Reliant™

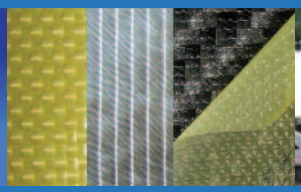
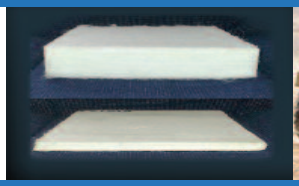
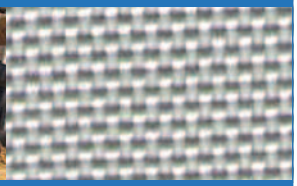
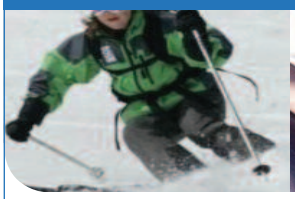
Worldwide Leader in Flatbed Lamination

Laminating & Compression Machinery Range

About Us

Worldwide Leader
in Flatbed Lamination

Many industries benefit from the high level of
technical advantages offered by Reliant Machinery

Aerospace	Prepregs	Composites	Automotive	Medical
				
Nonwovens	**Technical Textiles**	**Compression**	**Defence**	**Filtration**
				
Leisure Industry	**Lingerie**	**Footwear**	**Household**	**Office Furniture**
				

Reliant is a leading manufacturer of innovative flatbed laminating equipment.

Established in 1969, Reliant brings almost 50 years of experience to its current state of the art range of machinery. Reliant's philosophy is to offer reliable equipment, which is capable of the highest level of flexibility possible.

Reliant has thousands of satisfied customers using its equipment around the world, which has proven to provide quality output and a high level of reliability.

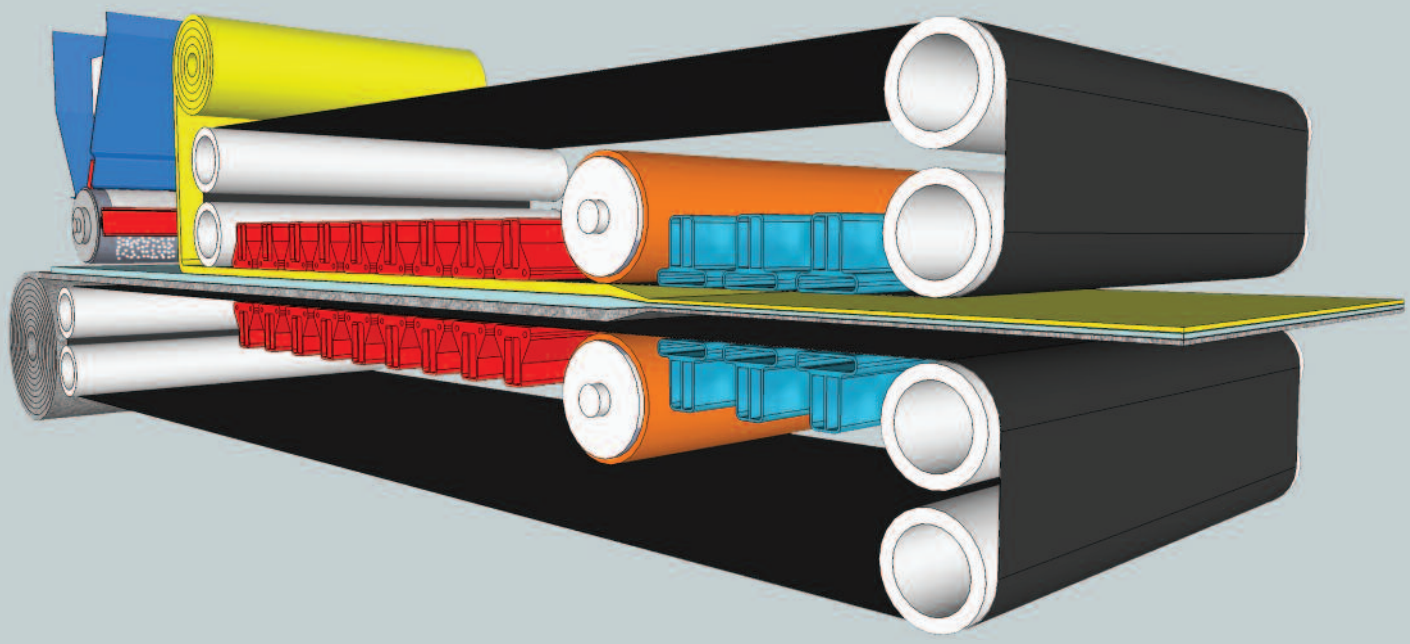
Continuous innovation of its product range is the key element in the company's ongoing development. Reliant flatbed laminators can handle continuously fed materials as well as cut pieces and sheets. Multi-layer lamination in one pass is also achievable.

The company offers small and large producers alike, exceptional value and quality throughout the product range.

Reliant machines can be used in conjunction with a wide range of thermoplastic polymers and some thermosetting adhesive systems. Adhesives in film, web, powder, pressure sensitive, and some liquid formats can be processed.

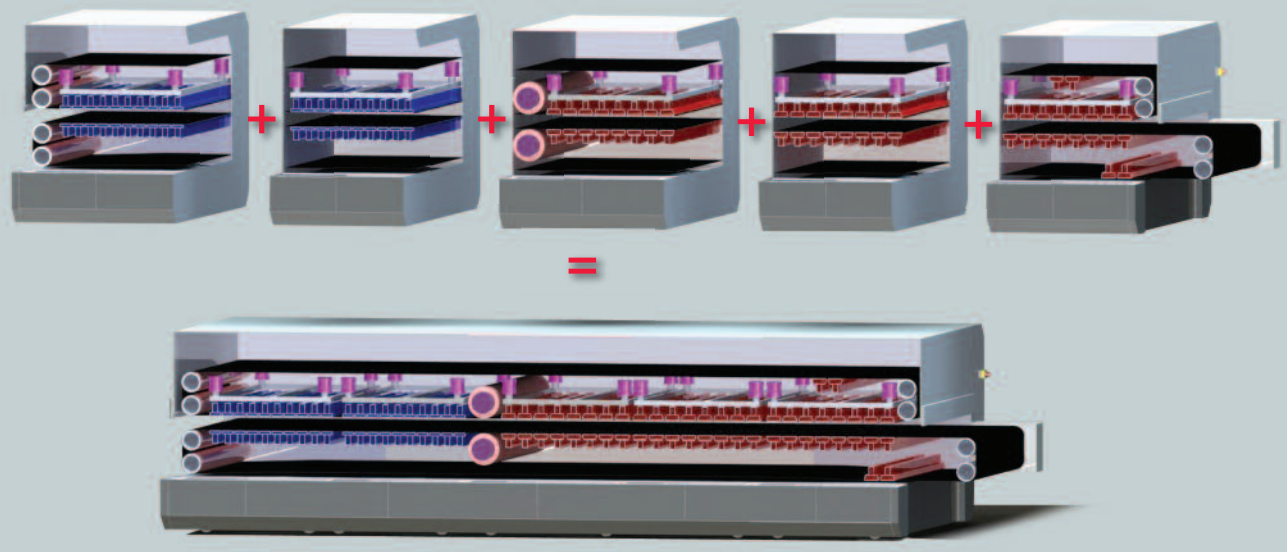
In addition our devices can heat set, compress, and, or calibrate as well as laminate many substrates using the company's latest HPC technology.

