by Kip Hanson, senior editor

COMPLETE COVERAGE

A new fiber laser covers all the bases in what a shop wants in a laser cutter

Recently, *Shop Floor Lasers* had the opportunity to chat with Dustin Diehl, product manager for Amada America Inc.'s laser division, to discuss the company's new Ventis 3015 AJ fiber laser. It boasts numerous new technologies, among them Locus Beam Control (LBC), which Amada calls revolutionary. After talking to Diehl, we tend to agree with him. Here's what he had to say.

Shop Floor Lasers: Judging by the product information on the Amada website, there's a lot going on with the Ventis. Where should we start?

Dustin Diehl: Well, one of the first things I should mention is that Amada is always stepping up its game when it comes to the size and power of our laser modules. For example, the Ventis has a single 4-kW module, which keeps its beam parameter product rating – the BPP – quite low. This, in turn, provides a very high spot density, a critical component of cutting efficiency and part quality.

SFL: What's the big deal about module size? Don't other builders offer similar technology?

Diehl: Not really. Most builders tend to use a series of 1,000-W modules, give or take, and run them in series to achieve the desired power output. We've found, however, that we can improve beam quality significantly by using one or perhaps two larger modules. The single 4-kW module used in the Ventis is an example.

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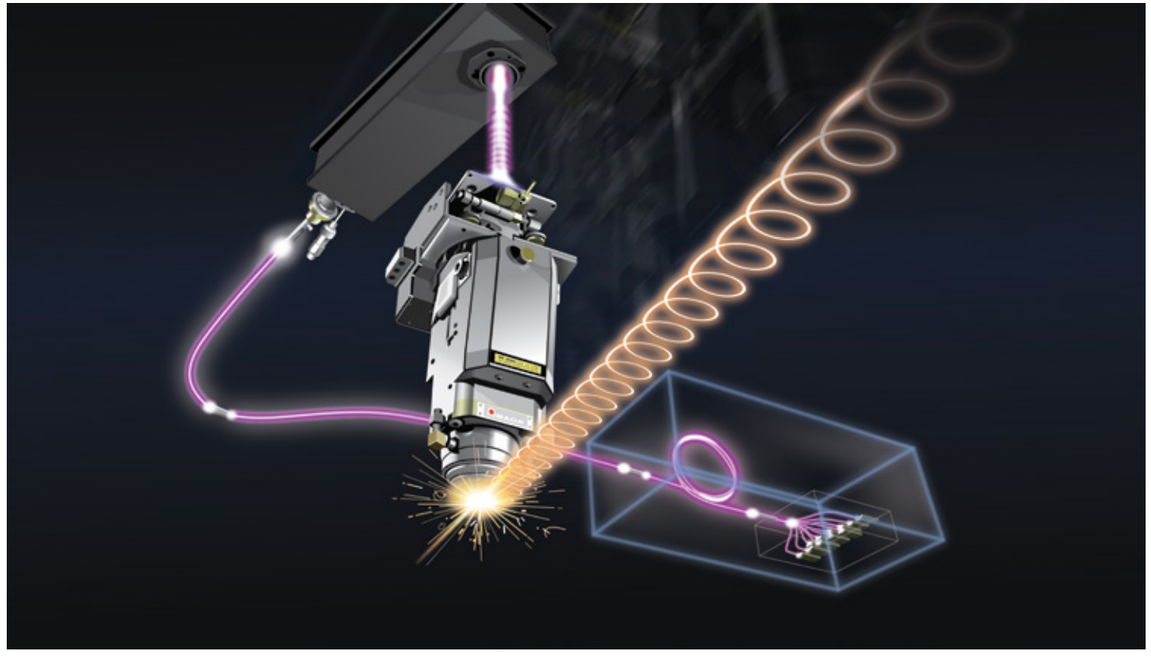
>
> *Dustin Diehl, product manager, laser division, Amada America Inc.*



Amada's Locus Beam Control (LBC) technology supports beam oscillation, improving edge quality and cutting speed.

SFL: But does that limit you to 4 kW on this machine? What if the shop needs more power?

Diehl: We've found that the high spot density of the Ventis means it has cutting capacity equal to 6-kW and even 8-kW machines. We can slice through 1-in. steel plate beautifully and see similar results in thick stainless and aluminum. It's also awesome at piercing – we can punch a clean hole through that same plate in just 5 or 6 sec.

SFL: How about power consumption?

Diehl: You're going to see around a 30 percent reduction in electrical costs, something that's becoming important to many shops. Also, because there →

are fewer components, there's less to go wrong later on, and your initial investment will be somewhat lower compared to a higher wattage machine.

