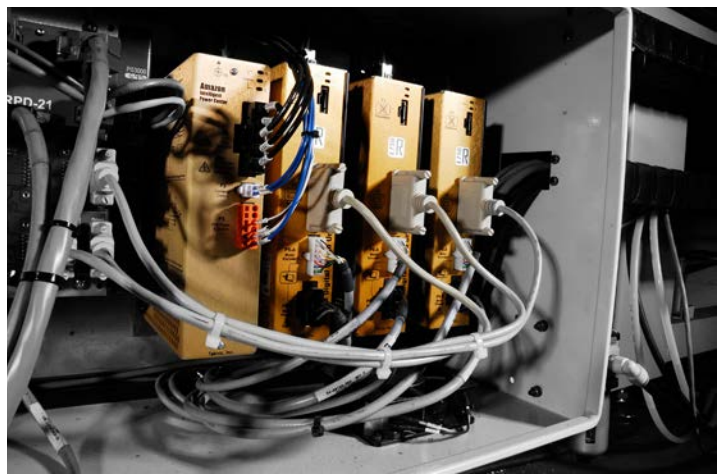
The 6000 Series incorporates 25mm linear bearing profile rails with stainless spring steel strip cover for high rigidity and load capacities in all load directions.



EZ Control

Easy-To-Use

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



Digital Servo Drive System

Smooth & Reliable

Digital Servo drives and brushless digital AC servo motors form a digital vector servo drive system that is standard on all 6000 Series machines. This drive system integrates position, velocity, and torque loops seamlessly to provide uncompromised tracking accuracy, smoothness, and reliability.



Oxy Torch (Option) **Versatile Performance**

Maximize your manufacturing capabilities with these optional OxyFuel torches. These torches are rated to cut mild steel up to 10" thick. The torches feature auto-gas, auto-ignition, auto-surface sensing, auto-height, auto-shutoff and auto-cut chart integration. The 6000 Series System can run up to eight slave torches simultaneously.

Quick-Stop Crash Protection (Option) **Quick & Easy**

The quick-stop crash protection torch holder makes changing consumables a snap, and protects your investment against serious damage. During the cut process it is possible for small parts to tilt up. If the torch hits on these obstacles, the torch releases and shifts to the side. The machine will pause and allow the user to fix the problem before continuing on.



Available Bevel Head (Option) **Fully Integrated & Dynamic**

A fully adjustable centering feature ensures a mechanically sound, centered TCP. The bevel arm also incorporates an industry leading design that includes backup surface sensing and torch breakaway, in addition to the ohmic initial height sensing fully integrated into the system.

ADVANCED FEATURES

ADAPTIVE AUTOMATIC TORCH HEIGHT CONTROL

MultiCam has introduced 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 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. In some cases, the cut height will not be ideal and the torch may even crash into the material. Most competitive torch height control systems are independent from the motion controller and cannot automatically adapt to changes in cut speed and materials thickness. The only connection to the motion controller is a signal that disables the torch height controller when the machine drops below 100% of the set cut speed. Due to this limited integration, the torch height controller is forced to use a set of parameters that is somewhere in the middle.

Unlike these controllers, the MultiCam Torch Height Control is fully integrated within the motion controller. The sensitivity of the Torch Height control is automatically adjusted based on the current cutting parameters. The MultiCam's integrated Torch Height 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 the controller itself, there are fewer parts, which translates into less

