Revolution 120
At last with the introduction of the VECTOR Revolution120, there is an affordable solution which meets the exacting quality standards required to band contours, but which can be attained by even small to medium manufacturers.

It is now possible to handle complex shapes and varied banding materials while maintaining the industry-leading edge bond and single-pass processing previously found only in the larger VECTOR Revolution180.

Further, the VECTOR Revolution120 introduces new features to the technology. This feature means the banding head does not stop feeding when performing the end trim of the band, allowing the end-trimming which can occur on the end of the band to be eliminated. It also increases the cycle time of the machine.

The VECTOR Revolution120 is a natural progression of the patented VECTOR Revolution process but packaged in a smaller body. The essential features of the 180 remain:

- NO PROGRAMMING
- COMPATIBILITY WITH NESTED BASED MANUFACTURING
- SIMULTANEOUS PROCESSING
- INDUSTRY LEADING EDGE APPLICATION
- PRESSURE AND GLUE BOND
- SIMPLE TO OWN
- SIMPLE TO OPERATE
- SIMPLE TO MAINTAIN

The VECTOR Revolution120 is a dedicated contour edgerouter which separates the banding process from panel routing. This has a number of advantages including: optimisation of the machining centre and banding process; ensuring maximum quality of the edge; maximising the cycle time of the machine before commencing its own. The VECTOR Revolution120 uses a unique design and with a traditional profile and a CNC machine as with nested-based manufacturing.

The VECTOR Revolution120 uses a new two pressure roller system enabling pressure reduction on thinner sensitive materials where telegraphing of the substrate can be an issue. Also, the VECTOR Revolution120 introduces the new SuperFLY end trim unit. This feature means the banding head does not stop feeding when performing the end trim of the band, thus eliminating the heat stretch which can occur on the end of the band.

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The glue is applied to the edge prior to its being applied to the workpiece. The cartridge glue system is often a substantial benefit in this type of application. In particular, it is beneficial that the glue is applied to the workpiece only to the width of the workpiece. The glue is applied to the edge bond which is trimmed away in glue-free leaving the cutters clean.

The unit will also accept PUR glues meaning a waterproof bond and near zero glue line.

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A nozzle wiper automatically cleans the nozzle grooves on the start and completion of every cycle. This ensures the leading edge of the band remains clean and free of any excess glue. The glue nozzle is situated only 35mm from the first pressure roller meaning that even when slowing for banding around tight radiuses, the glue does not have time to flash off before being pressed against the panel.

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The sealed nozzle glue system does not allow the glue to deteriorate or burn and when combined with industry leading edge roller pressure, the VECTOR Revolution120 delivers the tightest glue bond.

Another innovation of the VECTOR Revolution120 is the edge feed mechanism which is mounted above the aggregate and is driven by a simple winder mechanism. The edge is thus continuously fed and remains ready for the next workpiece as long as the saw has cut a little end of the previous piece. No need for expensive and complex edge feeding units to provide lengths for each workpiece.

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In addition to all of the other benefits of the VECTOR Revolution120, the SideWinder trimming unit. The clever suspension of this unit enables it to follow complex shapes, trimming in the same pass as the edge application process, dramatically reducing cycle times.

The SideWinder trimming unit can also be equipped with a surface (glue joint) scraper. This unit is particularly beneficial when the workpieces are not flat. In this situation, the trimmer can be set with a small 0.1mm overhang and the surface scraper will leave a smooth transition without damaging the panel surface.

features

Cartridge Glue System

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The control screen.

Butt joint adjustment is able to be made from the arm which is fitted with a precision linear encoder. The join is precisely measured by the join sensor dependent). This means that even thin edgebands of 1mm feed to be stopped.

The joint of the edge where a complete 360° moving table in X direction.

Consequently the strength and quality of the band, glue and pressure onto the corner with no possibility of slipping or crushing of the corner. Consequently the strength and quality of the edge band to glue joint, in the most suitable position – being the corner – is maintained.

The joint is precisely measured by the joint sensor arm which is fitted with a precision linear encoder. Butt joint adjustment is able to be made from the control screen.

The workpieces are supported by means of vacuum cups sitting on a large flat bed. Vacuum cups are connected via manifold pucks mounted on the table making connection simple.

Where square cornered panels are to be processed the VECTOR Revolution 120 uses special EndPODS. These pods incorporate precision driven fingers with a prismatic bearing rails.

This overcomes problems caused by trying to synchronize the glue, banding and pressure exactly on the free corner of a panel. The start and finish plates create a seamless transition of shape onto the worksurface. This facilitates the synchronising of settings to the machine so that operator intervention is minimal.

