

// by Abbe Miller, editor-in-chief //

POWER AT WILL

A new on-demand program gives fabricators higher power laser capabilities at a lower cost



TruLaser 1030



Fiber lasers with higher power levels represent a major increase in capabilities for the businesses that have invested in them. They deliver higher cutting speeds and the ability to cut through thicker materials and more material types, and also allow a user to take advantage of advanced cutting technologies, such as the ability to modify and shape the laser beam to deliver higher quality cutting results.

When a business chooses a fiber laser with higher power levels – often in the 6-kW to 10-kW range – the doors of opportunity begin to open. Fabricators can bid on more jobs, execute orders at a faster pace and market these new capabilities to draw in even more business.

While business owners continue to see the potential that these higher power levels can bring to their business, they remain hesitant to make such a big investment – the difference in price between a 2-kW fiber laser and a 6-kW fiber laser can be hundreds of thousands of dollars.

For many, the potential benefits do not outweigh the financial risk.

Power on demand

Recognizing this growing customer need, Trumpf Inc. launched Power by the Hour, a new program created to deliver higher power levels at a lower cost. Power by the Hour allows customers to use higher power levels on an as-needed basis, but at the price tag of a lower power level laser. Salay Quaranta, Trumpf's TruLaser product manager, explains the program's origins and how it works.

"It was motivated from a small job shop customer that came to us about a year and a half ago," she says. "They wanted to invest in a Trumpf system but needed something that would help their business grow and expand. They needed higher powers to offer themselves opportunities for the future, but were especially concerned about the level of investment that was required and because they didn't foresee needing the higher power for more than 25 percent of their beam-on time. Based on their predicament, Power by the Hour was born." >



The Trumpf TruLaser 1030 6-kW fiber laser is an available option within the Power by the Hour program, giving users higher power levels to expand and grow their business.

The program is available for Trumpf's TruLaser 1000 and 3000 series machines. In the case of the 1000 series, customers pay for a 2-kW machine, but physically receive a 6-kW machine. For the 3000 series, customers pay for a 6-kW machine, but receive a 10-kW machine. To participate in the program, two purchase orders are involved – one

for the laser (at the lower investment price) and one to enroll in the Power by the Hour program. Once enrolled, customers are charged a dollar per minute when they engage the higher power levels available on their laser.

To engage the higher power level, customers navigate the machine controls to find the tab for the Power >



↑ *Triofab Inc. invested in a new Trumpf TruLaser 1030, giving the company 6 kW of laser power at the price of a 2-kW machine.*

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↑ *Triofab is a family business that has consistently doubled its growth year over year. Pictured from left to right, Raquel Hernandez, Jerry Hernandez and Esmeralda Ramon.*

by the Hour configuration, which shows the power level currently in use. From there, a dropdown menu gives the option to switch to the higher power level, prompting the control for the laser source to reboot at the new power level. When it comes back up online, it will be operating in the higher power mode. Trumpf then measures

the amount of time the customer is cutting in the higher power level and invoices the customer accordingly.

“If a customer knows that they will always be cutting at the 10-kW level, then this program doesn’t make sense for them; I would recommend they get the 10-kW laser outright,” Quaranta >

Growing together

Triofab Inc. started as a small one-man operation, which over the years has constantly grown – from a respected prototype machinery builder to a full-service fab shop that works with customers from the ground up, offering engineering, fabrication, prototyping and full production services. The company works with large construction firms and oil and gas companies as well as manufacturers of all sizes in a variety of industries. If a smaller customer that might not have the means to hire an engineering firm needs a manufacturing partner, the team at Triofab will step up to help.

“Customers can come to us with nothing more than a sketch on a napkin,” says Jerry Hernandez Jr., president of Triofab. “For about 85 percent of our business, there are no drawings; it’s just customers asking if we can help make their ideas come to life. To say the least, the work here is pretty exciting.”

In the early days, Triofab was just a side job for Hernandez. “I would get off work, come home and do a little bit of fabrication work – it was just a weekend thing back then,” he says. That was before his mother, who he describes as his angel investor, decided to help out. Working for someone else for so long had deflated Hernandez, and as a mother, she noticed.

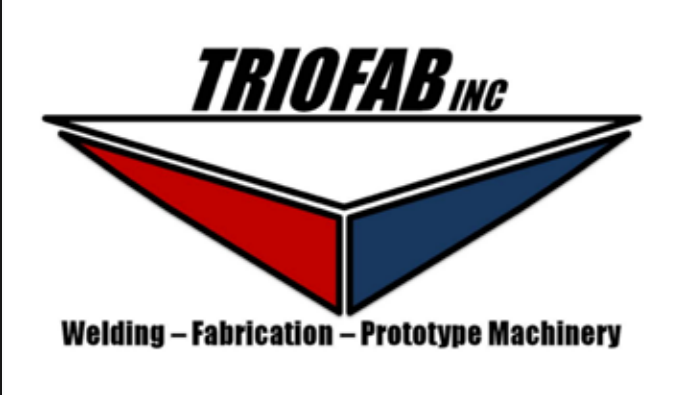
“I felt like I was wasting my talent – just doing the same thing over and over,” he says. “I was tired and downright bored, and so she asked if I could be happy taking my weekend

business to the next level. I thought I could, but the investment costs were so high. So, my mom refinanced her home and let me borrow the money I needed.