AUTO REFERENCE VOLTAGE

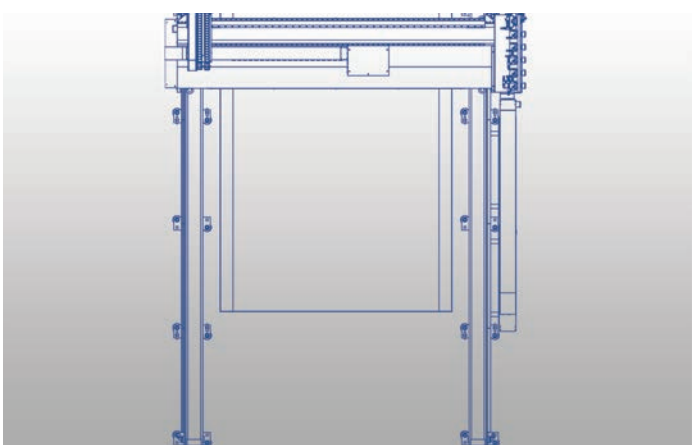
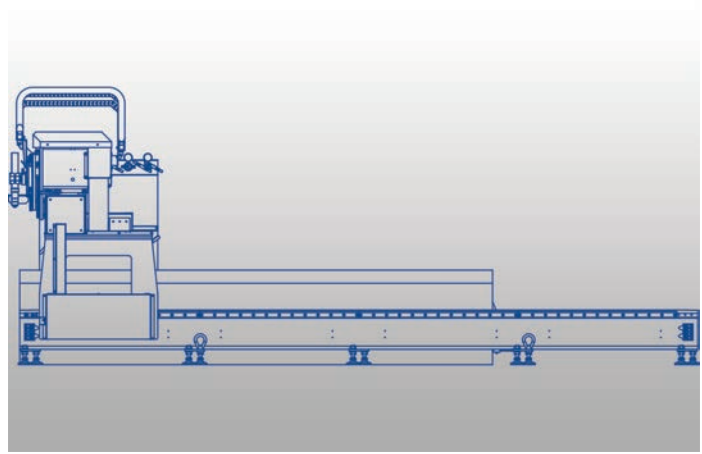
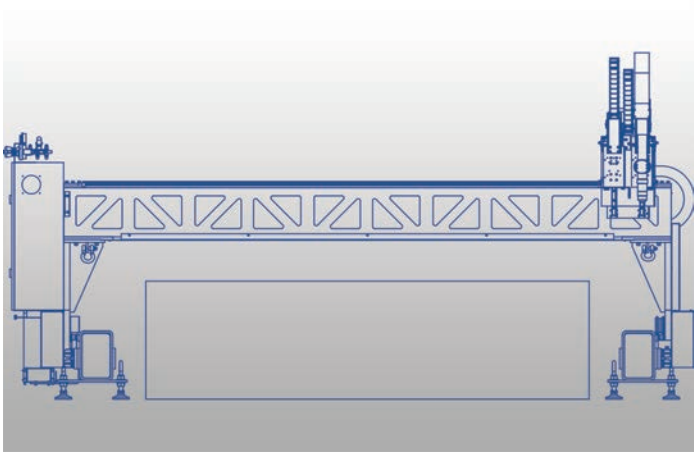
Most systems have the user manually enter in a reference voltage for the torch height. The MultiCam system automatically samples the voltage at the beginning of each program and automatically sets this value for you. This results in a better cut, longer consumable life, and reduces the chance for error. Why is this important? Many parameters can affect the torch height voltage. Whether you're 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 this process so you can spend your time on production.

ADVANCED KERF CROSSING

The EZ Control automatically samples the torch height voltage at 500 times per second. The data is fed into a series of algorithms which 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 the torch height control.

Drastic changes in voltage are usually caused by cutting back over the kerf. Normally this occurs at the end of a 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 result in 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.

SPECIFICATIONS



Specifications	Inches	Metric
Z-Axis Clearance	38.5"	978mm*
Z-Axis Travel	12"	305mm
Z-Axis Work Range	38" - 26"	965mm - 660mm
Repeatability	+/-0.001"	+/-0.0254mm
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)	Ball Screw	Ball Screw

*without cutting table

Model	Y - Axis Working Area	X - Axis Working Area
6-405	100"/2540mm	145"/3683mm
6-502	120"/3048mm	60"/1524mm
6-505	120"/3048mm	145"/3683mm
6-605	144"/3657mm	145"/3683mm
6-705	180"/4572mm	145"/3683mm
6-905	240"/6096mm	145"/3683mm



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