

## Erhardt+Leimer

Textile Products Overview

Complete solutions and machine components for  
the textile industry



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## Erhardt+Leimer

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## Machinery program

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# Erhardt+Leimer

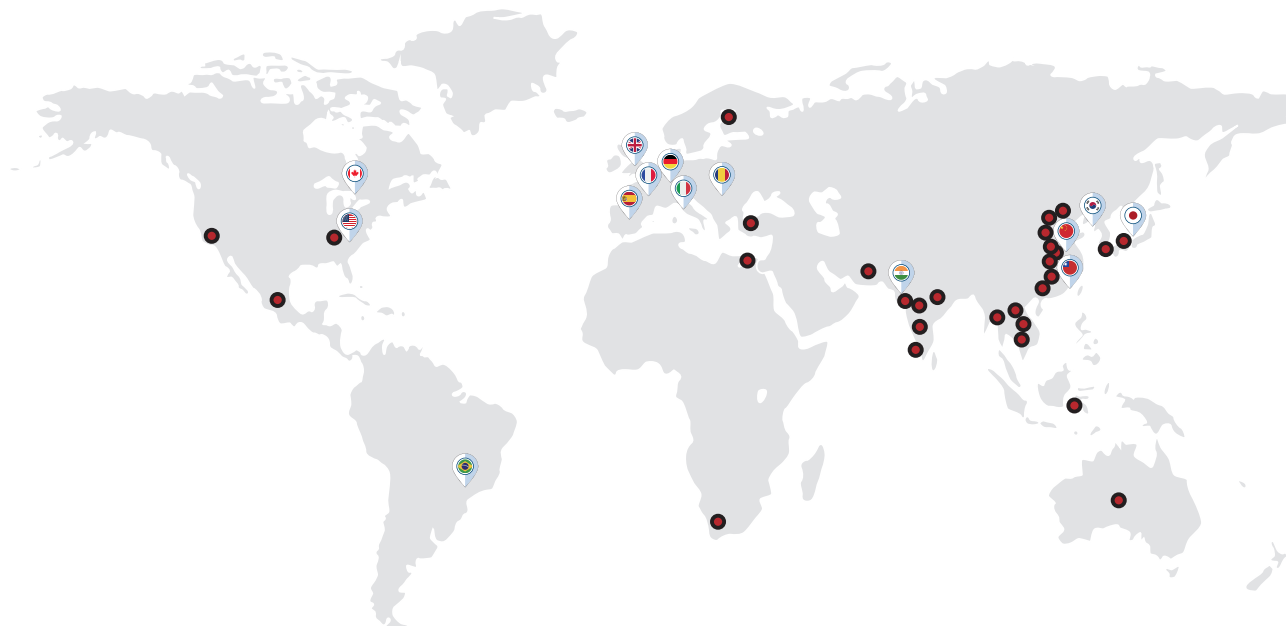
## A family company between tradition and the modern age

Erhardt+Leimer is an internationally oriented, privately owned group of companies with its head office in Augsburg, Germany. It was founded in 1919 and, in 2016, employed 1.600 people around the world. In 2016 they generated a turnover of 175 million Euros.

## Subsidiaries

With 19 subsidiaries in Europe, Asia and America, as well as 115 trade representatives around the world, we are always close to the requirements of our customers.

Our dense service network and our five production locations in Germany, Italy, India, China and the USA guarantee optimum and individual support to our customers. Wherever you are and whatever you require.



 5x in Germany

 Spain

 South East Asia

 England

 USA

 Taiwan

 France

 China

 Korea

 Italy

 Brazil

 Japan

 Romania

 India

## Worldwide service

### Always there when you need us

We place great emphasis on service. With a dense service network in all the key industrial nations, we are able to offer you a comprehensive range of service - from remote maintenance through to personal, on-site support. Simple, uncomplicated and whenever you need us.

### The E+L service packs

Flexible and tailored to market needs. Whether advice, training, commissioning or maintenance - the service packs from Erhardt+Leimer guarantee optimum support for your product. Your requests, ideas and requirements are always at the heart of this. Thus, we can help you to exploit all the options and benefits of your E+L product efficiently. Our service packs:

- + Commissioning service (incl. instruction of the customer's personnel)
- + Maintenance service
- + Assembly support (Supervisor)
- + Hotline service (through qualified Customer Services technician on the telephone or via remote service)
- + Training service (single or multi-day individual on-site training courses or at E+L for assembly and service technicians)

### Service tools

ELBUDDY is our service software for maintenance, trouble-shooting and commissioning of E+L components and systems. It must be installed on your computer and requires an E+L CAN dongle or alternatively an Ethernet connection to a DI G000.

TeamViewer allows us to remotely access your computer on which ELBUDDY is installed.



