





Specialists in laser systems for cutting, engraving and marking

eurolaser designs, develops and produces innovative laser systems for material machining in industry and craftwork. With a multiplicity of potential uses, the Lüneburg-based company has established a position showing the way ahead for new and established laser applications in many sectors of industry.

Efficient systems

A completely modular concept underpins our laser systems, so that we can always take a flexible approach to our customers' needs. High-quality components ensure reliability, a long working life and guarantee a positive price-performance ratio for the investment.

Successful customers - worldwide

Anybody who wants to remain competitive in today's markets is switching from conventional production processes to superior laser technology. Economical production and additional growth guarantee success for many users. It is far from unusual for them to consider purchasing another laser system after a short time, which reflects a high degree of customer satisfaction.

Many years of expertise

To establish which laser system is best suited to their applications, potential and existing customers are encouraged by eurolaser to carry out comprehensive material tests. The experts in the use of lasers from our Application Center have experience of over 10,000 successful prototypes. Know-how which results in a payoff for you.

High-Tech made in Germany. Our aim is your success!









ACRYLIC

Page

In many fields, laser technology is displacing conventional machining processes for the machining of acrylic glass or Plexiglas® as if it had been created for the task.



WOOD

Page 10

This is a favorite natural material that has been used for numerous purposes for a very long time. Contactless laser machining protects the material, is capable of very fine detailing and opens up new opportunities.



TEXTILES

Page 14

The requirement for laser machining of woven, non-woven and synthetic materials is growing all the time. Intelligent material handling units and detection systems can automate the production process completely.



FOILS

Page 18

A laser's high precision and flexibility makes it the ideal tool for film applications, with obvious potential compared with conventional production processes.



ADDITIONAL POTENTIAL APPLICATIONS

Page 22

The benefits of laser technology are increasingly used in a growing number of sectors of industry and it is the production technology for the future.



LASER CUTTING SYSTEMS

Page 24

Our powerful laser systems are designed for use in both craftwork and industry. The modular construction with high-quality components guarantees quality for the most demanding applications.



AUTOMATED SYSTEMS AND OPTIONS

Page

Customized automated systems improve the efficiency and commercial viability of laser cutting systems. A multitude of options extend the applications and simplify everyday jobs.



MECHANICAL MACHINING

Page 34

Use the laser plus up to two mechanical tools in parallel on one machine. The entire high-quality range of Zünd tools is available for you. Extend your machining and material options without expensive additional investments.



QUICKMARK LASER MARKING SYSTEM

Page 37

The high performance laser marker allows extraordinarily quick marking with impressive results. Precision, reliability and speed characterize this laser scanner. A safe and compact solution for contactless marking.



WORLDWIDE SERVICE

Page

We work side by side with you over the entire life cycle of our products with a wide range of services, so that your investment achieves a maximum return both now and in the future.

ACRYLIC



- Crystal clear, smooth cut edges in a single process
- No need to clamp or fix the acrylic
- No chips less contamination and reduced overheads
- Attractive engraving results in a matt silk finish
- Practically radius-free cutting of inner contours
- Machining with protective film possible - no damage to the material



Displays



Labeling



Sprue removal



Trophies



Modeling



Shopfitting



Signing



Furniture



Point of Sale



Medical systems

What can laser technology do better?

Laser cutting of acrylic compared with milling and sawing

Laser technology is becoming more established in manual and industrial acrylic machining. Of course there are reasons for this. But what exactly are the advantages of this technology and how is it different from alternative machining methods. This comparison gives you an overview of the key issues:







Matt silken engravings

single operation

Clear, smooth cut edge in a No contamination as with millina

We recommend the laser systems

XL-1200, XL-1600 und XL-3200 for processing acrylics.

ACRYLIC MACHINING - A COMPARISON									
	LASER CUTTING	MILLING	SAWING						
Cutting edge quality	smooth / clear	% matt	rough						
Cut quality in the cycle	constant	decreasing	decreasing						
Cutting accuracy	good	good	poor						
Fine details / radius-free inner contours	yes	C conditional	n o						
Flexibility / Individuality	high	conditional conditional	slight						
Labeling / Engraving	yes	conditional conditional	no						
Contamination	no chips	chippings	chippings / dust						
Material damage / breakage	contactless	mechanical stress	mechanical stress						
Tool wear	no wear	easy exchange, if worn	easy exchange, if worn						
Material waste	very little	high	& average						

COMPARISON OF THE WORK PROCESSES									
Laser:	Design	-		-	Process	-	———	Product	
Mill:	Design	► Fixing	► Tool selection	>	Process	► Slacken fixing	► Cleaning/Polishing ►	Product	
Saw:	Design	► Fixing	► Tool selection	•	Process	► Slacken fixing	► Cleaning/Polishing ►	Product	



What options do we offer you?