Our Technology



Reliant Modular Construction System

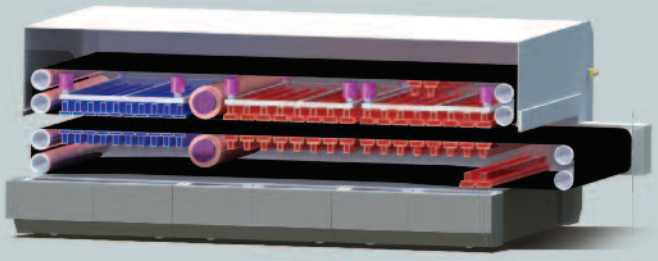
Reliant offers a completely unique modular design of equipment. From standard 1m – 1.5m lengths of heating, cooling and pressure sections, machines can be assembled to any length required for particular applications. The production efficiencies achieved by this modular construction system allow us to offer great value for money on our highly specified equipment.



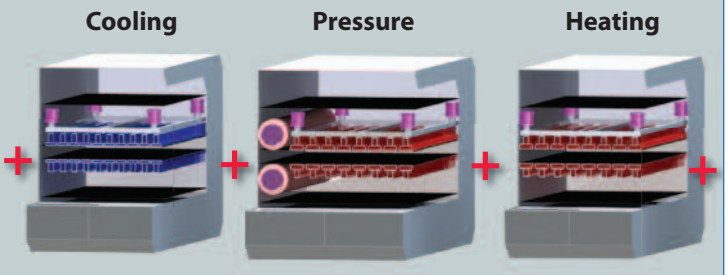
- The horizontal conveyor allows both flexible and rigid materials to be processed.
- Conveyors carry the materials through the process completely "stress-free".
- Thin materials of only a few microns and thick materials of up to 150mm can be processed.
- The top & bottom conveyors can feed the product lightly without pressure or can apply high pressure.
- Zoned heating controls allows top & bottom, width and lengthways heating to be controlled independently.
- Pressure can be applied during the heating and cooling process if required so products can be compressed and calibrated.
- The calendering nip roller system can apply additional high pressure independently in one or more areas of the tunnel.
- Reel to Reel or sheet fed piece processing can be handled and sheet-reel-sheet feeding can also be integrated.
- Multi-layer constructions can be laminated in one pass.
- Speed of processing can be varied widely.
- Reliant laminating tunnels can be integrated with a wide range of peripheral equipment or can be supplied as stand alone units.

Powerbond HPC

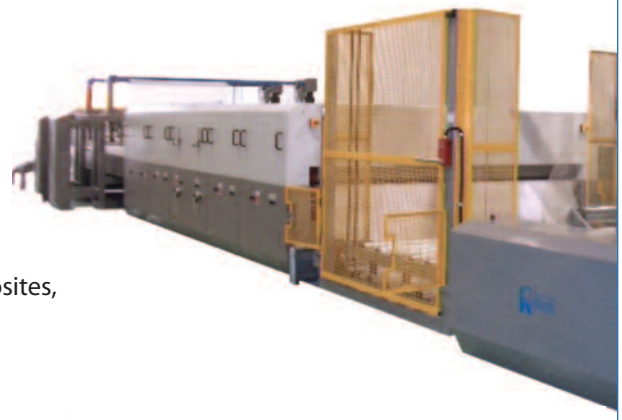
Typical Powerbond HPC Tunnel Layout



1500mm additional modular sections



Powerbond HPC Modular High Pressure Compression



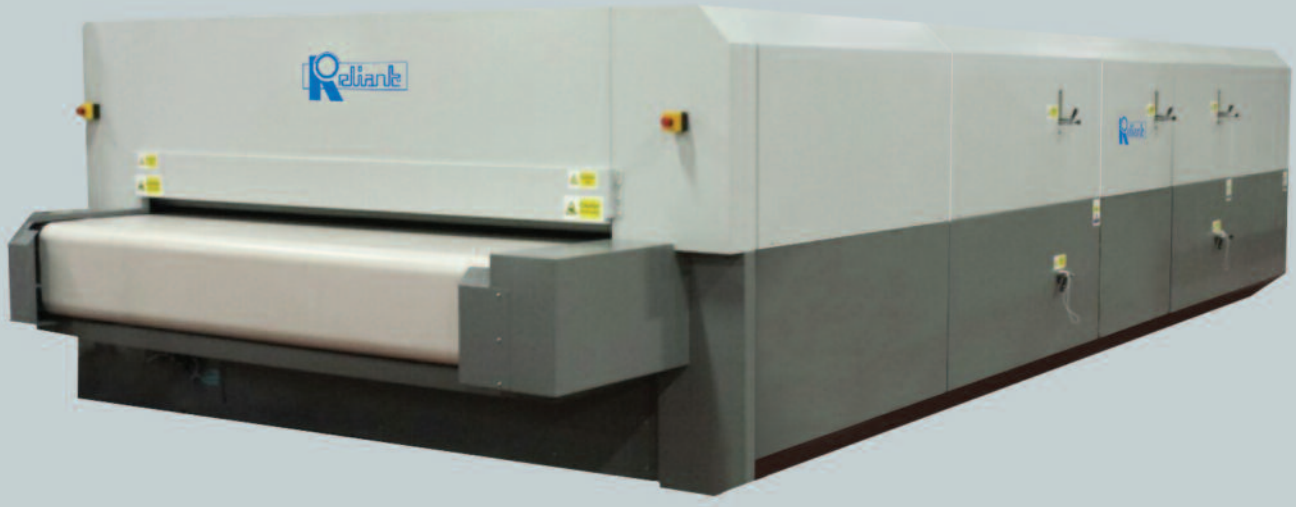
The Powerbond HPC brings Reliant's highly successful fully modular and flexible assembly concept, together with a high pressure system capable of applying significantly increased levels of pressure during both the heating and cooling phases.

Starting with 3400mm heating and 1700mm cooling sections, materials of up to 150mm thick, which require laminating under high pressure, calibration of thickness or compression, can be run on the Powerbond HPC. The system is ideal for production of pre-preg composites, compressed nonwoven's, recycled materials and similar products.