# ELSTRAIGHT weft straightening systems

## Improved quality and productivity with textile straightening systems

Today, manufacturers and users of textile production systems face ever-increasing demands in terms of production speeds. Quality must be ensured, while the number of rejects and any machine down time must be kept to a bare minimum.

Textile webs typically pass through a wide range of different production processes. Weft distortion is caused primarily by transport through the various wet processes. Correction of any distortion before processes such as drying, heat setting, coating or printing is absolutely essential. Erhardt+Leimer straightening systems make sure to keep textile webs free of weft distortions.

## ELSTRAIGHT product features

- + Highly accurate weft detection with digital smart cameras
- + Built-in extremely powerful infrared LED light
- + No moving parts in scanning system – no maintenance
- + Automatic camera positioning according to web width
- + Mechanical and electrical parts can easily be purchased in the local market
- + Ethernet remote service facility
- + Recipe function

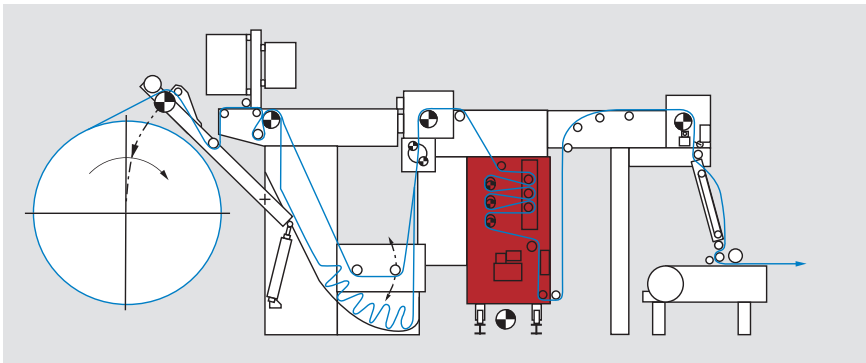
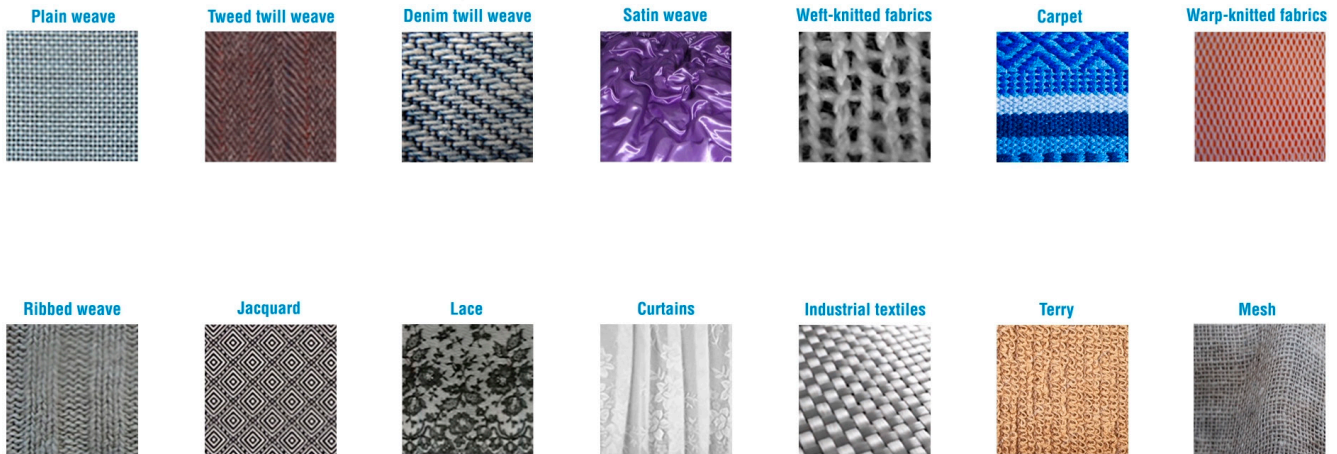