Acrylic machining with laser systems by eurolaser

The requirement-focused modular design enables eurolaser laser systems to be specially configured to suit every requirement and at the same time provides the necessary flexibility. The system design is focused mainly on requirements that are generated from later use.



Table concept "Raster plate" For machining acrylic, laser systems are provided with a special table concept, the raster plate. Its absorption area reduces surplus laser energy to a minimum and in this way prevents reflections and damage to the material. Laser power, machining area and optional automation techniques

are selected according to your needs. This customerfocused system specification is based on the experiences of successful users the world over and can be demonstrated by means of more than 10,000 different application results in our Application Center.

Automated processes for your laser system

Higher productivity, more economical working - save time and money

■ Shuttle Table System

This enables loading and unloading of the machining table during laser machining and demonstrably delivers an increase in efficiency of up to 75% when using a laser system.

... more on page 28

■ Remote Operation

The software-controlled division of the work area allows laser system operation on alternate sides. This enables production to be continued on the opposite side while removing and reloading material.

... more on page 29

Optional extras

Customized options simplify everyday tasks and increase your possibilities

POSITION plus

Automatic camera detection enables printed materials to be cut out precisely along the printed outline. Even copying tolerances in the printed format can be compensated by software control.

... more on page 32

PICTURE plus

This optional raster engraving unit allows machining of image files and production of both 2D-images and 3D-reliefs. Engraving is possible with a resolution of up to 1200 dpi and in 256 shades of grey.

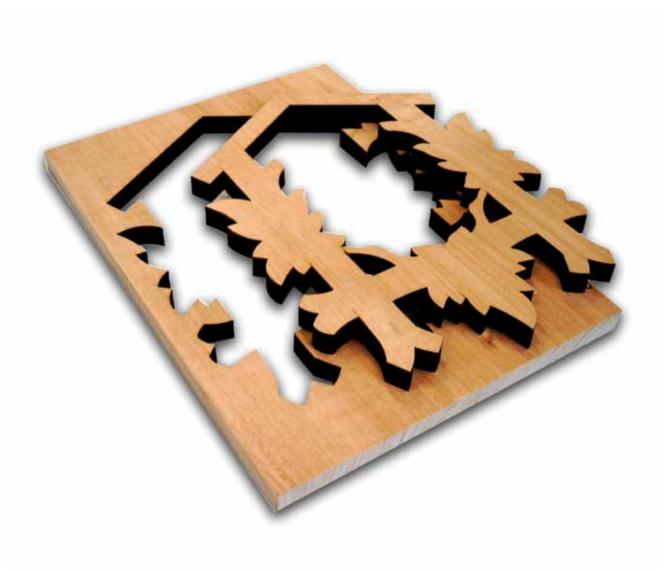
... more on page 33

■ Mechanical Machining

Use the laser plus up to two mechanical tools in parallel on one machine. The entire high-quality range of Zünd tools is available for you. Extend your machining and material options without expensive additional investments.

... more on page 34

WOOD



- No chips less contamination and reduced efforts
- Precision details and radius-free inner contours possible
- Contactless machining minimum waste, no breakages
- Burr-free cut edges no rework needed
- No need to clamp or fix the workpiece
- Comprehensive range of machining options for producing dieboards





Shop / exhibition construction



Woodwork



Floor coverings



Dieboards



Modeling



Furniture



Toys



Musical instruments



Engravings



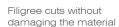
Veneer / Inlays

What can laser systems do better?

Laser cutting of wood in comparison with milling and sawing

Wood is used in a very wide range of sectors and has always been a much loved material because of its versatility in use. Efficient laser technology is increasingly being used for machining, because it provides a multitude of options compared with conventional machining methods and offers particular advantages through contactless material machining. This is illustrated by a comparative overview:







Exact inlays from veneer



High quality relief engravings

We recommend the laser systems

M-800, M-1600 and XL-1600

for processing wood.