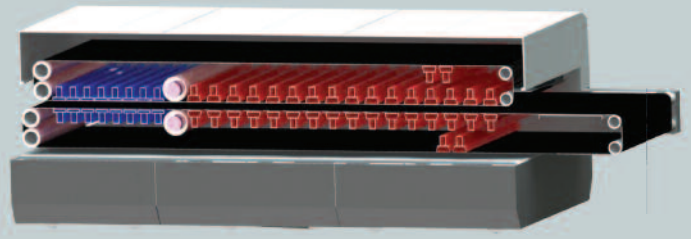
Powerbond HPC Specification/ Options:

- Widths from 600mm – 3000mm
- Heavy duty construction
- 1500mm length modular tunnel sections of heating and cooling
- Automatic tunnel gap opening capacity 0 -150mm in 0.1mm increments
- Individually controlled pressurised sections of heating and cooling
- Single or multiple pressure rollers with various constructions
- Endless or pre-joined belts with a range of surface finishes
- Wide range of power options
- Multiple heating zone control
- PLC touch screen control for all functions
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance and tensioning system
- Easy and fast belt changing system
- Full range of peripheral equipment for in-line and turnkey operations

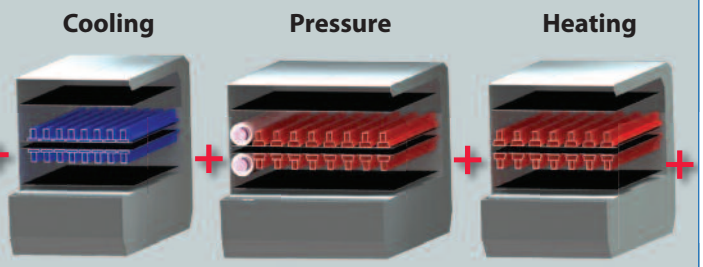
Powerbond HPL



Typical Powerbond HPL Tunnel Layout



1500mm additional modular sections



Powerbond HPL Modular High Pressure Lamination

The Powerbond HPL is the newest addition to the range of laminators from Reliant. Its robust design is ideal for products requiring significant pressure and contact during lamination, but don't need to be fully compacted during heating and cooling.

Starting with 2500mm heating section, additional 1500mm sections of heating, cooling and pressure can added using Reliant's highly successful modular design and flexible assembly concept. In addition the Powerbond HPL can be used for extremely thin film materials to products up to 150mm thick.

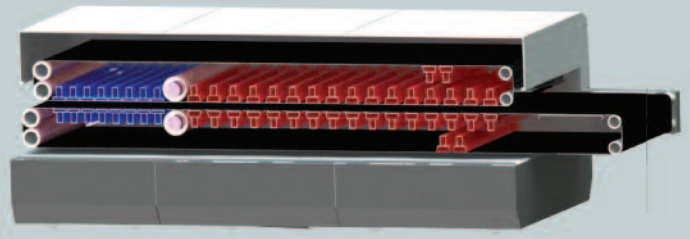
Due to its heavy duty construction and adaptability, it can be used in wide range of applications and is ideally suited for making rigid products and honeycombs panels for the composites, automotive and construction industries.

Powerbond HPL Specification/Options:

- Widths from 600mm – 2800mm
- Heavy Duty Construction
- 1500mm length modular tunnel sections of heating and cooling
- Automatic tunnel gap opening capacity 0 -150mm in 0.1mm increments
- Single or multiple pressure rollers with range of surface finishes
- Endless or pre-joined belts
- Wide range of power options
- Multiple heating zone control
- PLC touch screen control for all functions
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance and tensioning system
- Easy and fast belt changing system
- Reliant BSZ Belt Sensing Zone for direct control of product surface temperatures
- Full range of peripheral equipment for in-line and turnkey operations

Powerbond SPL

Typical Powerbond SPL Tunnel Layout



1000mm additional modular sections

Cooling Pressure Heating

Powerbond SPL Modular Standard Pressure Lamination

The Powerbond SPL features our tried and tested modular construction system. The design allows machines to be assembled to fit exactly to customer's production specifications.

Starting with a 2800mm heating section, additional 1000mm sections of heating, cooling and pressure systems, can be assembled together to provide a machine of any capacity required.

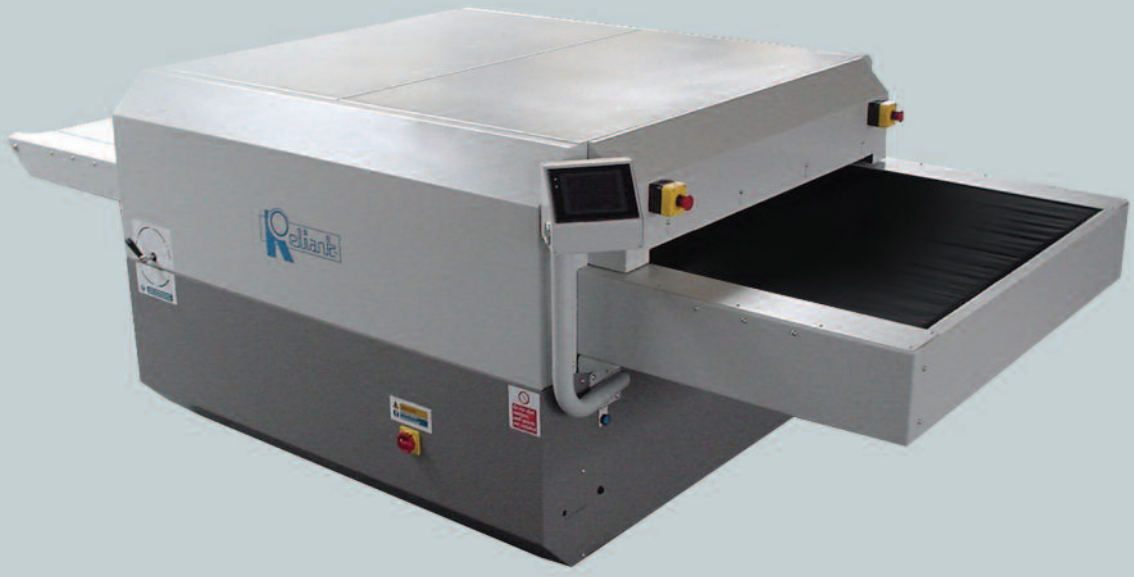
The Powerbond range is used in many different industries for materials starting with films of a few microns thick, through to products of up to 150mm thick.

Automotive, technical textiles, defence, furniture, composites, medical, filtration, are all industries where the Powerbond technology is used.

Powerbond SPL Specification/Options:

- Widths from 600mm – 3000mm
- 1000mm length modular tunnel sections of heating and cooling
- Automatic tunnel gap opening capacity 0 -150mm in 0.1mm increments
- Single or multiple pressure rollers with range of surface finishes
- Endless or pre-joined belts
- Wide range of power options
- Multiple heating zone control
- PLC touch screen control for all functions
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance and tensioning system
- Easy and fast belt changing system
- Reliant BSZ Belt Sensing Zone for direct control of product surface temperatures
- Full range of peripheral equipment for in-line and turnkey operations

Magnum GOS

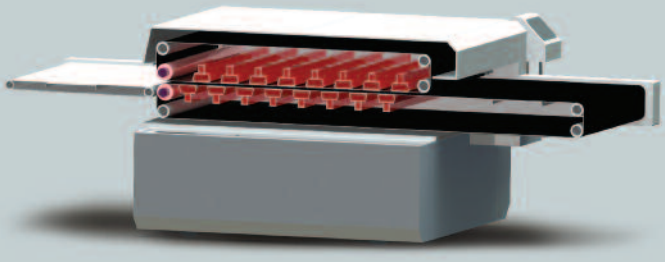


The Magnum GOS Laminating Machinery Range

The Magnum GOS laminating machinery range brings reliable, high quality, performance equipment, into a lower dimension of capital investment making it realistically affordable, with less capital investment for smaller and medium processing volume requirements.

The Magnum incorporates many features normally only available on larger and more costly machines. These include the ability to laminate multi-layer laminates in one pass, feeding of sheets, reel-to-reel or sheet-reel-sheet formats.

