

Sizes of laser beds - and what you can and can't do.

We sell small to large lasers, with a bed size ranging from 300mm x 400mm (PLT-3040) all the way up to 2000mm x 3000mm (PLT-2M3M).

These lasers are normally supplied with either a honeycomb insert or blades (and sometimes both).

The fact that you have purchased - for example - a PLT-6040 (600mm x 400mm) does not mean that your designs of that size will work as expected.

Mechanics and physics plays a role here, because although the bed may be capable of fitting a sheet of substrate that size, the head has to have space to move around, and this is even more critical when engraving. Due to inertia, the head needs this space to speed up and slow down when changing direction.

Obviously while the head is changing speed, the laser cannot be firing, so it switches off when the head moves past the boundaries of your design, meaning that depending on the speed you set, the laser will not be able to reach the absolute limits of the bed on the deceleration phase of its travels.

This is less noticeable on our smaller machines where the head weight is less than on the bigger machines.

The other issue with a honeycomb is the frame. While you may be happy to rest your material on the edges, thinner substrates will bow in the middle - possibly affecting the focus point, so should you be using a honeycomb, your material must rest on the aluminium inner - not on the edges.

Expect to "lose" less space when cutting with blades - about one centimeter all around for cutting - but with engraving, most likely more, as the physics involved mean that the heavier head has to move beyond the design left and right - depending on your engraving speed - by up to 10cm.

Bottom line is that with a smaller 3040 or 6040 honeycomb laser bed, expect to be able to cut 280mm x 380mm and 380mm x 580mm, respectively, and for engraving, if you run your speed at 280mm/second, you should be able to engrave a design of 280mm x 360mm and 380mm x 560mm, respectively, without any issues.

Engraving with a larger machine (with the larger head), more turnaround space will be required on the X axis (left to right).

Take this into account when doing your design.