A COMPARISON	OF WOOD AND	VENEER MACH	INING
	LASER CUTTING	MILLING	SAWING
Cutting edge quality	smooth, chip & burr-free	unmachined / matt	unmachined / matt
Cut quality in the cycle	constant	decreasing	decreasing
Cutting accuracy	good	good	average average
Fine details / radius-free inner contours	yes	conditional	no
Flexibility / Individuality	high	c onditional	slight
Labeling / Engraving	yes	yes	p no
Contamination	no chips	chippings	chippings / dust
Material damage / breakage	contactless	mechanical stress	mechanical stress
Tool wear	no wear	easy exchange, if worn	easy exchange, if worn
Material waste	very little	high	average

COMPARISON OF THE WORK PROCESSES											
Laser:	Design					Process			—	Product	
Mill:	Design		Fixing	► Tool selection	>	Process		Slacken fixing	➤ Deburring/Grinding ➤	Product	
Sawing:	Design		Fixing	► Tool selection	>	Process		Slacken fixing	► Deburring/Grinding ►	Product	



What options do we offer you?

Woodworking with laser systems by eurolaser

The modular design enables eurolaser systems to be specially configured to suit every requirement. We analyze your requirements and configure the laser system individually for you.



Table concept



Table concept "PIN-Concept"

Special table concepts are needed for ideal wood machining. Thin wooden materials, such as veneers, MDF and plywood < 10 mm thick are cut on an aluminum frame similar to honeycomb. For cutting stamped outlines or solid timber > 10 mm in thickness, it is preferable to use the PIN concept. This comprises stable brass or PMMA locating pins and provides for perfect machining with increased smoke emissions.

We select laser power, machining surface and optional automation systems to suit your requirements. To do this, we refer to our test results with your material and our experience from more than 10,000 application samples.

Automated processes and options for your laser system

Higher productivity, more economical working - save time and money

■ Shuttle Table System

Increase the productivity of your laser system by up to 75% by avoiding downtimes.

... more on page 28

■ Remote Operation

Loading and unloading during the cutting process allows you to produce more quickly.

... more on page 29

Optional extras

■ POSITION plus

You use the optical recognition system to detect cutting marks on printed material.

... more on page 32

PICTURE plus

Engrave with a resolution of up to 1200 dpi and produce 3D-reliefs.

... more on page 33

■ Mechanical Machining

Using different toolheads, such as milling cutters or knives, opens up even more machining options to you - without purchasing a second machine.

... more on page 34

Dieboards for the packaging industry

One system - all applications

■ Laser Dieboards

Cut with constantly high accuracy from 1 pt to 6 pts. Focus your cutting with the box cut process. At the same time, less material vaporizes, which means fewer emissions and therefore more costeffective extraction and filter systems.



■ Cutting of ejection rubbers

With the optional Zünd knife cutting tools, installed parallel to the laser, you can cut ejection rubber even with an angle. You do not need a drying process, as with water jet cutting systems.



■ Production of packaging templates

Samples for design, material and functional alternatives can be produced simply, quickly and inexpensively with the Samplemaker tool set.



■ Marking of material surfaces

Mark ejection rubbers simply with the pen module, mark multiplex dieboards using precise laser engraving or mark cardboard boxes in rich contrast with our lnk Marker all on a single system.



TEXTILES



- No fabric distortion by using contactless machining
- Precise and filigree cuts
- Machining very large formats by means of seamless cutting transition
- Sealing of the cut edges hence no fraying
- Machining in all directions regardless of the fabric structure
- Fully automatic machining from the roll





Clothing



Upholstery



Textiles for use in the home



Parachutes / sails



Filters / technical textiles



Flags / pennants



Leather goods



Protective fabric



Automotive



Medical systems / orthopaedics

What can laser systems do better?

Laser cutting of textiles compared with punching and knife cutting

Every day, more application possibilities arise for the use of laser technology in the textile market. Our laser systems for cutting, engraving and marking are meanwhile being used efficiently across all sectors of industry, both for short runs and for industrial mass production runs. Because the reasons for introducing laser technology into this branch of commerce are numerous, this comparison shows you what the advantages are compared with alternative methods of machining:







Precise cuts in spacer fabrics Refinements by engraving Smooth, lint-free cut edges

We recommend the laser systems

L-3200, XL-3200 and 2XL-3200

for processing textiles.