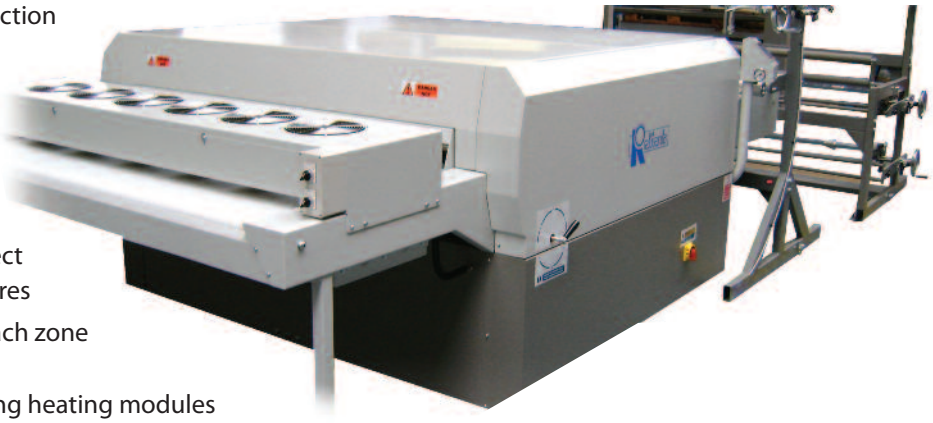
Magnum GOS Tunnel Layout



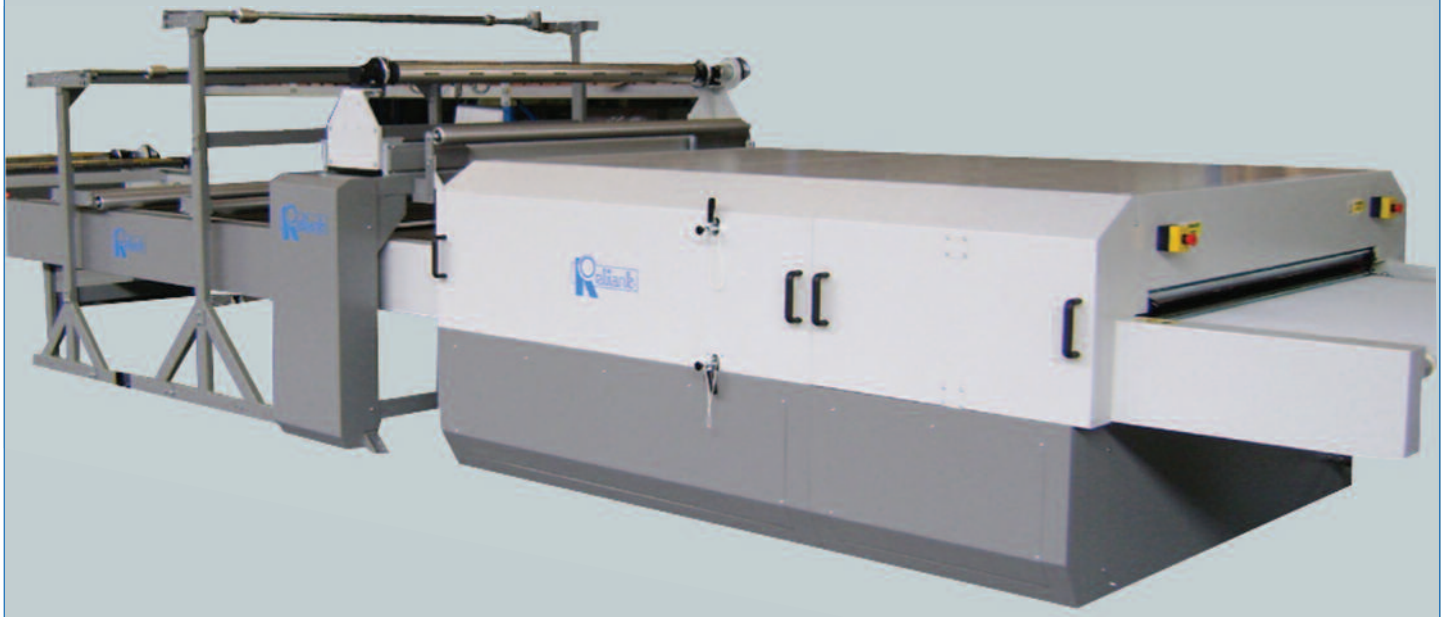
Magnum GOS Specification/Options:

Thicker materials can be processed by the use of the unique Reliant Gap Opening System (GOS), which enables the operator to adjust the machine setting to allow for resilient materials of up to 15mm in thickness to be laminated.

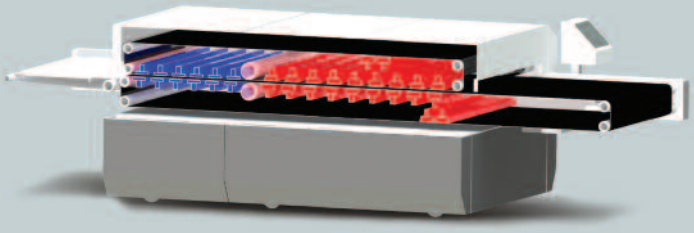
- Widths of 1200mm & 1600mm
- Tunnel with 1700mm long heating section
- External exit conveyor mounted cooling system options
- Various power and pressure options
- Touch screen PLC controls
- GOS system for thicker materials
- Reliant BSZ Belt Sensing Zone for direct control of product surface temperatures
- Multiple heating zone control with each zone linked to separate PID controls
- Reliant Thermatron auto compensating heating modules
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance system
- Pre-joined and endless belt options with fast and easy belt changing system
- Full range of peripheral equipment for in-line and turnkey operations



