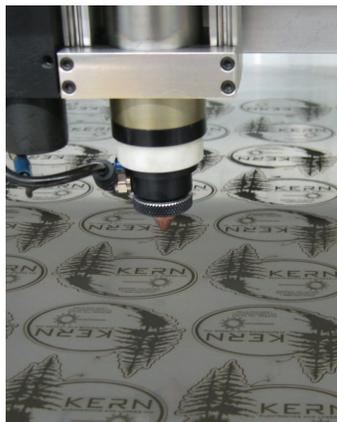
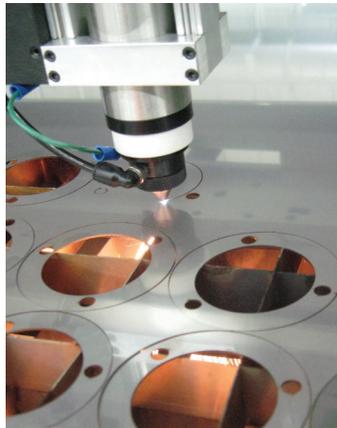


## CO2 SHEET METAL CUTTING

Kern laser systems can be equipped with our innovative technology which allows for accurate cutting of sheet metal. Commonly cut metals include stainless steel, mild steel, aluminum and brass.

The **Automatic Focusing Height Follower**, developed by Kern Lasers, is one of the key elements for optimal metal cutting. The cutting nozzle is controlled by a capacitance sensor and z-axis motor. The gap between the metal being cut and the cutting nozzle can be adjusted until the desired beam focus is obtained. As the cutting process begins the height follower will track the surface of the metal and adjust the nozzle in the z-axis maintaining a constant focus point while the metal is being cut.

The metal cutting table is constructed of a durable steel grid work which minimizes the surface contact with the bottom side of the metal being cut. A 4' x 8' or 5' x 10' sheet of metal will fit comfortably onto Kern's largest cutting tables. Larger table sizes can be custom ordered to meet your applications' specific needs.



### Clean and Accurate Cut

A high pressure assist gas, such as oxygen or nitrogen is injected through the metal cutting nozzle. The result is a dross free cut edge which requires little to no deburring. A pierce dwell and variable pierce assist pressure are adjustable within the KCAM laser software. The servo motor motion system is capable of tight tolerances and accurate positioning.



### Low Operating Cost

Laser cutting is a non-contact process that eliminates the high costs of replacement die stamps, machine center re-tooling and router bits. Laser users also benefit from low electrical and maintenance costs. Our proprietary KCAM software contains money saving features such as the ability to turn off the gas assist while the laser head is moving between parts. This will ensure consumable costs are kept at a minimum.



400 Watt			
Metal Type	Assist Gas	Metal Thickness	
		inches	mm
Mild Steel	oxygen	.1875	4.8
Stainless Steel	nitrogen	.080	2
Stainless Steel	oxygen	.125	3
Aluminum	oxygen	.060	1.5
Brass	oxygen	.040	1

250 Watt			
Metal Type	Assist Gas	Metal Thickness	
		inches	mm
Mild Steel	oxygen	.125	3
Stainless Steel	nitrogen	.040	1
Stainless Steel	oxygen	.080	2
Aluminum	oxygen	.040	1
Brass	oxygen	.020	.5

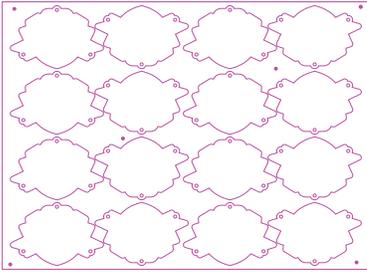
150 Watt			
Metal Type	Assist Gas	Metal Thickness	
		inches	mm
Mild Steel	oxygen	.090	2.3
Stainless Steel	oxygen	.075	1.9

### Metal Etching

This versatile machinery will etch dark durable marks onto a variety of metals. A few of the most common metal etching applications are creating bar codes, name plates and etched tools. Foam tool shadows can be created on the same machine for complete tool organization manufacturing. Stainless steel can be marked dark with the use of an oxygen assist gas. Metals that are more reflective, like aluminum, can be marked with the use of a marking spray.