A COMPARISON OF TEXTILE MACHINING									
	LASER CUTTING	KNIFE CUTTING	PUNCHING						
Cutting edge quality	smooth	frayed	frayed						
Cut quality in the cycle	constant	decreasing	decreasing						
Fine details / radius-free inner contours	yes	conditional	conditional						
Cut edge sealing (Synthetic / natural materials / mixtures)	yes / no / yes	no / no / no	no / no / no						
Flexibility / Individuality	high	high	slight						
Labeling / Engraving	yes	no	no no						
Material distortion when cutting	no, because contactless	yes	conditional						
Multi-layer cutting	conditional	yes	yes						
Tool wear	no wear	easy exchange, if worn	expensive exchange, if worn						
Tool storage costs	no tool store	low storage costs	average storage costs						

COMPARISON OF THE WORK PROCESSES								
Laser:	Design	-	Process		Product			
Knife:	Design ➤ Clamp knife	>	Process	► Separate residual material from product ►	Product			
Die:	Design ► Produce dieboard ► Clan	np 🕨	Process	►Separate residual material from product ►	Product			



What options do we offer you?

Textile machining with laser technology by eurolaser

We can customize the technology exactly to the needs of your application through the modular design of our laser systems. You will receive from us a laser system specially configured for your requirements and desi-

gned to meet your needs which will arise in later use

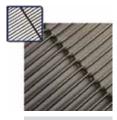


Table concept "Conveyor"

A special table concept is used for textile machining. This comprises a stainless steel wire mesh and is particularly suitable for thin and flexible materials. On the one hand, this is used as the material support for the machining process and, on the

other, the transport element for the Conveyor System. To put together the ideal laser system for your needs, we test your material in advance and then recommend the laser power, machining area and optional automation systems. You benefit from our expertise, acquired from over 10,000 successful application samples.

Automated processes for your laser system

Higher productivity, more economical working - save time and money

■ Conveyor System

By using this automatic material feed, textiles can be fed for laser cutting directly from the roll and routed after laser cutting directly to a table extension. With a high degree of connecting accuracy after a material feed cycle, sections, which for all practical purposes are endless, can be produced. The bale material is fed via an automatic feeding unit. An feeding system edge controller ensures accurate positioning of the material. There is even an option to add a winding unit to the Conveyor System. This is used for the even winding of previously processed textiles and this accordingly results in a completely automated cutting process.

... more beginning on page 30

Optional extras

Customized options simplify everyday tasks and increase your possibilities

POSITION plus

The optical recognition system uses reference points which enable you to cut printed textiles exactly along the printed outline. Material edges and patterns are also detected. Software control compensates for pressure differences.

... more on page 32

■ Label Module

Fast labelling of single parts in one working process for further processing or direct labelling of your products with your brand logo.

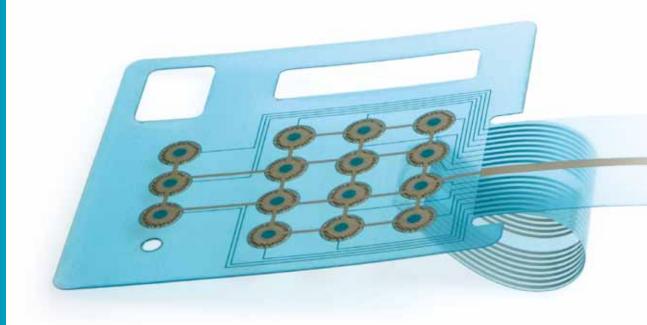
... more on page 36

Ink Printer Module

Label your cuttings or affix labels directly with the precision print head. Ideal for serial numbers, logos, barcodes or sewing marks.

... more on page 36

FOILS



- High precision the most minute cutouts are possible
- No sticking of residues to the tool
- Cut edge sealing
- No mechanical stressing of the material
- High flexibility
- No upfront costs for tool construction





Protective display films



Membrane keyboards



Front films



Flexible PCBs



Adhesive films



Hightech / Ito films



Fittings



Labels



Spacers



Labeling films

What can laser technology do better?

