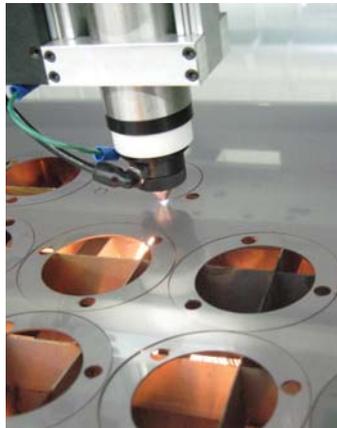


## CO2 SHEET METAL CUTTING

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.