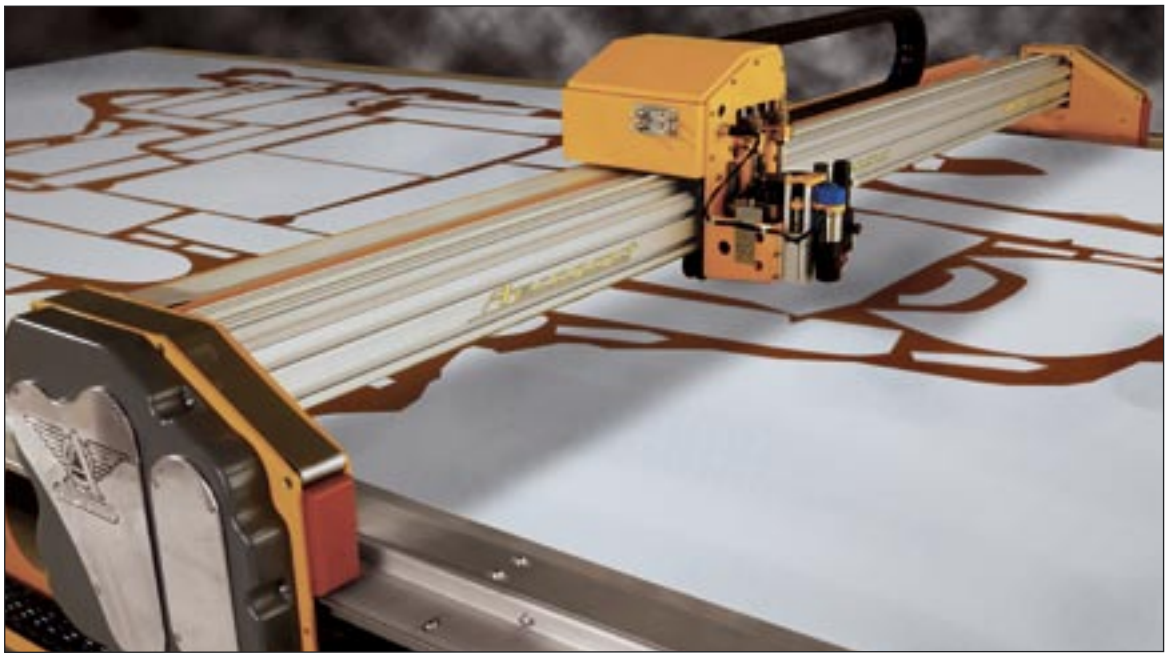
Maxis

Computer Controlled Robotic Plotter Cutters

The Aeronaut Leather Cutting System

Fast, Intelligent, Precise. Automated Leather Cutting You Can Afford.



The Aeronaut Leather System is a complete system for cutting leather comprising automated pattern and hide scanning, interactive nesting and computer controlled cutting.

The system has been designed from the beginning to be the most affordable and practical leather cutting system on the market.

Using the best state of the art, off the shelf hardware you get highly efficient production without the high cost normally associated with these systems.

Aeronaut's digital pattern recognition system offers high speed and accurate hide scanning which you can also use to scan patterns into the system.

The combination of Tangent nesting software and overhead projection of patterns on to the hide gives you the choice of manual, interactive and fully automatic nesting for high speed and bespoke work.

- Improved productivity
- Improved Quality
- Maximised yield
- Eliminates templates
- Simple Software
- High speed scanning
- Interactive nesting
- Automatic nesting
- Accurate pattern scanning
- High speed rotary cutter
- 10 second blade changes
- Australian made
- Low Maintenance
- Easy Servicing
- Low Purchase Price

The Aeronaut Leather System is based on the Maxis range of plotter cutters. These legendary machines are the benchmark standard of performance and reliability in wide format cutters for industrial textiles. Leather sytems can be based around simple, cost effective rotary blade and pen cutters, or high end multi-tool machines. Systems can be built from half and full hide tables to multi-station cutters with movable overhead camera and projection rigs. And being a Maxis cutter, the system is exapandable to suit the work you do, now and in the future.

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The Hardware

The Aeronaut Leather System is based around a standard Maxis plotter-cutter and vacuum table. An overhead rig above the table carries a high resolution digital camera and/or a high luminance projector.

