



**The Welding Accessory Experts™**

## **Maximize Your Plasma Arc Cutting With Clean Air**

Plasma Arc Cutting (PAC) is a process utilizing plasma, a gas which has been heated to a high temperature and ionized. When placed in contact with an electrically conductive metal, the plasma arc passes through the metal, creating a molten “blade” which severs the material being cut. This process is more precise, and quicker than using metal cutting shears or a band saw, or even oxyfuel gas, however, parts like electrodes and tips are considered “consumables” because they wear out at a high rate.

Ensuring a clean air supply is an important factor in maximizing the life of your consumables and enhancing your cut quality. Additionally, as air supply quality deteriorates, the efficiency of your plasma process will deteriorate as well. Ensure clean air by incorporating the following steps into your plasma arc cutting process.

1. Minimize oil contaminants in the air supply by using a high-quality air compressor in good condition.
2. For optimal reduction of ambient air humidity, a constant source of water found in shop air, the filter should be as close as possible to the plasma unit's air inlet to be most effective.
3. Use a filter unit with the correct micron rating and adequate filter life for the amount of contaminants it has to deal with. High humidity and oil contamination from the air compressor will reduce filter element life.
4. Check the filter element once a week and change the filter regularly.

Even in the best of conditions, you will consume tips and electrodes regularly. Many replacement parts suppliers will recommend that for optimal cutting, you should replace the tip and the electrode at the same time. However, depending on your application, this may not be necessary.

Most wear and tear on the electrode takes place when you start the arc. Therefore, if your application demands short cuts with frequent arc starts, you will wear out the electrode before the tip. Most wear and tear on the tip takes place during long cuts, in which case you will wear out your tip before your electrode. And just because the tip no longer works for precision cutting doesn't mean it can't be used for gouging! Alternatively, you can recycle used tips and electrodes.

Be sure to buy all your parts and consumables from a trusted supplier like Arc-Zone.com to ensure you're using the best quality original equipment manufacturer (OEM) or aftermarket replacement parts.

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