

Composite Materials

It doesn't matter whether you're cutting carbon or glass, pre-preg, foam or cloth, whether you're involved in sport, aerospace or defence, an Aeronaut cutting system is the intelligent way to cut composite materials.

Aeronaut automated cutting systems are working in industries from hang gliding to super-yachts, armoured vehicles to motorcycle parts to cut composite raw materials faster, cleaner and more accurately.

The reasons are clear. Automated cutting is faster, more accurate and more economical than hand cutting. In fact one cutter can do the work of at least three people, but with zero mistakes and resulting benefits in product quality, reduced waste and improved profitability.

Aeronaut automated cutters are the most cost-effective answer to automated cutting. We manufacture a comprehensive range of machines from economical rotary blade and marker plotter-cutters to highly versatile multi-tool cutters. We make vacuum tables in a vast range of sizes from 1.2 metres to 10 metres wide and up to 45 metres long.

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 garment industry based machines.

Many materials such as laminates of pre-preg, thick glass cloth and mat which are arduous to cut by hand, are quite easy to cut with a machine. No more sharpening scissors. No expensive dies. No worrying about RSI.

Aeronaut automated cutters offer many types of cutting technology from blade to ultrasonic. The most common method of cutting composite materials is to use a rotary (pizza) blade knife. This tool cuts with a rolling action and is capable of fast, clean and precise cuts. 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.



The unique quick-change tooling on Aeronaut cutters allows the fitting of powered tools such as reciprocating blade cutters, ultrasonic tools and drills. A reciprocating blade cutter can be used to cut thick materials with ease including foam, thick glass mat and a range of other materials from cardboard to carpet, extending the uses of the cutting system beyond what's offered on garment based cutters.

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 cutter 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.

Since Tangent is a textile industry program, the threadline or orientation of patterns is preserved unless you choose to over-ride this and freely rotate patterns.

With Tangent and an Aeronaut automated cutter fitted with a bull's eye laser pointer, you can digitise existing patterns into the computer. You can also use the laser pointer to enter the boundaries of fabric on the vacuum table into Tangent, so small scraps of material can be fully used. And once your patterns are nested and saved, they can be opened with the complete job setup and re-cut within minutes.

Tangent has a powerful set of tools to allow you to manipulate patterns and to control the way a job is cut. Patterns can be duplicated, arrayed, split, 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 simple drag and drop with simple controls to let you test cut pieces before starting a complete run.

Automated cutting is the most profitable way to cut composites and Aeronaut automated cutters are the most cost effective tools on the market, and a tool no modern factory can afford to be without.