All systems are fitted with pen holders for marking sew lines and piece numbers and a laser pointer for defect marking and pattern matching. Depending on the customer's requirements, the cutter may be a Maxis Pz fitted with a high performance rotary blade, or a quick-change tool holder machine such as a Maxis 1 or Maxis ll capable of carrying rotary, drag and reciprocating blade cutters as well as drill punch tools. Cutting speeds are up to 1 metre/second.

Vacuum tables are supplied with a very long-life plastic table top suitable for leather, or a porous plastic top suitable for leather and woven fabric. Vacuum tables are sectioned with pneumaticaly controlled blast gates and fitted with a silenced high-flow vacuum pump.

Aeronaut Leather Systems can be supplied in half or full hide widths, and in single, dual or up to five cutting station lengths. Systems longer than one cutting station are fitted with a moving computer work station alongside the table and have a computer controlled overhead carriage to support the hide scanning camera and/or projector.

Systems can be fitted with a high resolution digital camera and calibrated lens for hide and pattern scanning. The scan and trace of a hide outline with automatic flaw detection ready for nesting takes approximately 17 seconds.

The same equipment can be used for pattern scanning. Single patterns or groups of patterns up to the size of the station, can be scanned and traced automatically. In many cases patterns are ready for use immediately, or they can be edited to improve the design. Where paper or card patterns are developed to fit complex shapes, this process can dramatically reduce production time.

In some leather cutting applications it is essential to match patterns to leather grain and texture. Here, systems can be fitted with projectors to allow interactive nesting of patterns on the hide. Operators can accurately position key patterns directly on the hide, and autonest the remaining patterns using the computer.

You can use your cutter for more than just leather… roll fabric, foam and even packaging materials such as cardboard can be cut, making your investment go further and effectively future proofing the system.

The Software

The software used in the Aeronaut Leather System has been specially developed for use with leather cutting. The main programs are Silhouette, used for hide scanning, defect marking and pattern tracing and Tangent which is used for nesting, camera and projector control and plotting.

Silhouette is used to calibrate the digital camera and lens and the camera is controlled directly from the computer. Images from the camera are automatically downloaded in about 5 seconds. Image files are opened by Silhouette and traced in one of several modes.

Patterns are traced in a few seconds and either exported to Tangent ready to nest, or edited in a CAD program to reshape patterns and add production details. On a typical full hide table, patterns can be scanned to an accuracy of approx ± 1mm. Since pattern traces can be exported to Tangent "in position", scans can be rapidly checked by running the plotter around the traced outline.

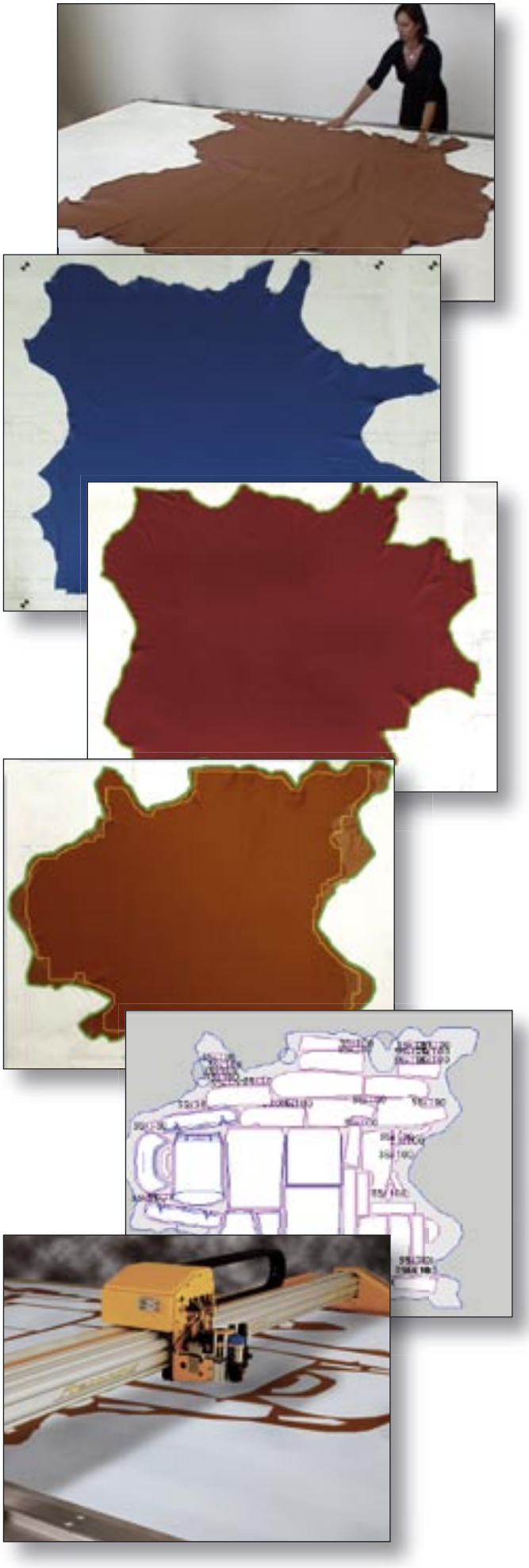
Hide outlines are traced by Silhouette for auto-nesting. Defects or hide faults can be detected automatically, and/or added manually to the traced outline. Faults which have been marked directly on the hide by the operator can be easily picked up at this stage. The hide outline and fault zones are exported automatically to Tangent.