“We started the business in my carport, but we outgrew that pretty quick, so we rented the corner of a shop for \$500 per month,” he says. “We stayed there for a year and then bought some undeveloped land. Slowly but surely, we got all of the initial equipment we needed.”

Since then, Triofab has doubled its growth every year, and along the way, Hernandez has acquired more equipment. As the company grew, it took on bigger projects and more of them.

“It’s a family business, and we’re involved in the daily operations of everything,” he remarks. “My sister handles our accounting, and my wife heads up operations. When we have a new project, I get out there and lead the way. Overall, we have a fast-paced and fun working environment. Before launching Triofab, I was hitting the snooze button, but now I beat the alarm every morning.”





↑ *Triofab Inc. started as a specialist in custom machinery builds and has grown into a full-service engineering and fabricating firm, producing equipment such as the flexible tubing cradle shown here.*

says. “Power by the Hour was designed for customers that are growing as a business and still growing into these higher power levels.”

Doors of opportunity

Triofab Inc., a fabricator based out of Houston that specializes in building prototype machinery and other complex parts, enrolled in the Power by the Hour

program in October 2020 for its first-ever laser investment. For years, the company had been outsourcing its laser cutting needs, but time and time again, that business model proved problematic. Beyond the inability to fully control lead times, many laser cutting shops would refuse Triofab’s large jobs, claiming that they could not tie up their equipment for lengthy amounts of time. >

“We’d needed a laser for so long, and we couldn’t afford to lose any more business. But the challenge still remained: justifying the price tag of the higher power laser.”

// Jerry Hernandez, Jr., president, Triofab Inc. //



↑ *Triofab routinely handles thin-gauge material, but also needed the capability to cut up to 1-in.-thick material in-house.*

“There were so many times where we would get these huge projects – in one instance, a job called for the production of 350,000 shims,” explains Jerry Hernandez Jr., president of Triofab. “We tried to work with multiple laser shops to help with the project, but no one wanted to tie up their laser for that long. Either they didn’t want to do it, or the price was too high. To say the least, we lost those bids.”

Since Triofab opened its doors in 2008, the company has doubled its business

year over year, but the roadblocks created by outsourcing work were still incredibly frustrating. And then the Covid pandemic hit. Consistent incoming work became a huge uncertainty, so the possibility of losing yet another job became the straw that broke the camel’s back.

“A customer came in with a product for us to fabricate that had 27 components and took three hours to assemble,” Hernandez says. “As with all of the projects that we’re presented with, we looked for ways to improve the design. We were able to reduce the number of components from 27 parts to 9 parts, which substantially reduced the weight. It was a project that we were excited to take on.”

The customer was also incredibly pleased with the prototype and asked Triofab to build 26,000 units. Based on previous jobs, Hernandez knew the amount of cutting would be an issue for the laser shops he’d contracted with in the past, so he went to Trumpf and explained his predicament: He needed a laser in short order, but he also needed a higher power level than what the company might typically use. >



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“We’d needed a laser for so long, and we couldn’t afford to lose any more business,” Hernandez says. “But the challenge still remained: justifying the price tag of the higher power laser. While we cut a lot of thin material, at times, we’re also presented with projects that require 1-in. plate. After hearing about our needs, Trumpf told us about the Power by the Hour program, and without skipping a beat, I said, ‘I’m game.’”

Hernandez went with a TruLaser 1030 fiber laser with 6 kW of power at the

2-kW price tag. When he needs the higher laser power, he can turn it on. When he doesn’t need the higher power, he can still rely on a highly efficient 2-kW laser. In doing so, he’s not burdened by the bigger investment that would have come had he purchased the higher power laser outright.

Plenty of perks

Small to mid-range companies around the country were in the same boat as TrioFab, trying to figure out how to do business under difficult conditions. Many actively sought out

“When customers come in to do an audit on the shop, I tell them that the laser is a Lamborghini, but that we usually only drive it at 50 mph. But when we flip the switch, we can access all of its horsepower.”

