

Applications for Plasma Cutting Technology

Industry: Metal Fabrication

Equipment: HPR400XD® HyPerformance Plasma®, ArcGlide® THC



HPR400XD HyPerformance Plasma and ArcGlide THC technology upgrade reduces laser outsourcing by 80%

- Overall productivity improves 30%.
- Technology upgrade eliminates costly production steps and secondary operations.
- Oxyfuel usage declines due to cutting range and processing speeds of HPR400XD and ArcGlide THC.
- Outsourced fine-feature cutting by lasers reduced by 80%.



The company and products

Precision Flange & Machine, Inc. (PFAM), located in Houston, Texas, specializes in precision machined and manufactured products in carbon steel, stainless steel and alloys for the gas and oil industries. Their list of specialty products range from figure 8 blinds, paddle blinds and spacers to bleed rings, cushion tees, stub ends, crosses, laterals, and wyes. PFAM has been manufacturing for 22 years, with a continual focus on producing high-quality products with minimal lead-times in a customer-friendly atmosphere.

The problem

Production demands from a growing customer base were pushing the oxyfuel cutting process and Hypertherm MAX200 beyond capacity, and requiring expensive outsourcing for laser cutting on products with fine-feature requirements. The increased workload and overtime needed to sustain the continual drive for improved cut quality, minimized secondary operations, and productivity added to the strain of the one shift per day model of success for PFAM. Significantly faster cutting speed, with more precision on a broader range of material thicknesses, was needed.

The solution

Mike Allen, PFAM President, sought help with the technology upgrade from his 30-year relationship with authorized Hypertherm table manufacturer, and chose to upgrade his cutting operation with a HyPerformance Plasma HPR400XD and new ArcGlide Torch Height Control. Initially interested in rebuilding his existing cutting machine, Mike chose to purchase a new machine with enhanced motion capabilities. This combination of precise table motion with HyDefinition plasma cut quality and the ArcGlide's productivity improvements, would augment the current product offering with multiple new thicknesses

of parts to be cut on the same table. Additionally, this would relieve some of the cutting done by the older PAC500 with three 601 power supplies, and operating cost would be lowered by maximizing production speed and consumable life.

The benefits

PFAM realized immediate benefits from the HPR400XD and ArcGlide technology upgrade. "From one piece to 100 you get the same quality cut with almost no cleanup to speak of, so we have been able to eliminate other production steps. Our operator can take a lunch break and come back to the system still cutting quality parts," comments Mike.

Other benefits have been a 30% productivity improvement and the ability to bring more work back in-house for tighter quality control and lower costs. "We're plasma cutting a majority of what was laser cut, with an 80% reduction in laser outsourcing, and we aren't using oxyfuel as much." The ability to instantly switch from gauge material to 2½" stainless, in addition to the cut-to-cut cycle time enhancements of the ArcGlide, have enabled a more aggressive pursuit of new customers.

As PFAM prepares for future growth with the purchase of a new HyPerformance Plasma HPR800XD, Mike feels the investment in Hypertherm technology products has been proven as a critical element of PFAM's success. "If you spoil your customers, they'll continue to come back to you."

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