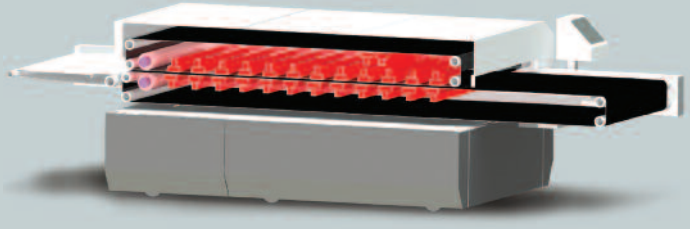
Coolstream TAL



Coolstream TAL Tunnel Layout

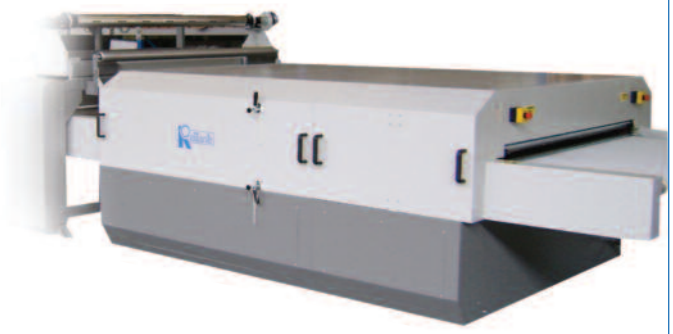


Coolstream H Tunnel Layout



The Coolstream TAL Tunnel Height Adjustable Lamination

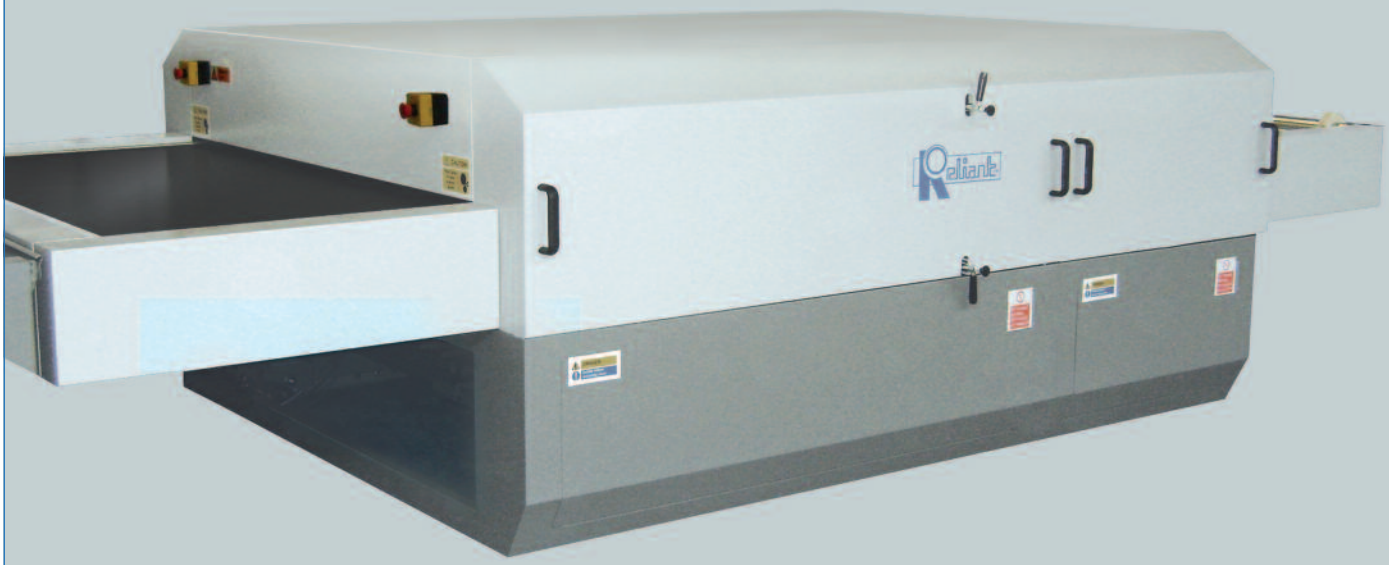
The Coolstream TAL provides high volume laminating capacity with the flexibility to bond thicker products, using its height adjustable lamination tunnel. This gives high end lamination performance and adaptability at great value, as the Coolstream TAL allows both thin and thicker materials to be processed through the machine without adding significant cost to the equipment. Products up to 50mm thick can be laminated on the Coolstream TAL system, making it highly adaptable and suitable for processing a wide range of materials including foams, composites, non-woven's, breathable membranes, textiles and similar substrates.



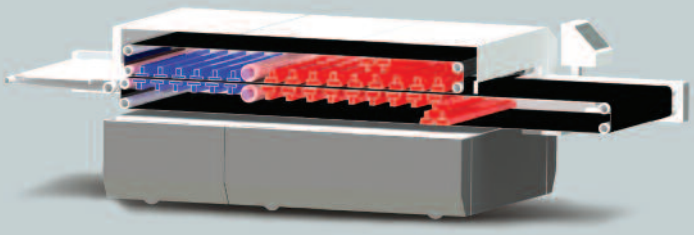
Coolstream TAL Specification/Options:

- Widths from 600mm - 2200mm
- Available in Standard tunnel length of 2900mm (1900mm of heating & 1000mm cooling), or 2900mm heating only
- Touch screen PLC control options
- Manually adjustable tunnel up to 50mm for thicker materials
- Reliant BSZ Belt Sensing Zone for direct control of product sur face temperatures
- Multiple heating zone control with each zone linked to separate PID controller
- Reliant Thermatron auto compensating heating and cooling modules
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance system
- Pre -joined and endless belt options with fast and easy belt changing system
- Full range of peripheral equipment for in-line and turnkey operations

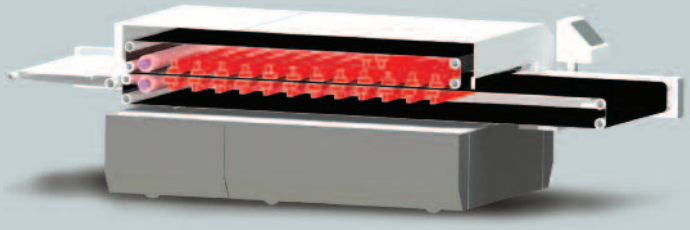
Coolstream MPG



Coolstream MPG Tunnel Layout



Coolstream H Tunnel Layout

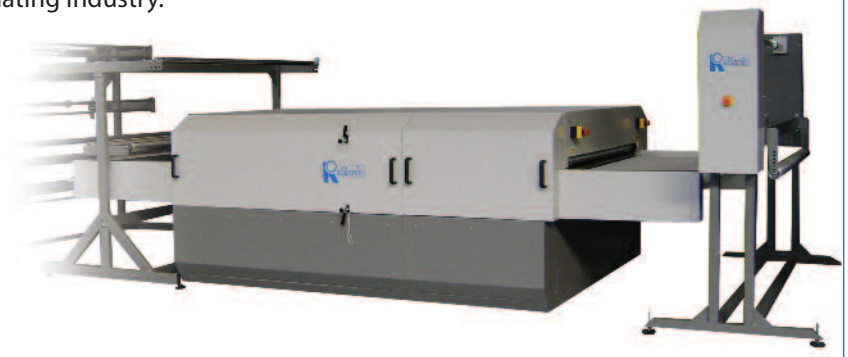


The Coolstream MPG Manual Pressure Gapping

The Coolstream MPG range provides a, medium to high capacity laminating system at a cost which is affordable and significantly lower than is usually available in the laminating industry.

The unique Reliant GOS (Gap Opening System) allows both thin and resilient materials up to 15mm thick to be processed through the machine without adding significant cost to the equipment.

