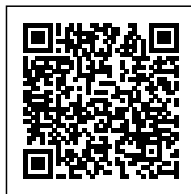


CUT ACRYLIC WITH YOUR LASER ENGRAVER/CUTTER

Posted on 2023-07-27 by redsail



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[Acrylic cutting](#) is common in laser processing, as acrylic is a common material for this application. However, getting a nice cut can sometimes be a problem, especially with thick acrylic.

How do you cut thick acrylic and get crystal clear edges? There are a few things to keep in mind when cutting thick acrylic.

Use a focusing lens (4 inches)

If the standard lens of the laser machine is 2 inches, then the maximum recommended acrylic thickness is 10mm. If you want to cut acrylic with a thickness of 15 mm or 20 mm or even thicker, you should choose a 4-inch lens to achieve it.

Minimize the blowing of the pen carriage

Many people like to use a powerful blower from the pen carriage, blowing strong air against the top of the acrylic. Most people think this cools the acrylic down and extinguishes the flame on the surface. However, this is only suitable for laser engraving or cutting thin materials. When cutting thick acrylic, if the flame goes out on the acrylic, it may be that the power of the laser is not enough to cut the acrylic completely, or the speed is too fast.

If you're cutting thick acrylic, you'll need more power at a lower speed. When strong winds from the pen carriage hit the top of the acrylic, the top edge of the acrylic will often develop a fuzzy or milky color. The minimal air blow on the pen carriage is mainly to protect the lenses from contamination. The trick is to bring in as little air as possible from the compressor. This can be adjusted with the air adjustment screw on the laser machine.

Align the center point of the acrylic

Operate the autofocus process as usual on top of the acrylic. Then you need to adjust manually, moving the table up 1/3 or even half of the material thickness.

The table moves up 3-15 mm, which is equivalent to 1/3 of the material thickness, and then 15-30 mm, which is equivalent to half of the material thickness.

Form a strong exhaust flow on the thick acrylic bottom

A good exhaust system is the first condition for a good working environment. The purpose of this airflow is to prevent flames on the bottom of the acrylic by pulling out flammable gases.

Place a thin sheet of aluminum foil or sheet on top of the grid table to cover the entire work area. The acrylic should be about 2-10 cm above the grid table. See instructions and pictures below.

Use high-resolution parameters

Resolution is a key factor when cutting thick acrylic with curves or large circles, and the DPI parameter must be set to 1000 or above. Also, PPI (pulses per inch) must all be set to "X".

When the machine starts cutting, the laser burns a hole in the acrylic and through the sheet, all the air/exhaust air is pulled out of the hole due to the strong airflow created.