

Applications for Fiber Laser Cutting Technology

Industry: Manufacturing

Equipment: HyIntensity™ Fiber Laser HFL015 and HPR130XD®



New technology in a region known for performance

- Fiber laser and plasma working side by side to help companies expand their capabilities, or bring outsourced work back in house.

The company and products

Torino, Italy – a city better known as the home of the 2006 Winter Olympics and automotive companies, Fiat and Alfa Romeo – a small Italian service center Tek.No.Max SRL is taking its cutting capability to the next level.

The problem

More than a dozen years after opening its doors, Tek.No.Max SRL reached a point where its current cutting method wasn't cutting it any more. Its business had changed so much over the years, instead of cutting mainly thicker materials, approximately two-thirds of the company's cutting was now on galvanized steel that, in some cases, less than a millimeter thick. Because its current process wasn't suited for super thin materials, Tek.No.Max had a challenge.

Tek.No.Max knew it needed to do something, but had no idea what. It began by talking to one of its suppliers, Warcom, a fellow Italian manufacturer of cutting tables. Warcom came back with an answer most business owners probably wouldn't want to hear. It felt Tek.No.Max needed to use two different cutting processes: high precision plasma to cut the thicker materials that still made up a third of its business, and laser for everything else.

Up until just a few years ago, using two different cutting methods in a shop (especially a small shop like Tek.No.Max's) would have been incredibly expensive – with capital expenses

totaling hundreds of thousands of dollars. Today though a fairly new cutting technology – fiber laser – is changing the game.

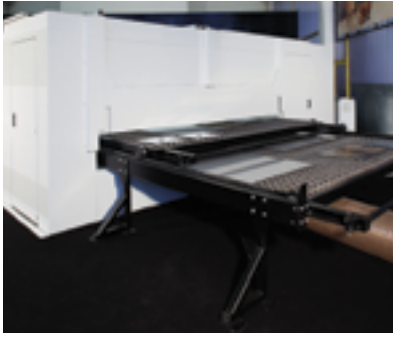
The solution

In Tek.No.Max's case they were able to take their existing Warcom cutting table design and simply add the fiber laser and plasma cutting systems, mounting the two cutting heads side by side. Warcom suggested Tek.No.Max purchase a Hypertherm HyPerformance® HPR130XD and a Hypertherm HyIntensity HFL015 Fiber Laser.

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Many people think of fiber laser and plasma as being competitive cutting technologies, but in truth, the two processes are very complimentary. Fiber laser and plasma are both capable of working side by side to help companies expand their capabilities, or bring outsourced work back in house. Since the two are complimentary, and can use the same cutting table and a common controller (CNC), the capital costs are much more reasonable. In addition, the HyIntensity Fiber Laser, HyDefinition® plasma, CNC as well as the ProNest® CAD/CAM software all come together as an integrated cutting solution from the same source, Hypertherm, enabling ease of setup and operation on a common operating platform.





Unlike traditional gas lasers, fiber laser systems use an optical fiber to transmit the laser beam and not the mirrors typically associated with CO₂. This enables installation on more conventional table designs. Not only is the ability to integrate both fiber laser and plasma cutting technologies on a single table a significant capital savings for companies like Tek.No.Max, but it is a huge space saver as well.

The benefits

The addition of the dual system – which Warcom calls a “combi” – was remarkable. Cutting speeds doubled when using the fiber laser to cut the thinner materials, cut quality increased, dross became non-existent, and noise in their shop was reduced, making the working environment more comfortable for the small five person team.

In addition to the improved edge quality and surface finish on their cut parts, Tek.No.Max discovered something else they didn't expect. They were able to cut much better holes, helping them do even more work in-house, and could also cut thin pre-painted aluminum.

Roberto Lanotte, the owner of Tek.No.Max couldn't be more pleased. “We are so happy with our choice to buy the combined system. We can now cut the majority of our jobs on thin material better and faster with the Hypertherm HyIntensity fiber laser system, and still have the capability to cut thicker materials using our Hypertherm plasma system.”

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