## Benefits

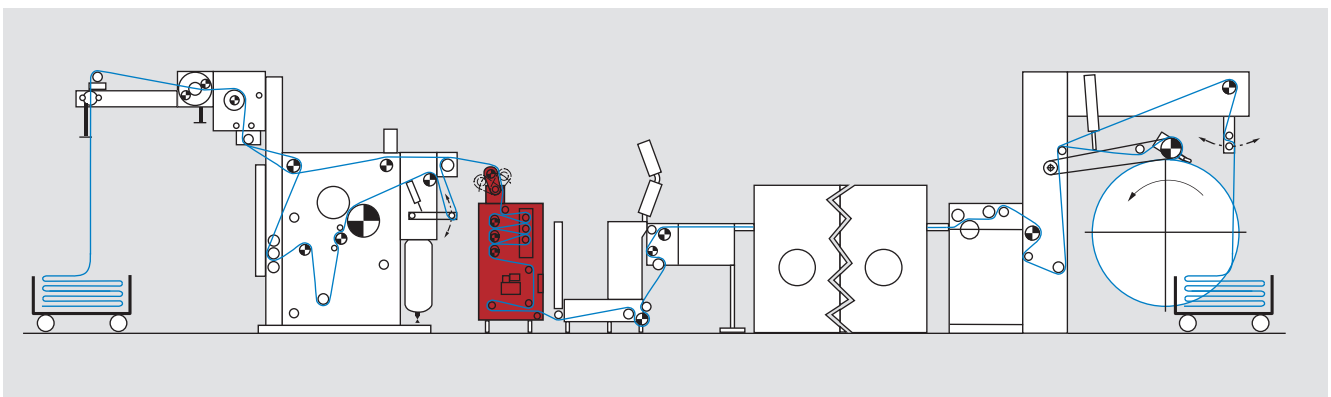
- + Insensitive to fabric colour
- + Extremely large number of fabric structures can be detected
- + Excellent process repeatability
- + Proof of quality with report facility
- + User-friendly, intuitive operation
- + High productivity
- + Few down-times
- + Quick return on investment



## Application



ELSTRAIGHT straightening system in the infeed of the printing machine



ELSTRAIGHT straightening system in the infeed of the tenter

# ELSTRAIGHT weft straightening systems

## ELSTRAIGHT Combi

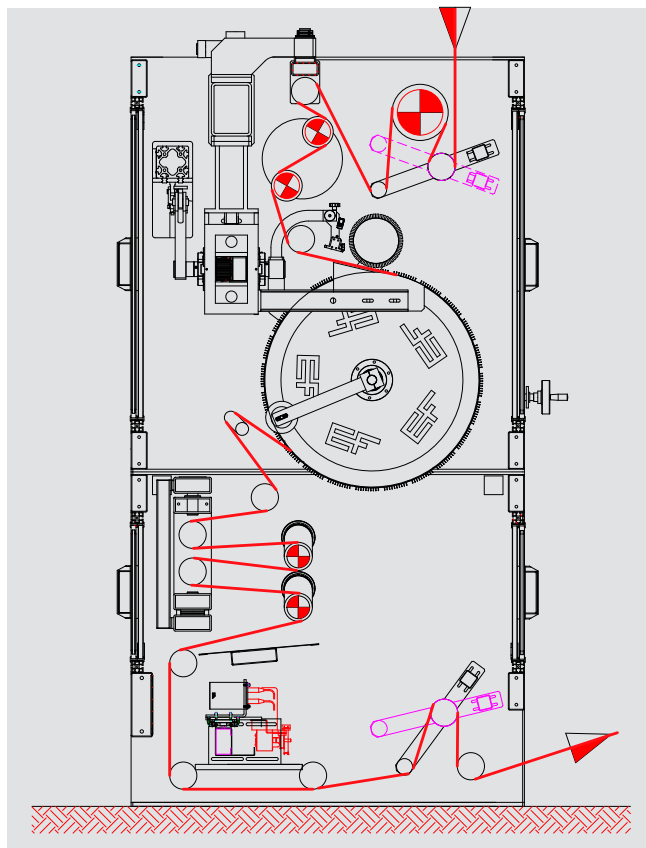
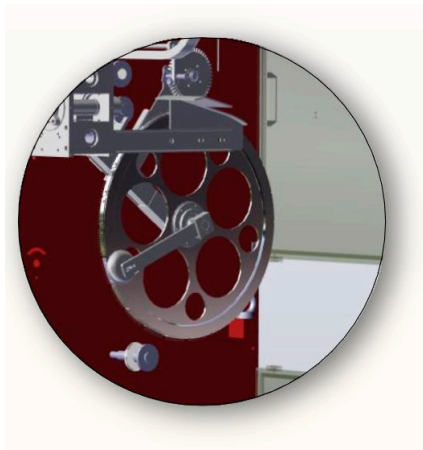
ELSTRAIGHT Combi is the optimal solution for straightening woven fabrics with complicated distortions and/or structures that are difficult to detect.

The combination of an upper part with free running needle wheels at an angle to each other and a lower part containing an additional straightening device with digital matrix camera technology provides perfect straightening results – independent of the type of distortion (bow, skew or S-shaped distortions).