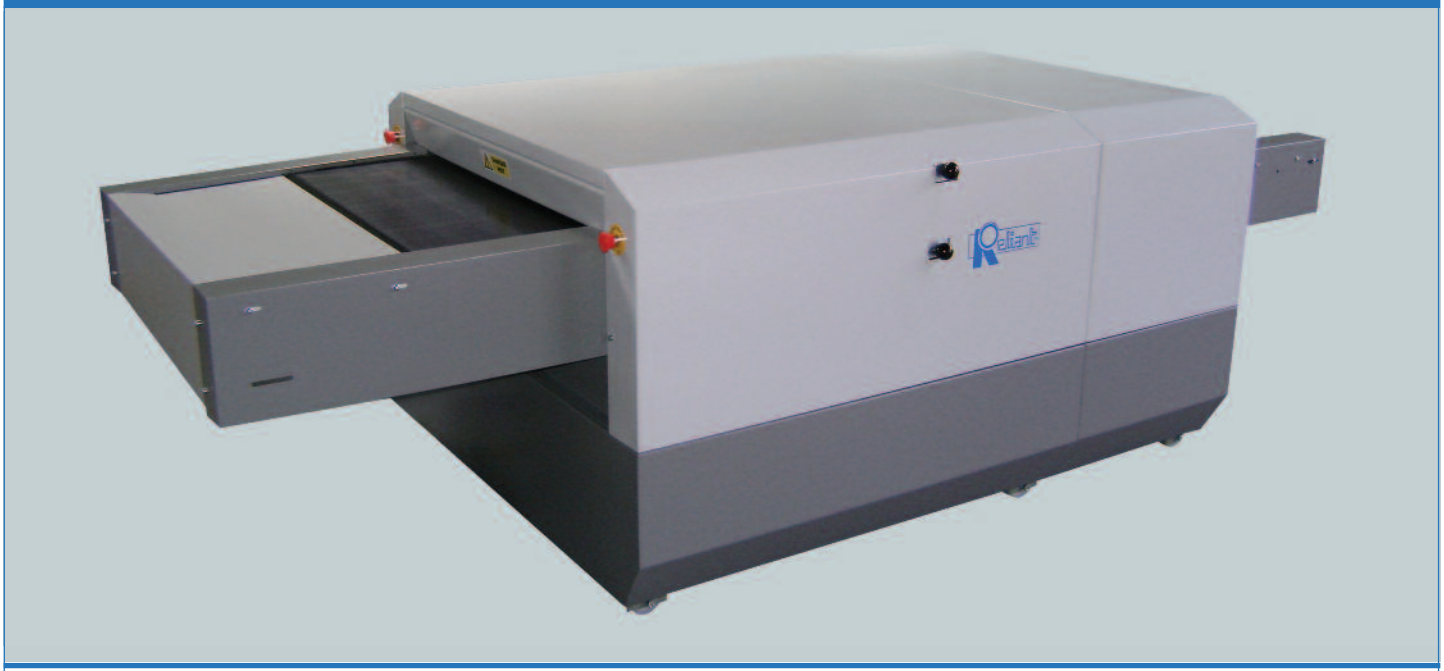
The Coolstream range is highly adaptable and suitable for processing a wide range of materials including foams, composites, non-woven's, breathable membranes, textiles and similar substrates.



Coolstream MPG Specification/Options:

- Widths from 600mm - 1800mm
- Tunnels with 2700mm of heating or 1700mm heating & 1000mm cooling
- Various power and pressure options
- Touch screen PLC control options
- GOS system for thicker materials
- Reliant BSZ Belt Sensing Zone for direct control of product surface temperatures
- Multiple heating zone control with each zone linked to separate PID controller
- Reliant Thermatron auto compensating heating and cooling modules
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance system
- Pre-joined and endless belt options with fast and easy belt changing system
- Full range of peripheral equipment for in-line and turnkey operations

Compact HCL



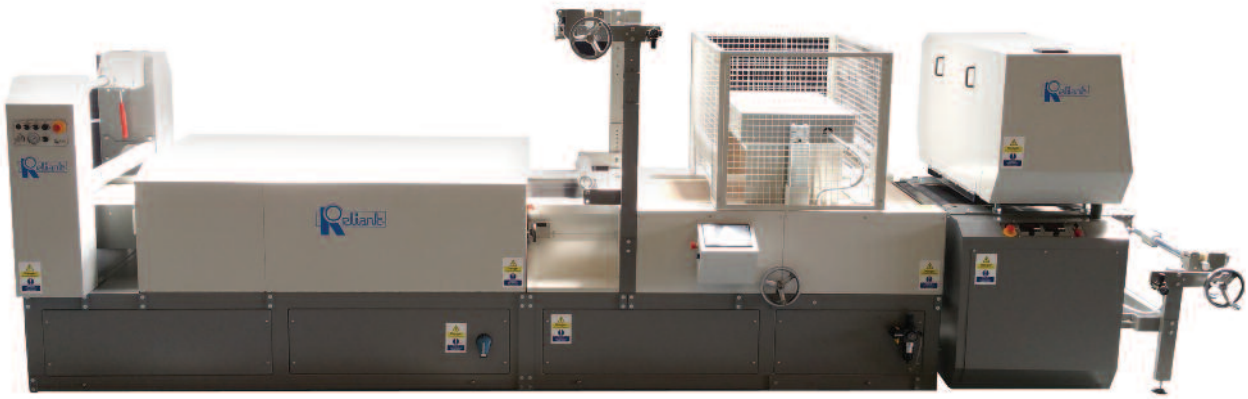
The Compact HCL Heat with Cooling Laminator

The Compact HCL is a cost effective way to create laminates with both heating and cooling sections. The Compact HCL combines many designed functions and advantages of Reliant's larger equipment, like zoned PID controlled heating and pneumatic pressure on a much smaller scale. The system is designed to enable both reel to reel and cut piece laminating to be carried out. Using mechanical adjustment the tunnel will allow thicker materials to be processed by manually setting the gap between the belts to a maximum of 25mm.