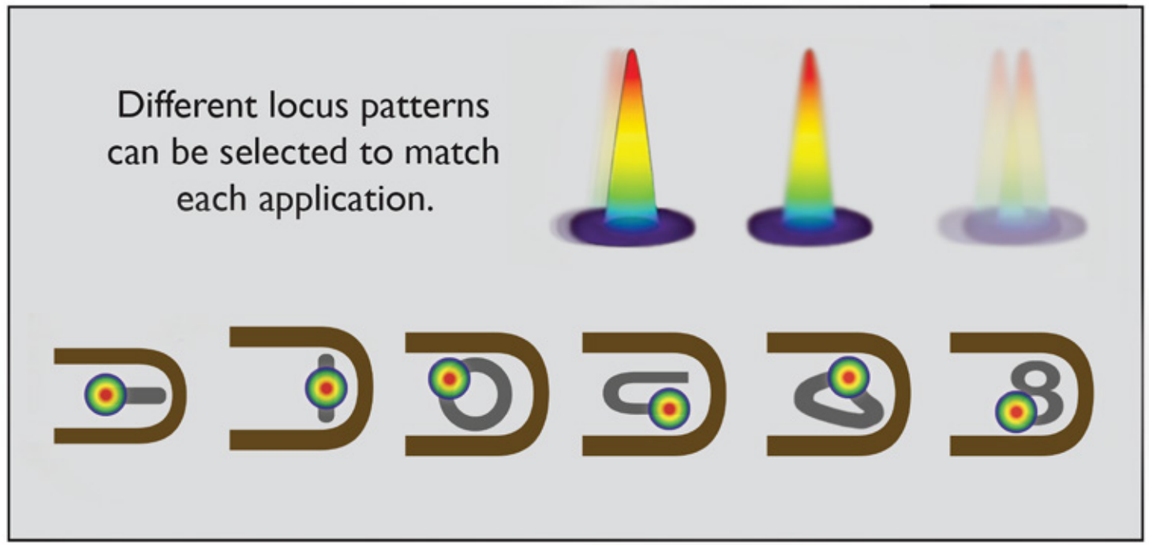
SFL: The LBC technology sounds like an important component to the Ventis. Can you tell us more about it?

Diehl: Every material has a focal point in which it likes to be cut, and if you can find the right one, you can dramatically improve throughput, as we learned with our Ensis technology. The Ventis with LBC technology allows you to oscillate the beam, maintaining a very high spot density on the fly. This makes it an excellent choice for shops that cut a variety of thicknesses. LBC takes this concept one step further, though, in that you can also choose the desired outcome using the quality, productivity and kerf mode to achieve your desired outcome.

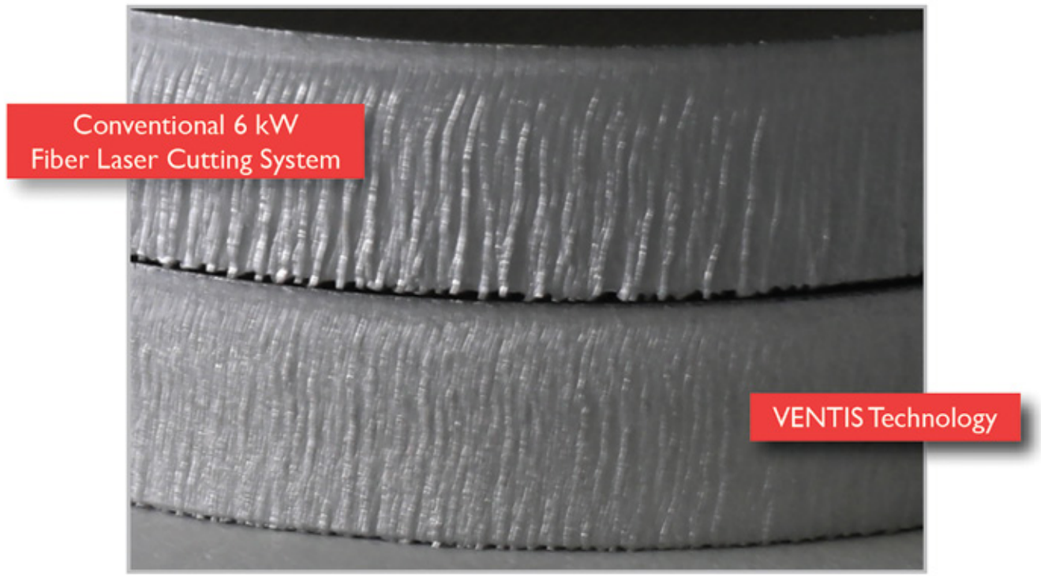
SFL: What does it mean to oscillate? Why would someone do that?

