



Plasma cutting machine cuts flue pipes at all angles

A new plasma cutting machine for flue pipes has been developed by Techserv Cutting Systems. The system uses interpolated motion to help increase production throughput, using a real-time machine control module from Baldor.

Capable of cutting aluminum and stainless steel flue pipes at any angle, as well as holes of any shape or size, the plasma tube cutter automates this aspect of manufacturing. Precutting of complex shapes is eliminated. Instead, the flat metal sheet is rolled into a tube and seam-welded, after which each tube is loaded into the machine.

The entire cutting operation is handled autonomously. Cutting the angled end pieces for an elbow pipe and then assembling them can be accomplished in about 4 min., the company reports.

The tube being cut is mounted in the machine with its top end held in a rotating, pneumatically driven clutch assembly. The plasma cutting torch is moved up and down as the tube rotates, at a rate that determines the severance angle or the size and shape of the hole being cut. The machine can handle tube diameters from 3.54 to 13.78 in.

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Power source cuts, welds with alcohol and water



The Multiplaz 3500 power source can be used for welding and cutting jobs and requires no gases for either application. It requires only a tailored 8-oz. mixture of alcohol and water to help generate a plasma flame for welding and requires only 8 oz. of water to generate a cutting flame.

The technology has been used in Europe for nine years and in Asia for six years. The plasma technology originated in Russia and now is being produced commercially in China.

To use the equipment for welding, the operator unscrews a cap on the torch and, using a plastic syringe, fills it with a prescribed mix of alcohol and water. (Adjusting the water-alcohol mixture makes it possible to tailor the plasma flame for varying metals.) When the solution runs out of the nozzle, the torch is ready for welding.

The fluid, influenced by a cathode, creates an electric arc, which then creates a plasma flame capable of reaching 14,400 degrees F. According to the company, extensive scientific research has shown that the power source has the capability to match gas tungsten arc welding (GTAW) results, or other welding processes in which a nonoxidizing or protective atmosphere is necessary.

The company also notes that the vapors at the periphery of the plasma jet remain chemically unchanged during welding. This provides complete shielding of the joining process and eliminates potentially toxic fumes to which the welder might be exposed.

The power source has two modes. Mode 1 is for gas welding, brazing, and soldering. Mode 2 is used to weld with an arc, similar to gas metal arc welding, GTAW, and shielded metal arc welding processes. As with those welding processes, welders need the appropriate welding wire and electrodes.

If the torch is to be used for cutting, the torch's reservoir is filled with tap water. Once again, the water's interaction with the electric arc creates a plasma flame.

The plasma flame can cut steel up to 0.375 in. thick and produce a clean cut. It also can "clean sever" steel up to 0.5625 in. thick, which means that multiple passes of the torch are required and the resulting edge won't be cosmetically appealing.

The Multiplaz 3500 comes with two torches, which weigh about 2 lbs. each. The power source weighs less than 25 lbs. and measures 15 in. by 7.5 in. by 5.5 in. It can run on 110 V or 220 V.

Multiplaz North America | 1625 17th St., Suite 5, Santa Monica, CA 90404 | 310-314-5551 | www.multiplaz.com

Plate beveler has high power-to-weight ratio

Steelmax Tools has introduced the BM 15 Metal Router plate beveling machine. The small, lightweight machine features a guide roller design that permits use on curved and rolled plates.

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