Optional AutoTRIM EndPODS are available which automatically flush the inner corner on completion of the edge while the head is traversing to its next position – true maintaining the VECTOR Revolution 120 philosophy of simultaneous processing.

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The joint of the edge where a complete 360° banding is in-built with a high quality first pass high pressure exhaustion fan feeding into low maintenance filter box. The large filter box is easily emptied into a bin placed at the end of the machine.

The filter box is mounted on the end of the machine (15 Amps) makes the VECTOR Revolution120 simple to position conveniently in your factory.

The projection image is simply created in the office by inserting the panel dxf or dwg file into the projection package. This image file is transferred to the dedicated projection PC and can be called up either by the keypad supplied or by barcode.

Some start settings as well as a number of other simple settings such can be saved to the PLC by the operator as named files enabling easy retrieval according to different product types. It is also possible to enable automatic, downloading of settings to the machine so that operator intervention is minimal.

The VECTOR Revolution120 because there is no routing function on the machine. All bearings, pneumatics and electrical components are sourced from international companies and are available worldwide.

An optional projection system is now available which uses a media projector to beam the panel image onto the worksurface. This facilitates the positioning of the vacuum pods prior to placing the panel on the machine.

This built in extraction eliminates the need to connect into central extraction systems. This overcomes problems caused by trying to synchronize the glue, banding and pressure exactly on the free corner of a panel. The start and finish plates create a seamless transition of shape onto the worksurface. This facilitates the synchronising of settings to the machine so that operator intervention is minimal.

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**RIGID MACHINE FRAME** ensuring long life and stability

**PRISMATIC BEARINGS FOR ALL AXES**

**PLC CONTROL WITH COLOR TOUCH SCREEN USER-INTERFACE 15”**

**PATENTED VECTOR REVOLUTION OPERATING SYSTEM**

**NO PROGRAMMING REQUIRED**

**PATENTED SIDEWINDER TRIMMER UNIT** enabling edging and trimming in one pass

**CARTRIDGE GLUE SYSTEM WITH QUICK SETTING SYSTEM FOR DIFFERENT BOARD THICKNESSES**

**2 PRESSURE ROLLERS**

**EDGE COIL MOUNTED ON AGGREGATE ALUMINUM AUTO-PLEO**

**SUPERFLY END TRIM UNIT**

**CENTRE COIL MOUNTED ERGONOMICALLY MOUNTED ON FRAME**

**FLAT WORKING BED** allowing simple and flexible positioning of vacuum cups

**SINGLE VACUUM FIELD WITH TWO START POSITIONS ALLOWS BANDING OF TWO OPPOSITE EDGES IN ONE SETUP**

**OPTIONAL LIFTING VACUUM PODS ENABLING EASY HANDLING OF LARGE PANELS**

**375KW TRIMMER MOTOR DRIVING TWO CUTTERHEADS WITH CARBIDE INSERTS (DIAMOND OPTIONAL)**

**SHAVINGS EXTRACTION**

**40M3/HR VACUUM PUMP**

**POWER CONSUMPTION 7.5KW 480V 60HZ 3 PHASE OR 400V 50HZ 3 PHASE**

**OPERATING AIR PRESSURE 7 BAR (101.5 PSI)**

**WORKPIECE DIMENSIONS**

**Field size**

<table>
<thead>
<tr>
<th>X dimension (mm)</th>
<th>Y dimension (mm)</th>
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<tbody>
<tr>
<td>2440</td>
<td>1220</td>
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**Panel thickness**

- 16 – 40mm (5 panel sizes to be specified for dosing bar)

**Number of vacuum pods**

- 6 (6) Standard (non-lifting) pods
- 2 (2) Standard lead in pods (non-automatic) for non-360 panels
- If optional AutoTRIM EndPODs selected, standard lead pods excluded

**END OF EDGE SENSING FOR HIGH QUALITY EDGE JOINT ON PANELS WITH 360 DEGREE EDGING**

**MINIMUM EXTERNAL RADIUS 50MM (MATERIAL DEPENDENT)**

**MINIMUM INTERNAL RADIUS 50MM (WITH EDGE APPLIED)**

**MINIMUM EDGE THICKNESS <1.0MM (MATERIAL DEPENDENT)**

**MINIMUM EDGE THICKNESS 2MM**

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Certain details of the provided specifications and photos may deviate from the supplied product. Changes may be made to the above details in the interests of development and improvement.

The VECTOR Revolution 120 is proudly designed and produced in New Zealand.