Diehl: Picture a circular welding pattern, or maybe a figure eight. Instead of having a fixed beam running in one direction, LBC allows you to weave the beam back and forth in these and other patterns as it advances. You can think of it as a sawing effect, one that uses a powerful, tightly focused beam. And for anyone concerned about possible taper in this →

Amada's Ventis 3015 AJ fiber laser features numerous new technologies, but still supports the company's array of automation and material handling options.



Unlike conventional fiber lasers, Ventis maintains maximum spot density regardless of material type or thickness.



Edge quality possible with the Ventis compared to a conventional 6-kW fiber laser.

situation, don't be – the edges coming off the Ventis are every bit as straight as those cut on our other fiber lasers.

SFL: That sounds cool, but what are the specific benefits?

Diehl: Several things. For starters, the Ventis produces superb edge quality, so it's a shoo-in for architectural, medical and food-grade parts. Second, it's virtually dross-free, regardless of the material. We see especially good results in stainless steel and aluminum, which, as everyone knows, can be tricky to cut cleanly. Also, because of the oscillating effect, we can adjust the kerf width up to 0.035 in. or so. This makes it much easier for a robot to pull parts out of a nest in an unattended manufacturing environment.

SFL: Doesn't all that back and forth movement waste time?

Diehl: Not at all. Our first customers are enjoying some very nice feed rate increases, even in thicker materials. In addition, the Ventis offers multiple beam modes for different part requirements. The quality mode, for instance, would be best for the stainless steel parts I just mentioned, but there's also a productivity mode that basically says, "Hey, I want to get through this stuff as fast as possible." You can dial it in for whatever's most important to you.

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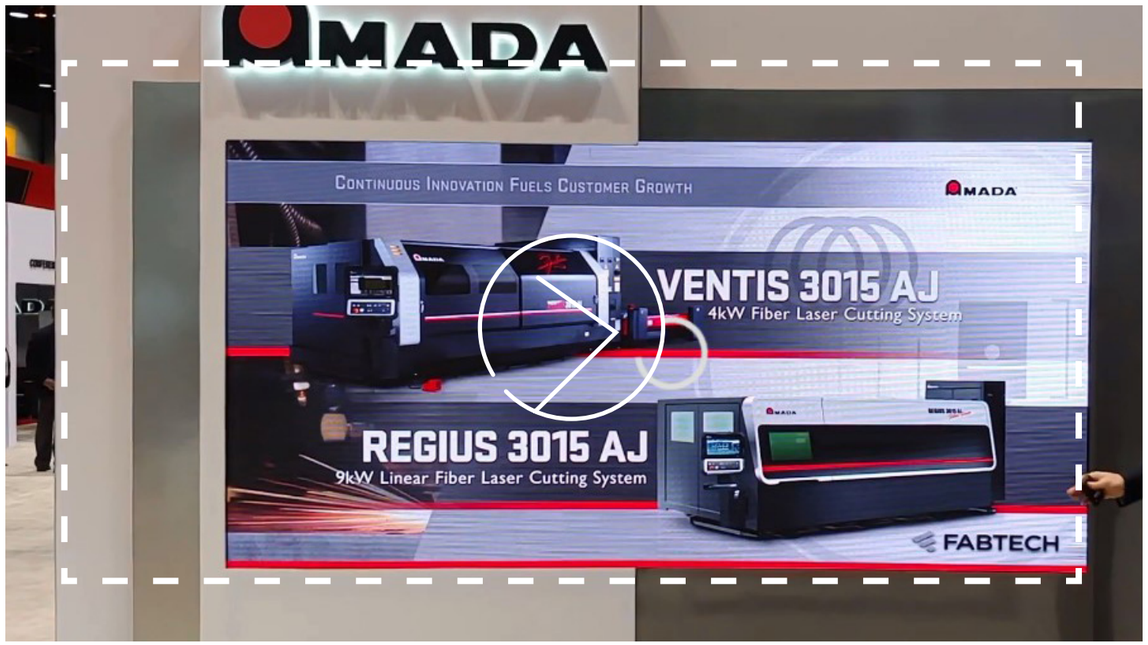

For those unable to attend Fabtech 2019, watch the video to see the Ventis presentation that was delivered at the show.

Diehl noted that the Ventis debuted at EuroBlech 2018 and Amada has since installed a dozen or so units in Europe. Its North American introduction was at last year's Fabtech in Chicago. If you happened to attend, you know that Amada also introduced another game-changing machine there, the Regius (for a refresher, take a look at the Fabtech Presentation video). For those, who follow such things (which should be everyone reading this), we'll cover that other new machine in the July edition of *FAB Shop*. Either way, Amada is currently working closely with certain customers and applications on both machine models, so if you want to get a leg up on the shop down the street, give Diehl a call. ●

Amada America Inc. →