ASK AN EXPERT

By Ed Balady

LOOKING FORWARD
In the next issue, you'll learn what new social media activities you need to do in 2015 to connect with clients and prospects.

Q *I'm interested in purchasing an embroidery laser. I understand that lasers come with different degrees of power. How can I determine which wattage I should buy?*

While the wattage of your laser is the primary determinant of the laser's power, there are other factors, such as the speed the laser is being run at and what the laser's "spot" is.

The laser spot is determined by how far the laser beam has to travel from the point of origin to the surface it is cutting. The distance is determined by the type of laser and the technology used to build the machine.

Two commonly used technologies are fiber optics and mirrors. With fiber optics, the beam travels down a tube. With mirrors, the beam is bounced from mirror to mirror until it reaches its destination.

The farther the beam has to travel, the weaker it becomes. This is why a 25-watt laser with a 0.2mm spot will have greater cutting power than a 60-watt tube with a spot of 0.6mm.

Fiber optics allows for a more direct route and therefore does a better job of maintaining the laser's strength. Each time the beam bounces from one mirror to the next, it weakens it, so mirrors are less effective. They also require more frequent cleaning, creating the need for more maintenance.

The speed of the laser also affects the power. If you're cutting a dense material that requires more power, one way to increase it is to slow it down. This gives the laser more time to cut through the material. Of course, if you slow the laser down too much, it impacts productivity, so your goal is to find the happy medium between sufficient power to do the job and maintaining a productive speed.

To determine how much laser power you need, the first question is, what do you want to cut? If you'll be using mostly jersey, fleece, felt and polyester twill, you won't need as powerful a laser as if you want to cut a lot of canvas and leather or etch on metal and wood.

There are three classes of lasers used in the decorated apparel industry. As the size of the machine increases so should the laser power. In the single-head embroidery laser class, there are two types of machines. One is an add-on integrated laser that can be attached to any make or model of embroidery machine.

The second type of single-head embroidery laser comes as an all-in-one unit so it can be used only with that brand of machine. The laser is built into the single-head embroidery machine, and it can't be detached and re-attached to another machine as the above model can do. In this class, laser power starts at 10 watts and goes up as high as 50 watts.

A 10-watt laser will handle the most popular fabrics such as knits and lace. A 25-watt laser gives you the power to cut tackle twill and felt. At 30 watts, you also could cut canvas and synthetic leather, and at 50 watts you can handle thicker fabrics such as plush velvet and home furnishing materials with tighter weaves. You can also etch metal, wood and plastics.

The next category of laser is standalone. This is an independent machine that's not attached to an embroidery machine. The embroidery hoop must be removed from the machine and brought over to the standalone. This is more labor intensive than the integrated embroidery lasers, but depending on the type of work and its flow, it can be the better choice.

The third category is laser bridge machines. These are the Cadillacs of embroidery lasers, with the most versatility, speed and flexibility. A bridge is built over a multi-head embroidery machine that the laser head travels up and down to reach each embroidery head.

The laser power of standalones and laser-bridge machines are similar in what's offered. Technically, these two classes can have power ranging from 10 watts to 400 watts, but the common usage ranges between 50 and 200 watts.

The greater the wattage, the higher the price, so this also is a consideration when choosing laser power. Once you get above 50 watts, you increase the range of materials that can be cut and the cutting speed. In addition, there's a greater ability to cut through multiple layers.

With standalones and laser bridge machines, another choice that affects the quality or cleanness of the cut and the size of the cutting field is the scan head, which come in 2-D and 3-D. In short, a 2-D scan head will give you a cutting area of approximately 12 inches square while a 3-D scan head can go up to 32 inches.

Before shopping for a laser, research what you can do and which products you want to offer. If you want to stick to basic appliqué on apparel, a laser between 10 and 50 watts will do. If you want the ability to cut appliqué faster or expand into promotional products made of metal and wood, a higher power is necessary.

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