## Supplementary product features/benefits

- + Combination of pin-wheel straightener and opto-electronic straightening system
- + In addition to bow and skew distortions also S and hook distortions can be straightened in woven fabrics
- + Even closed fabric structures (for example raised/terry fabrics) can be corrected
- + Possibility to correct knit fabric in the lower electronic straightening device
- + Guaranteed process stability
- + Less scrap
- + High-quality fabric

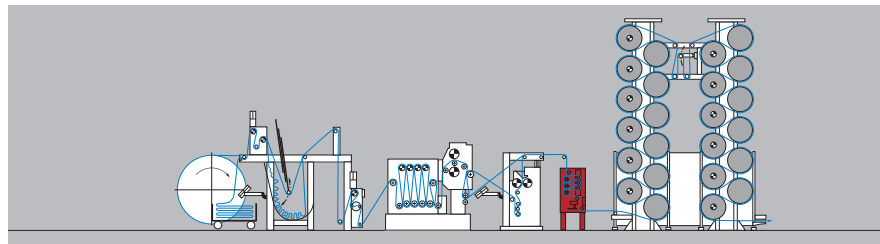


Passage of the web through the ELSTRAIGHT Combi

### ELSTRAIGHT HD

The ELSTRAIGHT HEAVY DUTY is a re-inforced version of our standard model with 2 or 3 skew and bow rollers. It is used primarily in the carpet, denim and technical textiles industry as well as wide width bed sheet production. The rugged and robust design guarantees that it can withstand the high tensions needed to correct these types of material.

- + Heavy duty straightening system for high web tension
- + Suitable for carpet, denim and technical textiles
- + 4 to 8 (max.) cameras for reliable detection of bowing and skewing
- + Automatic positioning of the cameras to match the current web width
- + 2 or 3 bow rollers and 3 skew rollers for corrections
- + Three-phase motors with frequency converters for actuation of the bow and skew rollers



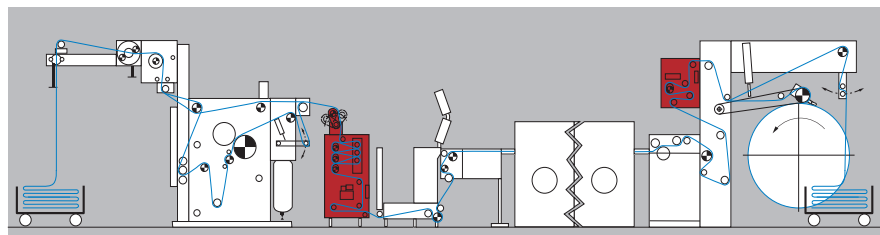
ELSTRAIGHT HD straightening system in a denim production system

### ELSTRAIGHT Mini

The main difference to the standard ELSTRAIGHT is the size and number of correction rollers. Instead of 3 skew and 3 bow rollers the ELSTRAIGHT Mini is equipped with 1 skew and 1 bow roller with minimum fabric content resulting in fast correction response. The small dimensions make the ELSTRAIGHT Mini perfect for integration in existing processing lines. The electronic equipment and scanning technology are the same as the standard ELSTRAIGHT.

#### Main applications

- + Stenter exit to make fine tunings after the drying process
- + At the entry of a rotary printer for final correction before printing
- + In the sanforizer to make fine tunings before or after the shrinking process
- + In laminating lines before the laminating process



ELSTRAIGHT Mini straightening system at the outfeed of a tenter

# ELCOUNT pick and course counter system

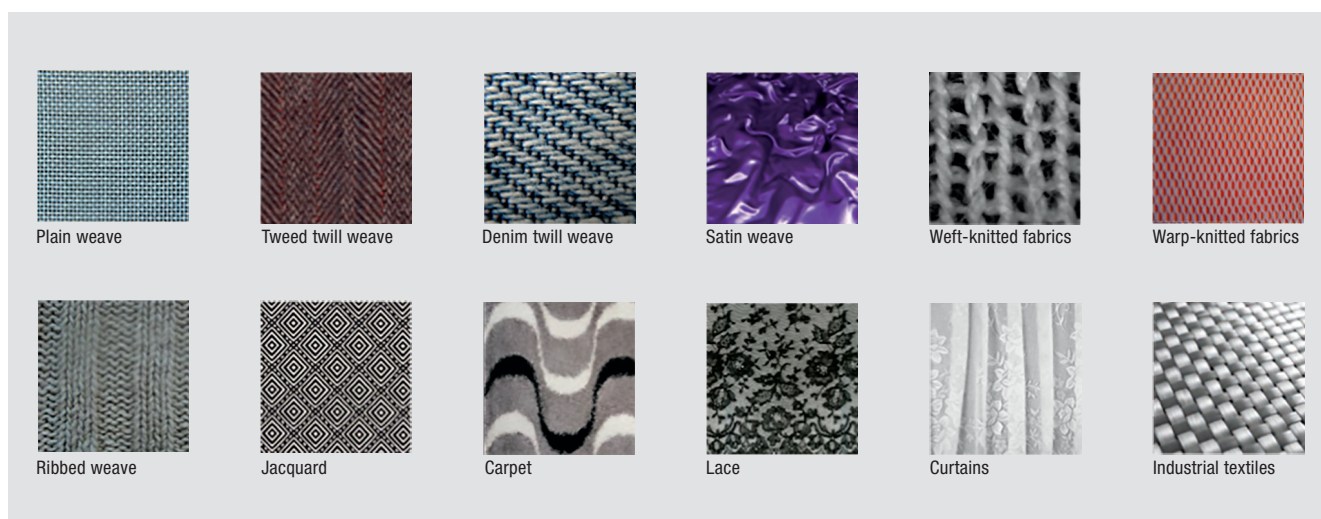
ELCOUNT is a system to determine and control the thread density in knitted and woven fabrics. The operator traditionally effects this process occasionally by punching a sample of the fabric at the end of the relevant finishing process. With the ELCOUNT system, every meter of the fabric is checked and adjusted to the desired density (and consequently the desired weight) without touching the fabric and without slowing down production; this guarantees uniform and constant fabric quality even during night shifts.