Tangent is used for nesting patterns into the hide outline and plotter control. Patterns for a product can be saved as libraries and using drag and drop, automatically nested into hide outlines. Key patterns can be nested by hand, and the rest of the hide filled using autonesting.

Where cutting tables have more than one station, the overhead camera/projector rig is automatically indexed by Tangent. The projector system shows the Tangent window on the hide, and can calibrated to allow patterns to be positioned to an accuracy of approx 5mm.

Tangent is a multi-window application, so patterns can be sorted and nested on several hides at the same time, and patterns from more than one job nested into the same hide.

A range of computers can be used with the system, from economical single screen computers to high end, multi-screen multi-processor computers so scanning, nesting and cutting can be done quickly and simulataneously.



Aeronaut Leather System

Product Specifications

- Single, dual or multi-station cutting table, full or half hide width fitted with Maxis LC (Half hide only) Maxis Pz, Maxis 1 or Maxis ll cutting heads (see individual brochures).
- Rotary cutting blade (Std) with optional quick change drag blade and reciprocating blade cutters, pen marker and bullseye laser pointer for pattern matching.
- Optional high speed, high resolution digital camera fitted with calibrated wide angle lens with remote control and image capture software
- Optional high luminance data projector projecting the calibrated output from one computer screen onto the vacuum table. (Systems may be fitted with one or both of these options.)
- Computer for nesting, plotting and camera control fitted with one or two LCD screens and single or dual CPUs.
- Multi-station tables fitted with mobile computer work station to allow interactive fault detection and nesting.
- Vacuum table fitted with high-flow vacuum pump (5.5KVA), silencer and 4 pneumatically switched blast gates per full station. Multi-station tables have 2 or more vacuum pumps.
- Camera systems have Silhouette hide and pattern auto-tracing and fault detection software.
- Tangent nesting. projector control and plotter management software. Features manual, semi-automatic, interactive and automatic nesting into hide outlines.
- File formats supported: DXF-AAMA, NC, EPSF, Illustrator, HPGL, Vectorscript, SMSW NTV and others.
- Steered Cutting Tools, 18mm & 28mm dia. rotary blade blade (standard). Tangential or drag blade cutters. Oscillating or reciprocating cutter (electric).
- Optional drill punch tool.
- Cuts leather, woven cloth, PVC, vinyl, foam (up to 15mm) carpet and cardboard.

Max. Plotting/Cutting Speed
1000 mm/sec (42 ips)

Drive System
Cat drive Micro-Stepping Motors
(2 on X-axis, 1 on each other axes)

Control Cabinet Dimensions
630 x 540x 250mm (25″ x 21″ x 10″)

Available Cutting Widths*

Half hide	1650mm (63″)
Full hide	2450mm (96″)

* Other widths available on request.
For overall table width add 440mm (17.3″).

Available Cutting Lengths*

Single Station	3200mm
Dual Station	6400mm
Multi Station	n x 3200mm

* Other lengths available on request.
For table length add 800mm (32″).

Electrical Requirements
220-220 VAC, at 8 amps
100-120 VAC at 16amps
Vacuum pumps 5.5 KVA each.

Compressed Air Requirements
1.5-7 bar @ < 7 l/min (25-80 psi @ < 0.25 cfm)

Specifications subject to change without notice.

Your Authorised Dealer:

Aeronaut cutters are Australian designed and manufactured. They're exported and used around the world from West Bend to Slovenia. Aeronaut Automation have been building plotter~cutters in Australia for more than 10 years. Our machines have many unique features giving them unmatched versatility, accuracy and power. Focussing on wide-span cutters for industrial textiles, we build a range of machines which are world class in performance, with a price tag any factory can afford.

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