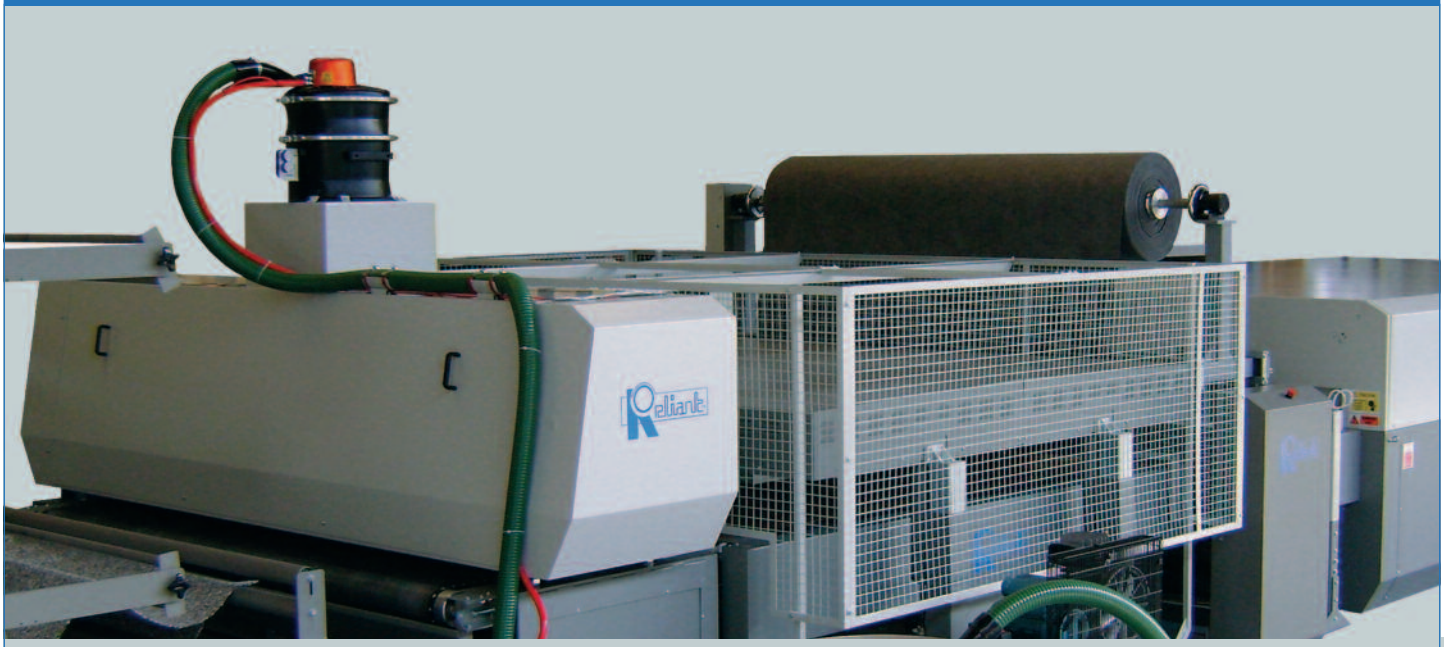
Compact HCL Tunnel Layout

Compact HCL Specification/Options:

- Widths: 600, 900 and 1000mm
- Available in Standard tunnel length of 1800mm (1200mm of heating & 600mm cooling)
- Analogue and PLC control options
- Manually adjustable tunnel up to 25mm
- Reliant BSZ Belt Sensing Zone for direct control of product surface temperatures
- Multiple heating zone control with each zone linked to separate PID controller
- Reliant Thermatron auto compensating heating and cooling modules
- Reliant Synchro-Trak motorized highly accurate conveyor belt guidance system
- Pre -joined and endless belt options with fast and easy belt changing system
- Full range of peripheral equipment for in-line and turnkey operations



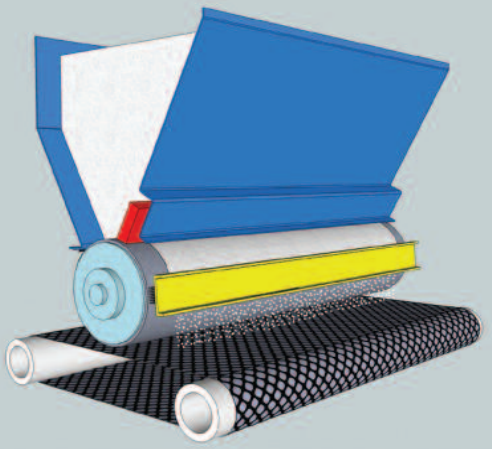
Powerline Powder Coaters & Infrared Heaters



The Reliant Powerline Powder Scatter Coating System

With decades of experience, Reliant have developed the Powerline powder coater range providing highly accurate and controllable processing of powder adhesives. Incorporating state of the art technology, the Powerline Powder Coaters enable powder to be dispensed with an accuracy level not previously available for this type of technology. The equipment can handle the full range of powder micron sizes and options are available for different specifications of powder pickup rollers.

The range provides a clean and easy to use process which can offer considerable production cost benefits. Units can be supplied for stand-alone powder coating production or integrated as part of a laminating line. Multiple powder coating heads can be used in line and can be mounted on rails to give highly flexible production layouts.



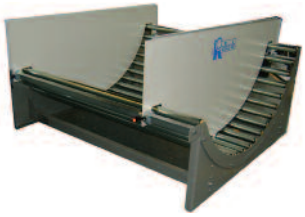
Powerline Powder Coater Range Available Specification Options

- Widths from 600mm – 3000mm
- High accuracy adjustable powder doctor pressure bar
- Adjustable sliding dam plates for powder width control
- High volume powder reservoir
- Variable speed powder pickup roller
- Range of pickup rollers for varying micron sizes
- PTFE mesh drive conveyor
- Conveyor cleaning system
- Powder collection hopper for recycling
- Low powder level warning sensor
- Manual or automatic height adjustment
- Anti-static bar for even powder dispensing
- Powder hopper spreader for even powder distribution
- Automated powder vacuum feed system option
- Local and PLC control of Powder volume and speed

Powerline Infrared Hoods

In conjunction with the Powerline range of powder coaters, Reliant also produce a range of extremely reliable and highly accurate Infrared pre-heating hoods with a range of feeding conveyors all of which are produced in highly flexible modular formats.

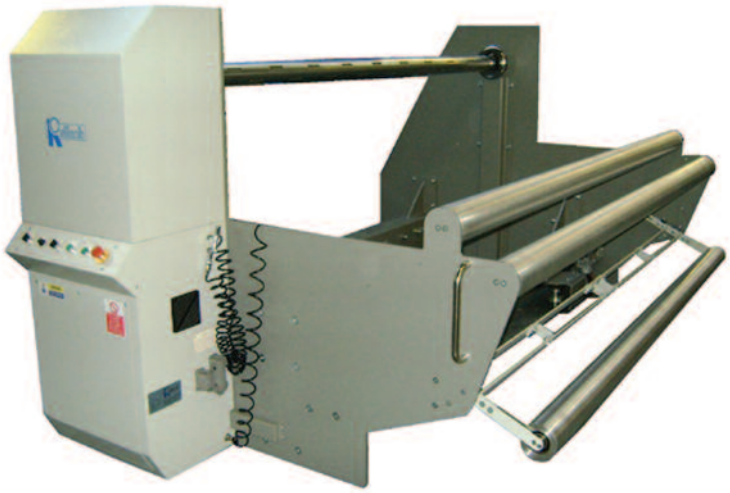
Powerline & Rolamatic Unwinds



Powerline & Rolamatic Winder Ranges

Reliant produces an extensive unwinder range equipment. With the philosophy of continuous development to meet customer demand, the winding range is expanded regularly with enhancements and additional options added to existing equipment and new concepts being regularly introduced.

The Reliant winder range offers unwinding capacity and cost standards which can fit all levels of budget. From lightweight low cost units through to highly sophisticated heavy duty units, the Reliant winder range can handle all types of web feeding requirements. Fitting in with Reliant's concept of flexibility, if required all of the winder range can be optionally rail mounted to provide maximum flexibility.



The Reliant Unwinder Range available specification options

- Weight capacities stages from 100kg to 4000kg per position
- Centre, surface and cantilevered systems
- Single and multi-position units
- Low and high level units
- Tension control via operator setting or various levels of full automation
- Edge guidance with manual setting or various levels of full automation
- Wide selection of shaft and chuck types
- Rail mounting and quick release connections
- Built in slitting and cross cutting systems

Rewinds and Accumulators

Powerline & Rolamatic Rewind Range

Together with inline slitting and converting, Reliant can design a material handling system to suit your changing needs.

Available specification options:

- Rewinders: weight capacities from 100kg to 4000kg
- Centre, surface and cantilevered rewind systems
- Single and multi-position units
- Low and high level units
- Manual and automated tension control
- Manual and automated edge guidance
- Wide selection of shaft and chuck types
- Built in razor, score and shear slitting systems

Accumulators and tension control

Continuous processing and tension control are vital in many applications, from manual to automatic control using open or closed loop technology, Reliant Machinery has the experience to provide the proper material control solution for your needs.