### Intricate Cutting

Kern's metal cutting machines are capable of cutting thin gauge metals with detailed designs. A laser beam cutting kerf of just .004" allows for the most intricate of cuts to be made. These tasks are often difficult or impossible to perform with a high powered kW laser as they are unable to cut with a stable power level resulting in blow-outs or heat affected zones.



## K-VISION CAMERA

The K-Vision package is a fully integrated hardware and software solution that allows for accurate cutting of digital printed graphics. This process starts with a nozzle mounted camera which automatically measures the dimensions between registration marks on printed materials. The system then uses these measurements and the registration marks of the original cutting file to compensate for distortion and rotation. The slight adjustments that k-vision makes to the cutting file results in a perfectly matched cutout in the material being processed. The entire camera system can be easily removed and stored in a protective box when not in use. The k-vision option can be integrated onto any of Kern's laser systems.



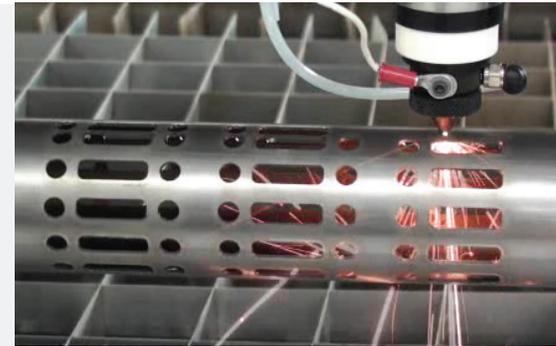
## PIPE ROTARY

A rotary attachment can be added to any of Kern's laser systems for processing pipes, rods and other cylindrical items. The rotary device is driven by a high resolution servo motor resulting in smooth and accurate cutting performance. Two different rotary setups are available to choose from.

The Chuck Rotating setup implements a lathe chuck to firmly secure the pipe in place. A tailstock is pushed up against the opposite end to keep the pipe rotating on center as it is cut. The tail stock can be adjusted on a rail for different lengths of pipe. Adjustments to the rotary chuck can be made to accommodate pipes with a diameter of up to

6 inches. The pipe cutting device is commonly used by manufacturers of motorcycle exhausts, large filters and pipe joints.

Kern offers an alternative rotary device which uses rollers to spin a cylindrical item allowing engravings to wrap around the entire outside surface. There is no chuck and tail stock holding the ends of the product. This allows the laser head full access to the extents of the cylindrical item. This rotary is ideal for engraving applications that require the entire surface of the product to be engraved. Adjustable rollers can be moved to accommodate a variety of different sized products. Common applications for this roller rotary are walking sticks, canes and flash lights.



Kern also offers custom rotary devices which are built for a variety of applications. If you have an idea for a custom rotary device please contact a friendly sales associate.

### Standard Rotary Specifications

Chuck Rotary	52" Wide X-Axis		60" Wide X-Axis		80" Wide X-Axis		100" Length Y-Axis		120" Length Y-Axis	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
Maximum Pipe Diameter	6	153	6	153	6	153	6	153	6	153
Maximum Pipe Length	36	914	44	1117	64	1625	100	2540	120	3048

Roller Rotary	52" Wide X-Axis		60" Wide X-Axis		80" Wide X-Axis	
	inches	mm	inches	mm	inches	mm
Maximum Pipe Diameter	3	76	3	76	3	76
Maximum Pipe Length	52	1320	60	1524	80	2032



VIC | NSW | QLD | SA | WA  
 1300 20 15 10  
[sales@alfexlaser.com.au](mailto:sales@alfexlaser.com.au)  
[www.alfexlaser.com.au](http://www.alfexlaser.com.au)