Also the ELCOUNT uses highly sophisticated, non-contact matrix cameras for scanning the fabric. Typically, the system is used in stenter, sanforizing and compacting processes and can be supplied only for monitoring or for automatic adjustment with a closed control loop. Furthermore, a lab version is available so that manual density counting can be eliminated. It is possible to transfer the desired fabric density directly from the lab to the finishing machinery where the ELCOUNT system is installed. Contrary to other density/weight measuring systems the ELCOUNT works even with wet/moist fabrics.

Thanks to its recipe and report facilities, constant quality can be ensured and proven at any time.



## Application



# ELPATTERN pattern recognition

ELPATTERN is a modular system designed to detect patterns, correct pattern distortions, control the design repeat as well as record errors and irregularities across the full width of the web.

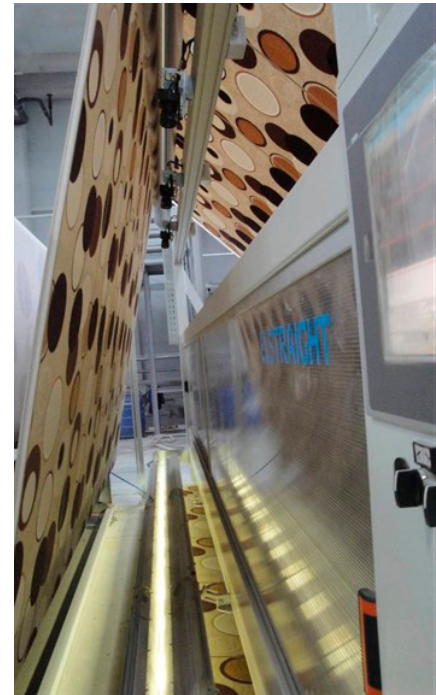
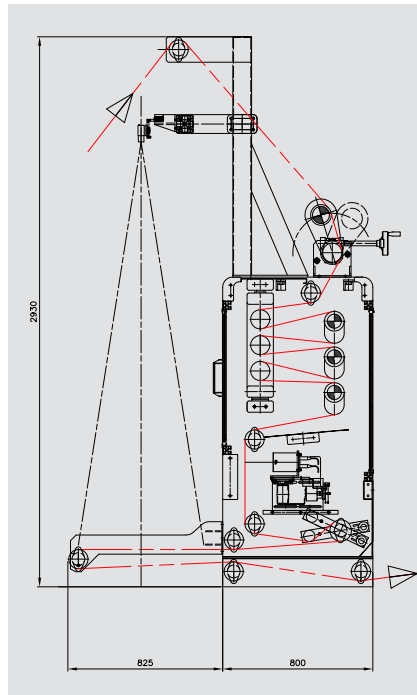
Distorted patterns on carpets and printed fabrics must be corrected in order to obtain perfect and functional quality.

ELPATTERN is able to register the pattern layout and the design repeat automatically and continuously, measuring the web width and re-aligns the distorted pattern by means of the ELSTRAIGHT weft straightener.



## Main Application Areas

- + Carpet industry
- + Printed textiles
- + Shoe mesh for sport shoes
- + Lace fabrics
- + Terry towel



