

# Tension Structures



A large number of Aeronaut plotter-cutters are used around the world cutting the specialised fabric for tension membranes, tents, marquees, lightweight and shade structures.

Because of Aeronaut's focus on industrial textiles, the vast majority of our plotters are wide span and heavy duty... perfectly designed for this type of work. A comprehensive range of machines is available from economical rotary blade and marker plotter-cutters to highly versatile multi-tool cutters.

Aeronaut makes machines in a vast range of sizes from 1.2 metres to 10.6 metres wide and up to 45 metres long. The moderate cut widths of plotters used in tension membrane work... typically 2.5 to 4.5 metres, are standard for us. As a result, the performance and reliability of Aeronaut machines is legendary.

Aeronaut cutters have been designed from the beginning to work with industrial textiles. They are heavy duty machines and can put an enormous amount of force down on the cutting blade... far more than most machines which started in the garment industry.

Aeronaut plotter-cutters offer several types of cutting technology, blade, laser and ultrasonic. The most common method of cutting roll fabric is to use a rotary blade knife. This blade cuts with a rolling action and makes fast, clean and precise cuts. All Aeronaut cutters can take blades in 18mm, 28mm and 45mm diameters.

Where more detailed cutting is required, a drag blade can be fitted. Aeronaut plotters take a very wide range of off-the shelf drag blades. The blade holders are fitted with a micrometer depth stop for precise adjustment of cut depth. Drill punches can be fitted to all machines.



**Aeronaut Plotter Cutters are available in a range of models from the affordable workhorse single steered tool and pen Elektron Mono plotter-cutter, to the multi-tool quick-change Elektron Quattro and Elektron B2 plotters which are the most versatile in the business.**

The unique quick-change tooling fitted to all Aeronaut cutters allows rapid blade changing and the use of a much wider range of tools than available with conventional machines. With powered tools such as reciprocating blade cutters and drills, thick materials can be cut with ease from foam to cardboard and carpet, extending the uses of the cutting system.

**A key part of any automated cutting system is the software used to drive it. Aeronaut's Tangent program is the most powerful and easy to use nesting and plotter control software on the market. Tangent has been designed from the start to work with industrial textiles, and reads all common CAD and fabric based file formats.**

Nesting software allows you to pack your patterns into the smallest space, leaving nesting gaps between patterns and the material edge if required. Tangent has manual, semi-automatic and fully automatic nesting. You can see a read-out for fabric waste and the job length at all times so you get the best material use with the least waste.

Using Tangent and an Aeronaut plotter with a laser pointer, you can digitise existing patterns into the computer. You can enter the corners of pieces of fabric on the vacuum table into Tangent, so small scraps of material can be fully used.

Tangent has a powerful set of tools to allow you to manipulate patterns. They can be duplicated, arrayed, split or rotated with just a few keystrokes. Simple shapes can be generated within Tangent without needing CAD skills.

Cut speed, acceleration and cut pressure are all software controlled. You can change tool speeds, cut order etc. using drag and drop with simple controls to let you test cut pieces before starting a complete run. And once your patterns are nested and saved, they can be opened with the complete job setup and re-plotted within minutes.

Automated cutting is the most accurate and profitable way to cut fabric structures. Aeronaut plotter-cutters are the most cost effective machines for cutting roll fabric, and a tool no modern factory can be without.

