

PLASMA CUTTING TECHNOLOGY

ABOUT PLASMA CUTTING

The technology behind plasma cutting involves a thermal cutting process in which a beam of ionized gas, or plasma, heats an electrically conductive metal beyond its melting point, and blows away the melted material leaving a hole or a cut. As a plasma torch is moved across material a cut is made, much like that of a saw blade. Plasma cutting can be done using a hand held torch, however a table mounted plasma cutter with a computer controlled gantry system can be used for a higher degree of accuracy for more complicated cutting operations.

TYPES OF PLASMA CUTTING SYSTEMS

CNC plasma cutting systems are typically divided into two types – standard and high definition. While both plasma cutting systems operate using the same technology, the high definition plasma cutters feature a different torch design and gas feed. The high-definition plasma cutters give 1-3 degrees of cut bevel, virtually no dross, and make oxide-free cuts on mild steel. The standard definition plasma gives 3-5 degrees of cut bevel, dross that will need to be cleaned prior to welding, and makes oxide-free cuts on only stainless and aluminum.

PLASMA CUTTING SYSTEMS APPLICATIONS

Plasma cutting systems allow simple or complex shapes to be cut into materials like common steels and aluminum. Any material that conduct electricity can be cut with a plasma torch. Some materials, such as those that create toxic fumes, can be cut with plasma cutting systems that incorporate venting, gas selection, and other special features.

PLASMA CUTTING SOFTWARE

CNC plasma cutting systems work in concert with software packages such as Auto CAD and Turbo CAD, using a universal export (interchange) format called DXF. Drawings created in a DXF format can be easily imported into most plasma cutting systems.