Passage of the web through ELPATTERN

# ELSIDE Front and Backside Recognition

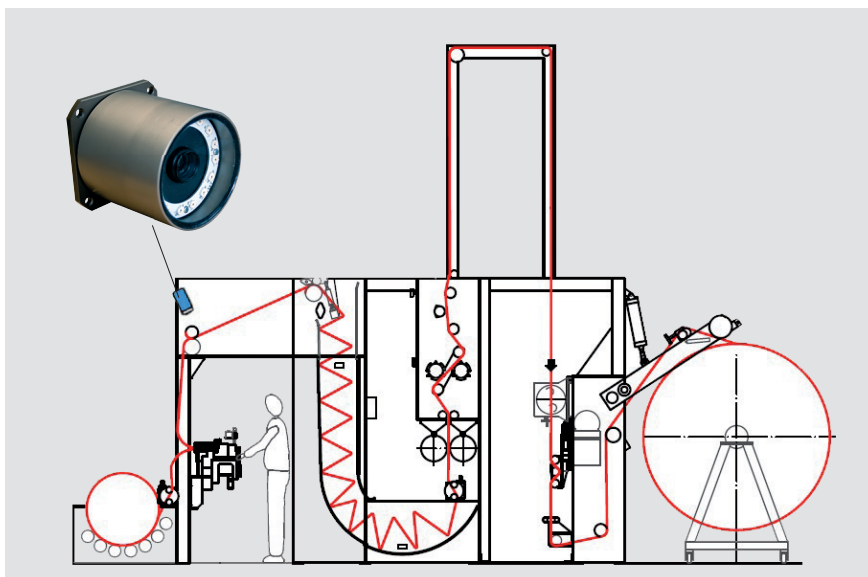
The ELSIDE camera system makes it possible to recognize the front and back of a textile web. ELSIDE detects the structure of the material being processed (front and back) even at high production speeds and irrespective of the material distortion. It issues an alarm signal as soon as sections, which have been incorrectly sewn together, are recognized.

It is suitable for use in all textile manufacturing processes in which incorrectly sewn sections (front and back) can have a negative influence on the downstream process.

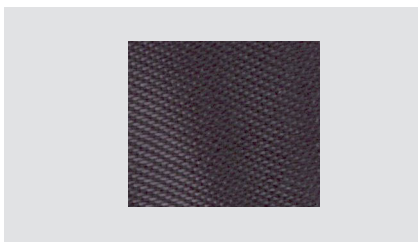


## Matrix camera for fabric structures

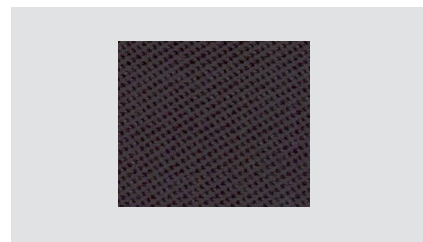
- + Smart cameras with a high resolution for reliable detection of all woven and knitted fabrics
- + Accurate structure detection through FFT (Fast Fourier Transformation)
- + Ring layout of infrared LED light sources for incident-light illumination
- + Integrated evaluation



Camera installation position



Front of fabric



Back of fabric

# ELMAT process control

System for controlling the drying, heat setting and pre-shrinkage processes for fabrics made of natural and synthetic fibres.



The system can consist of up to 3 modules:

### EL-TempMonitoring

Real and precise fabric temperature measurement in the individual chambers allowing to automatically control the dwell time and fabric temperature in order to obtain an optimal heat-setting process



### EL-HygroAir

Measurement of the absolute air humidity and automatic control of the exhaust air fan speed



### EL-HygroMatic Plus

Measurement and automatic control of the residual moisture content in a large variety of fabrics. Various different measuring probes are available for different applications like fabric, yarn, paper, tops and ribbons



### Benefits of the ELMAT system

- + Automatic process control
- + Energy saving
- + Constant, repeatable product quality
- + Production optimization
- + User friendly
- + ELMAT system can be fully integrated in our ELSTRAIGHT and ELCOUNT systems

# Inspection machines

Erhardt+Leimer offers a number of different inspection machines for various purposes

## Universal inspection and non-stop winding machine

The machine has a very compact design to allow installation in line with stenters or other finishing machines like compactors, calanders, sanforizers, etc. for knitted and woven fabric with different elasticity.

### Standard composition

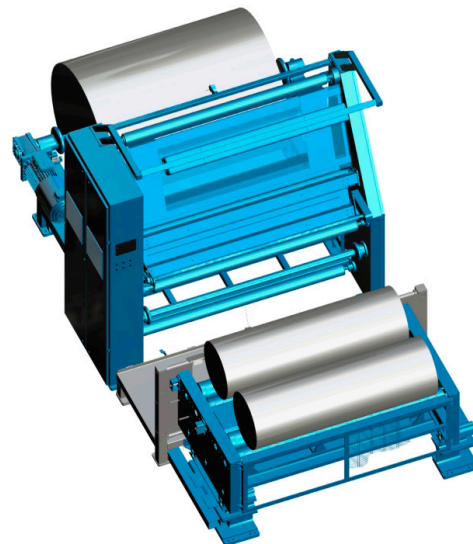
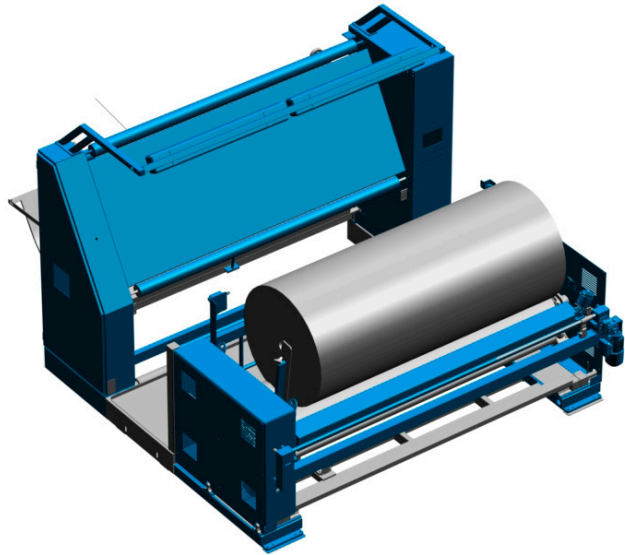
- + Infeed non-stop scray with speed synchronisation unit
- + Double scroll roll unit with possibility to adjust the contact angle
- + Driven fabric rollers for low tension
- + Inspection plane in different executions
- + Precise electronic fabric length measurement
- + Forward/backward run
- + Self-centering winder in front of operator with proven E+L photo-electric sensor technology for perfect selvage alignment
- + Roll hardness control
- + Manual transversal cutting unit
- + User-friendly touchscreen control unit
- + Optional accessories: weight measurement, automatic cutting unit, overhead light, roll packing module, A/C unit