For continuous web operations, Reliant offers a line of accumulators, for both pre-lmaination and post lamination allowing continous non stop processing. Tension control is paramount for any web handling operation. Improper tension can lead to many material faults and poor roll formation. Material wrinkles, web stretching, roll blocking, crushed cores, and telescoping rolls are just a few of the problems associated with improper tension control. Reliant can advise and specify the correct equipment to prevent this, from our wide range of manual and automatic tension control systems.

Available specification options:

- Festoon Web Accumulators
- Single Roll Accumulators
- Dancer Assemblies
- Ball Screw Driven Accumulators
- Counterweight Accumulators
- Pneumatic Accumulators
- J-Box Accumulators
- Load Cell Tension Systems
- Open Loop Tension System
- Taper tension control

Cutting & Peripheral Equipment

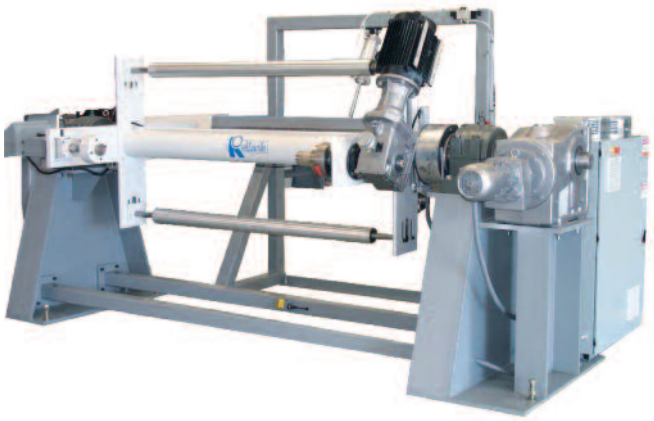
Reliant Cutting and Peripheral Handling Equipment

Reliant produces a wide range of equipment for in-line processing of all types of materials. This allows the company to provide a complete turnkey solution for customers who need to carry out downstream processing of their materials after lamination.

The range includes, in line cutting in the X & Y axis of both soft, flexible and rigid materials. Cutting can be carried out on moving webs as they exit the laminator, either by a travelling inline cutter or a stop cut cutter.

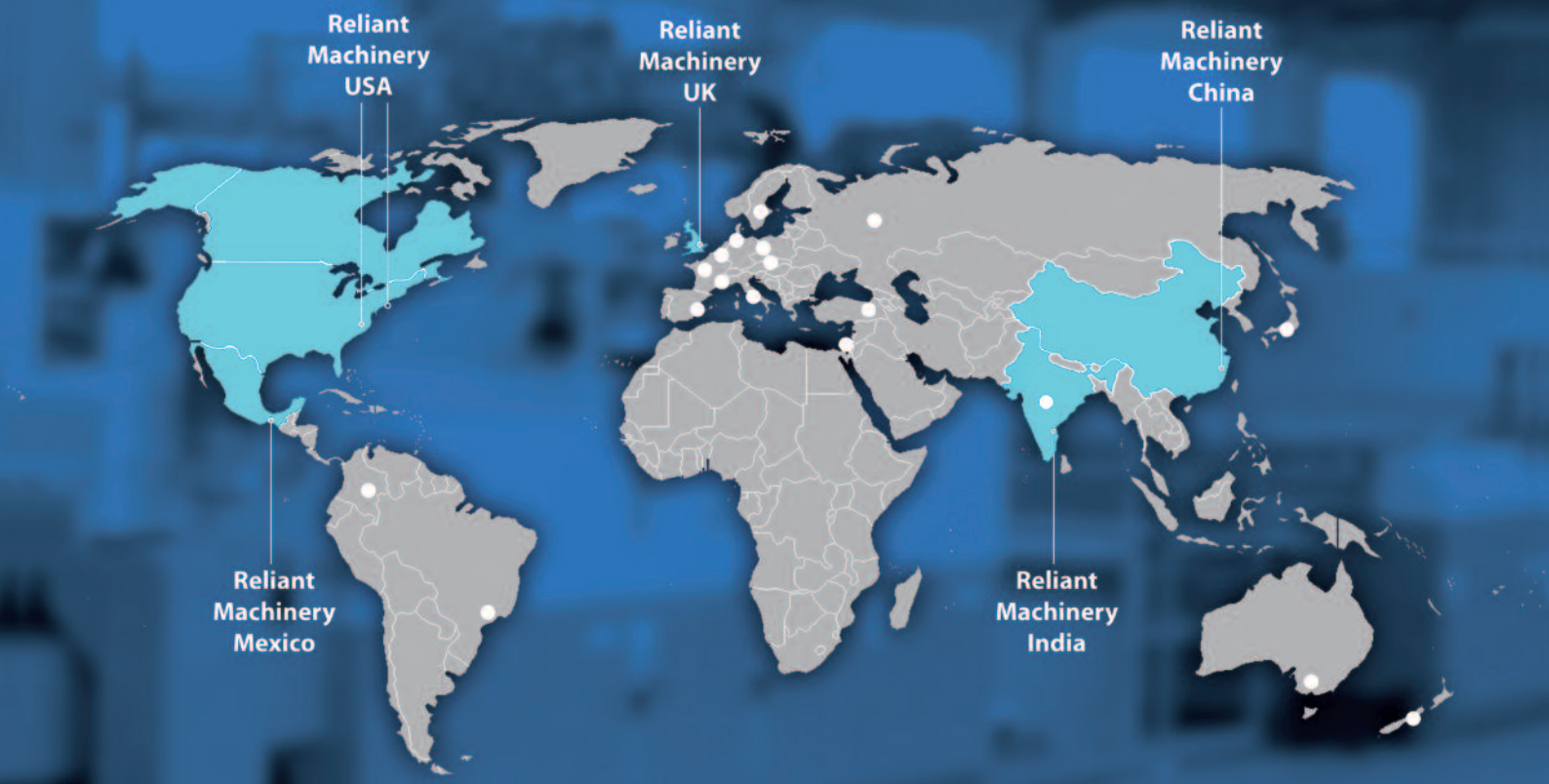
Incorporated in the range available is edge trimming and slitting with cut waste handling, accurate cross cutting on the moving web to allow sheets and short rolls to be continuously produced from web fed materials, multi-lane narrow width tape slitting, integrated twin turret rewinding for in line changeovers.

Reliant will also consider the design and production of in-line custom turn key systems to enable customers to process products requiring specialised handling.



Worldwide Leader in Flatbed Lamination

The Reliant Network



● Our worldwide partner network

With over 45 years of experience in designing, developing and building bonding equipment, Reliant has installed thousands of machines all around the world. To support this, the company has developed a network of local offices as well as a comprehensive group of dedicated agents in over 20 countries.

Whether situated in the U.K., Western or Eastern Europe, North or South America, China, the Indian sub-continent, North Africa, the Middle East, South East Asia, Australasia, or just about anywhere else, Reliant can support installations locally.

Reliant Guaranteed Spare Parts

Reliant outlets only supply original branded spare parts backed by the Reliant "guarantee". To ensure that your Reliant equipment is properly maintained and operates as efficiently as possible, our local support outlets are able to supply spare parts at competitive prices..

For more information about the company and the product range please visit our web site:

www.reliant-machinery.com

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Reliant reserve the right to make changes to specifications and descriptions without notice.