// Jerry Hernandez, Jr., president, TrioFab Inc. //



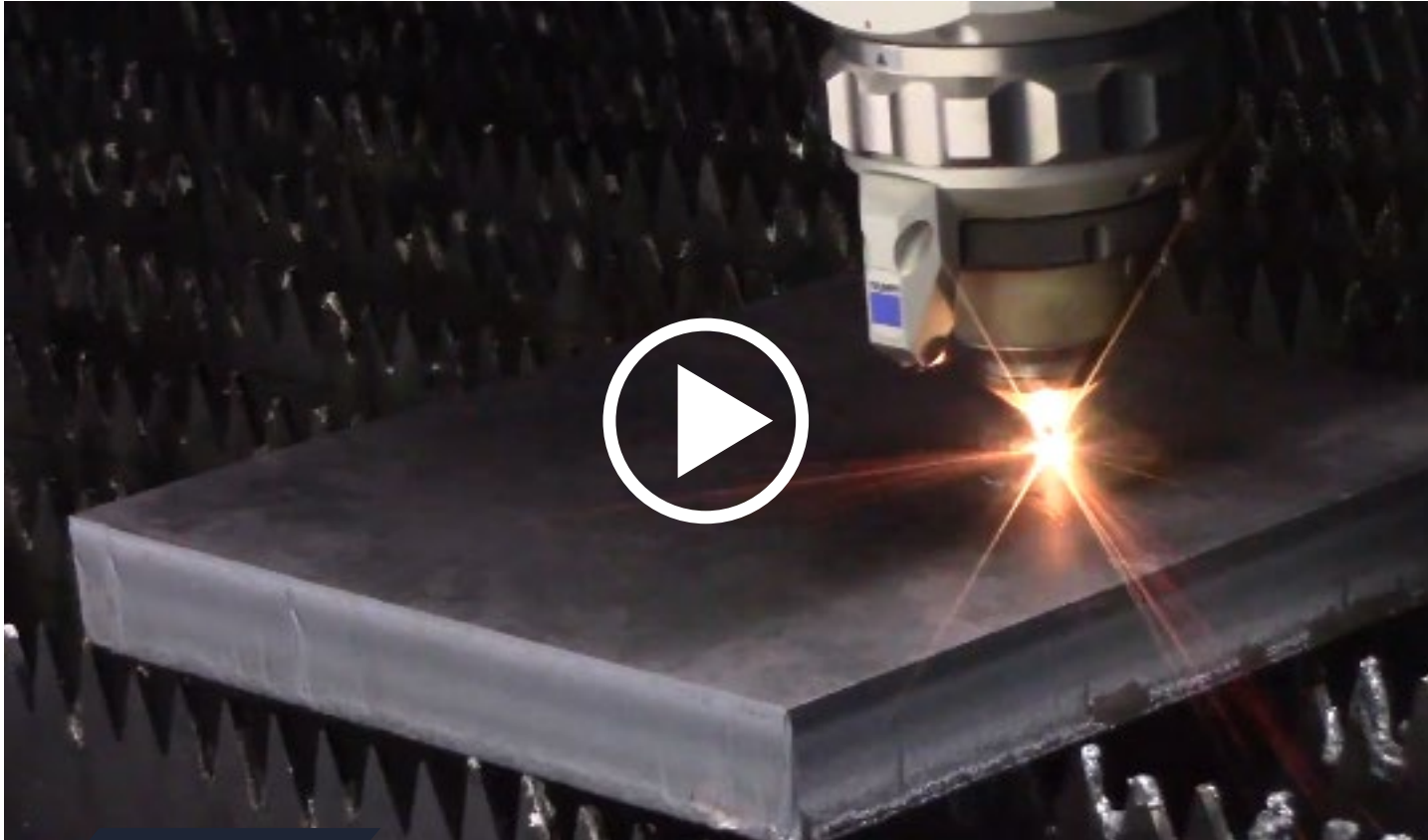
↑ Watch the video to learn about the Trumpf TruLaser 1030, one of the lasers cutters available in the Power by the Hour program.

new business, but were limited to the capabilities of their pre-existing equipment. Thanks to Power by the Hour, however, participants were able to bid on jobs that previously were out of their scope.

Opening up the doors to new business opportunities isn’t the only benefit that comes from access to higher power. Higher power lasers also introduce

faster cutting speeds and higher quality cuts.

“On top of controlling lead times, we’ve also experienced a huge increase in quality,” Hernandez says. “We had another large project presented to us that, as with many of our other projects, started out as nothing more than a sketch on a napkin. The product, a cradle used >




↑ *The higher power levels available from Trumpf's Power by the Hour program can achieve impressive results. Watch the video to see a TruLaser 3000 series quickly pierce through 1-in.-thick steel.*

for flexible tubing, could be cut on our plasma table, but we'd have to put the parts on a mill to drill out the required holes. To create 12 cradles in this manner would take two weeks. On the laser, we can do it in eight hours because of the shear speed of the laser, but also because we can cut the holes on the laser instead of having to use a milling machine."

The accuracy of the laser has further improved quality at TrioFab through better fit-ups. Hernandez says that by tabbing parts on the laser, his welders "are putting components together like Legos."

"Now, I'm designing jobs around the laser," he says. "And, as far as prototypes go, the laser has been a gamechanger. It reduces our



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prototyping costs and speeds up the overall prototyping process. Farming out one-offs was costly. Now, the only cost is the scrap material."

Advanced cutting technologies that are typically only available to higher power lasers users, such as Trumpf's Brightline technology, are yet another perk via the Power by the Hour program. Brightline, which is just one of many advanced cutting technologies associated with higher power levels, allows users to modify the laser beam diameter and beam mode to accommodate challenging or thick materials.

"When customers come in to do an audit on the shop, I tell them that

the laser is a Lamborghini, but that we usually only drive it at 50 mph," Hernandez says. "But when we flip the switch, we can access all of its horsepower. It's a fantastic concept where a fabricator can get their feet wet with higher powers at a discounted rate. Any investment is risky, but now those capabilities aren't out of reach." ■

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