Laser cutting of foils compared with punching and knife cutting

Both the enormous variety of materials for synthetic films and increasingly demanding customer requirements are causing the market to look for flexible and efficient production methods. Innovative laser technology is becoming increasingly significant for these applications. High precision is opening up new opportunities, whereas alternative processes are already up against their limits. As in industrial film machining, the advances in laser systems are very much in demand, so that, meanwhile, laser systems are frequently integrated into fully automatic production lines. A comparison of laser cutting with punching and knife cutting shows the following basic advantages:







Filigree details

in detail

Cut edges of multi-layer film Kiss cut and laser labeling for thin films

We recommend the laser systems

M-800 and M-1600 for processing foils.

A COMPARISON OF FOIL MACHINING									
	LASER CUTTING	KNIFE CUTTING	PUNCHING						
Cutting edge quality	no exfoliation	exfoliation	exfoliation						
Cut quality in the cycle	constant	decreasing	decreasing						
Cutting accuracy	good	good	e average						
Fine details / small holes	yes	c onditional	p no						
Cut edge sealing	heat-sealed	no sealing	no sealing						
Flexibility / Individuality	high	conditional conditional	slight						
Tool storage costs	no tool store	low storage costs	average storage costs						
Speed	high speed	average speed	very high Speed						
Tool wear	no wear	easy exchange, if worn	expensive exchange, if worn						

COMPARISON OF THE WORK PROCESSES							
Laser:	Design		Process	-	Product		
Knife:	Design ► Clamp knife	>	Process	► Separate residual material from product ►	Product		
Die:	Design ► Produce dieboard ► Clam	np 🕨	Process	►Separate residual material from product ►	Product		

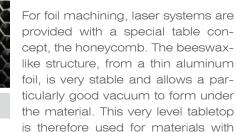


What options do we offer you?

Foil machining with laser systems by eurolaser

The machining of technical foils and films always means a production engineering challenge. A high degree of material diversity with concurrently high demands for product precision, long life and diverse areas of application demand maximum flexibility from production methods. It is precisely in this environment that the advantages of eurolaser's modular system design and the universal application of laser technology become particularly significant. In order to guarantee that your system is ideally suited for your application, we concentrate during system design on the requirements

that will arise from later use.



an unstable surface. Laser power, machining area and optional automation techniques are selected according to your needs.

Table concept "Honeycomb"

Automated processes for your laser system

Higher productivity, more economical working - save time and money

■ Shuttle Table System

The machining table can be exchanged in a few seconds, so that loading and unloading can take place during laser machining. Your productivity will be almost doubled and your laser system used even more effectively.

... more on page 28

Remote Operation

The software-controlled division of the working area means that laser machining of the foils can take place on the laser system on alternate sides. This enables production to be continued on the opposite side while removing and reloading material.

... more on page 29

Optional extras

Customized options simplify everyday tasks and increase your possibilities

POSITION plus

The material position is determined using reference marks and camera detection. This allows you to follow a printed outline precisely while cutting. Even copying tolerances in the printing can be compensated for by software control.

... more on page 32

Mechanical Machining

Mechanical tool heads can be installed parallel to the laser, giving you the option to use tools such as milling cutters or knives. A valuable extension to your machining options with just one system technology.

... more on page 34

Ink Printer Module

Mark your foils or labels directly with the precise print head. Ideal for serial numbers, logos or barcodes.

... more on page 36

Label Module

Fast labelling of single parts in one working process for further processing.

... more on page 36

ADDITIONAL POTENTIAL APPLICATIONS



- High precision and repeatability
- No tool wear no reduction in quality
- No material fixing needed
- Very good cutting efficiency through excellent laser beam preparation
- No mechanical stressing of the material
- High flexibility





Stone / granite / marble



Foams



Prototyping for universities and research



Paper / card / cardboard



Composite materials



SMART-X® and other light foam boards



Glass



Coated metals / stainless steel



Coated materials



and many others



euroloser Partner for your success.



Our modular design guarantees you ideal system configuration

Properties which will convince you:

- With a sealed-off CO₂ laser, you are using a 'tool' that is almost zero maintenance
- The movement system from the world market leaders Zünd has proved itself 20,000 times in the market place and provides you with maximum reliability
- You work software-independently and need no license, because the laser system is controlled with your normal PC (no machine software needed)
- Always keep up with the latest state of the art and save cash with our modular design and expandable modules
- An intelligent and at the same time practical safety concept combines maximum machine and operating safety with more effective use
- The freely accessible machining area allows you to load and unload quickly
- Integrated live monitoring and remote diagnostics tool Watchdog

You benefit from:

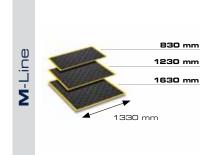
- Depending on the requirement, laser power between 60 and 600 watts
- Very good repetition accuracies through the excellent direct-drive
- High-quality beam control and beam formation components to optimize cutting and engraving quality
- A variety of focal lengths which are tailored to your requirements
- Compressed air and purge gas supply units for optimum cutting results

Different automated systems and options for even more economical working

... more about this on pages 28-36



A variety of processing areas tailored to your applications



■ M-800

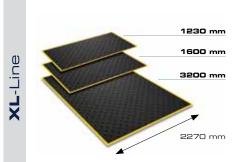
Processing area: 52.3" x 32.6" (4.3' x 2.7') Laser power: 60 to 400 W

■ M-1200

Processing area: 52.3" x 48.4" (4.3' x 4') Laser power: 60 to 400 W

■ M-1600

Processing area: 52.3" x 64.2" (4.3' x 5.3') Laser power: 60 to 600 W



■ XL-1200

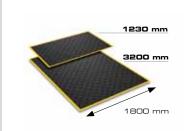
Processing area: 89.3" x 48.4" (7.4' x 4') Laser power: 60 to 600 W

■ XL-1600

Processing area: 89.3" x 63" (7.4' x 5.2') Laser power: 60 to 600 W

■ XL-3200

Processing area: 89.3" x 126" (7.4' x 10.4') Laser power: 60 to 600 W

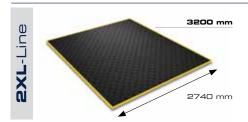


■ L-1200

Processing area: 70.8" x 48.4" (5.9' x 4') Laser power: 60 to 400 W

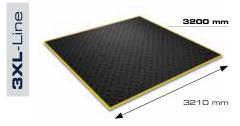
■ L-3200

Processing area: 70.8" x 126" (5.9' x 10.4') Laser power: 60 to 600 W



■ 2XL-3200

Processing area: 107.8" x 126" (8.9' x 10.4') Laser power: 60 to 600 W



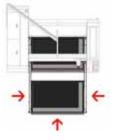
■ 3XL-**3200**

Processing area: 126.3" x 126" (10.5' x 10.4') Laser power: 60 to 600 W

SHUTTLE TABLE SYSTEM



The innovative Shuttle Table System developed by eurolaser is currently available with the M-800, M-1200, M-1600, L-1200 and XL-1200 models.







Simple material support exchange

Increase the productivity of your laser system

- Ensure better system utilization by loading and unloading during the cutting process
- The moving material supports enable you to access the produced parts more easily
- You minimize down times and increase the viability of your laser system
- The system is not encapsulated, so that it is allowing Robot assembly (24/7 operation)
- New material is located on the top shuttle table, thereby no remaining material chips are falling onto the new material

The Shuttle Table System is available as automatic and manual version combined with the new systems. Due to simple installation, the system can also be used with one engaged table module only.

Shuttle Table System automatic (STA)

- Table shift at the touch of a button
- Process starts automatically after cutting is finished
- Time saving by optimised processes
- Minimising supervision of the laser system
- · Additional manual handling possible
- Snapping table module in after the shuttle process prevents incorrect handlings

REMOTE OPERATION



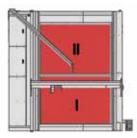


Partner for your succes

Alternate operation allows you to make more use of the system

- Load and unload your laser system during the cutting process
- The integrated safety concept makes material removal and loading absolutely risk-free
- Make full use of your laser system's capability by reducing breaks in production





View of the laser system with split processing area

A software-controlled partition of the processing area allows you to machine your material with the laser on one side of the system and to reload the other side at the same time. The laser machining changes over automatically at your discretion between both areas, so that your system is in almost 100%-use.

The RO function is available for the following basic models:

M-1600, L-3200, XL-1600, XL-3200.

CONVEYOR SYSTEM_



The Conveyor System is available for the following basic system sizes:

M-1200, L-1200, L-3200, XL-1600,

XL-3200, 2XL-3200, 3XL-3200.

Automate the material feed for continuous textile machining

- You will work more economically by using automatic material unwinding and feeding
- Remove workpieces during the cutting process
- There will be no fabric distortion, because the material feed is stressfree
- Your material will be positioned precisely on the machining table and fixed during the cutting
- Machine very large formats by means of seamless cutting transition



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