### Customized inspection machines

Erhardt+Leimer offers customized inspection machines for different applications.

Our customers appreciate the flexible approach to their requests and the fact that they can make trials on their machines with their own material before shipment.

Examples of customized inspection lines:

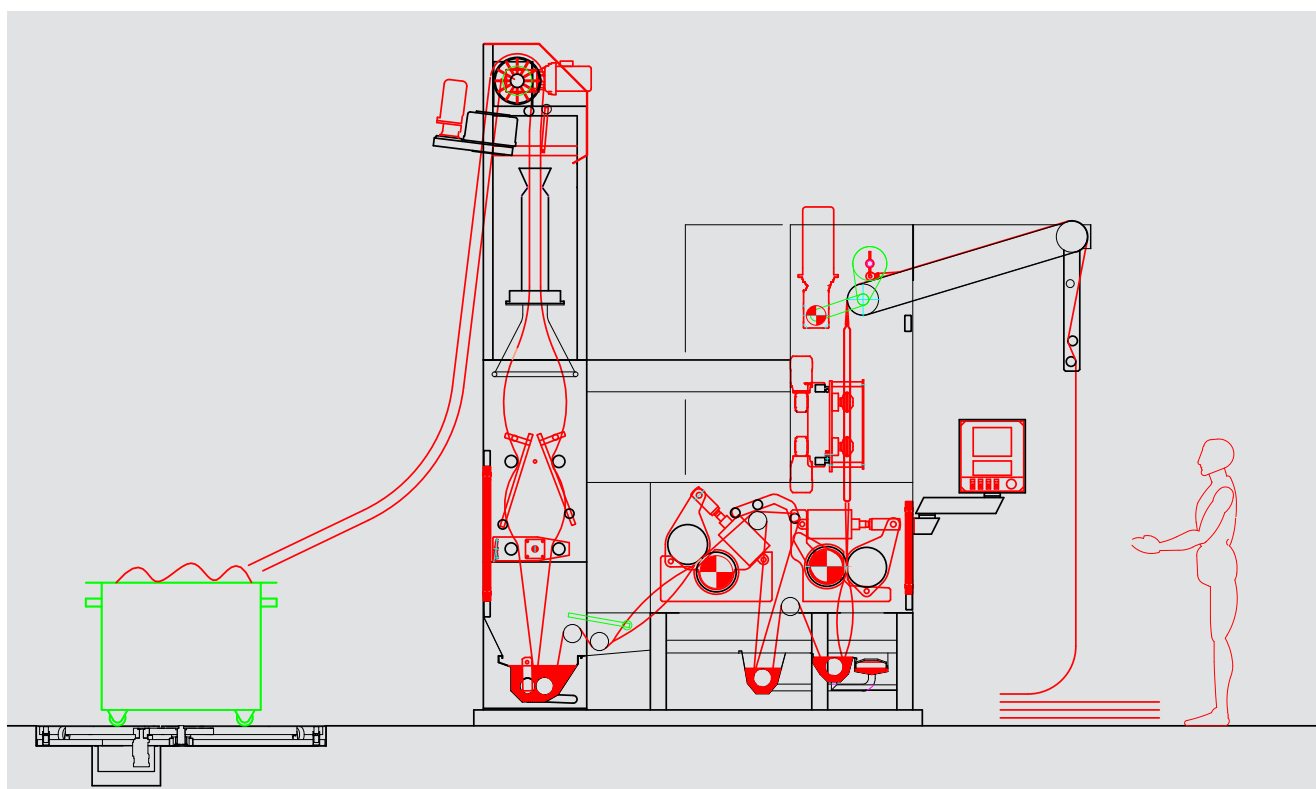


# “ELSTRETCH” tubular rope opening and impregnation machine

The “ELSTRETCH” balloon padder is a machine for detwisting and impregnating knitted fabric which is finished in tubular form.

## Features

- + Solid stainless steel frame
- + Hydraulic turntable with 1800 mm diameter
- + Automatic rope detwister
- + 3 air balloons with controlled diameter
- + Automatic water injection with level control
- + Dewatering squeezer and impregnation squeezer with 7 tons pressure
- + Electronic load cell for tension control
- + Double trough for efficient and uniform impregnation
- + Magnetic tube squeezer for width control
- + Conveyor belt for tension-free fabric transport to the plaiter
- + Integrated machine control with PLC and touchscreen



Passage of the web through the ELSTRETCH

# Fabric opening and slitting line model "SDM"

## Cutting unit

- + Design is similar to predecessor models: thus easy slitter replacement
- + Robust design in high grade steel with roller basket
- + Safe detection and guiding
- + Maximum resistance of cutter to wear and tear
- + Flexible adjustment to the desired tube diameter
- + Opening of the tube fabric supported by speed-controllable fan
- + Minimum longitudinal tension for dry and wet fabric due to the roller basket

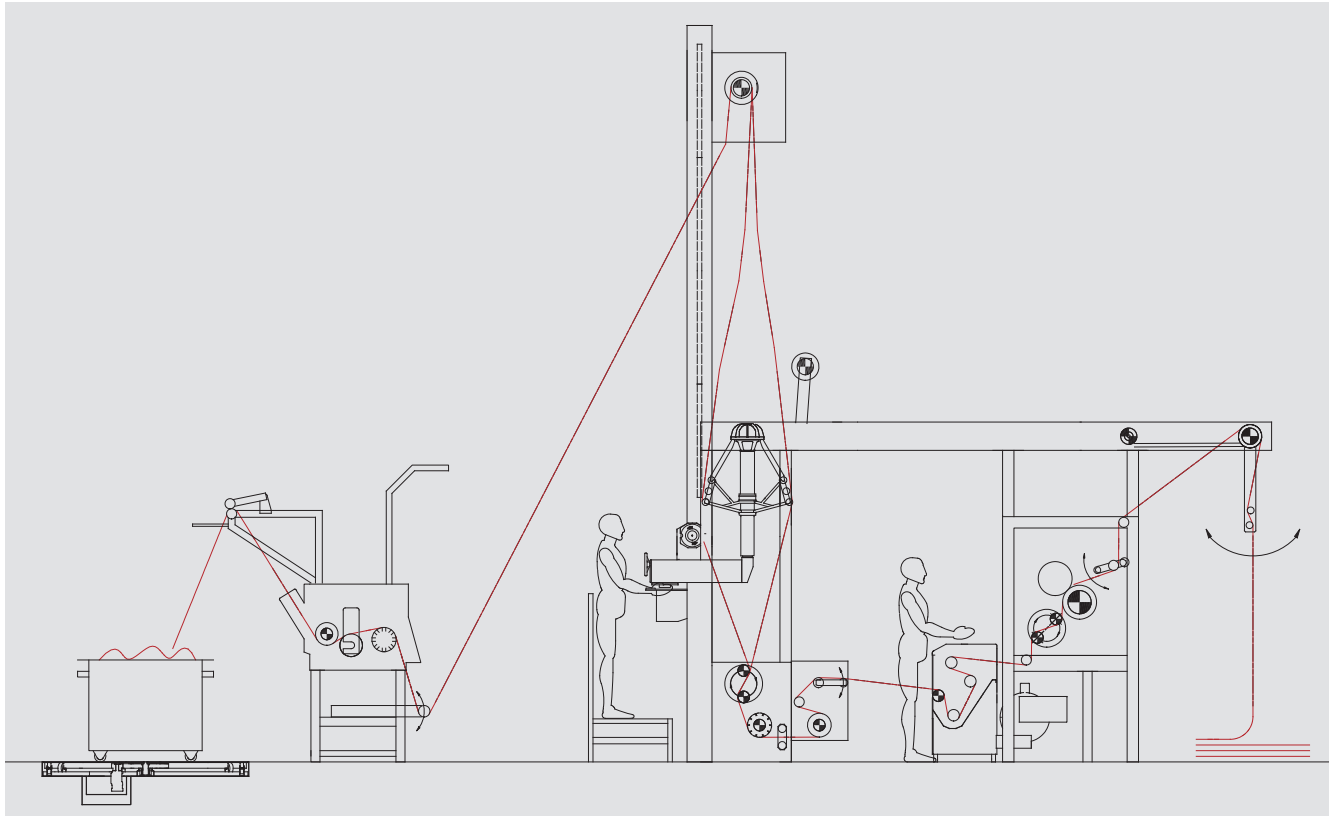


## Drop stitch sensor

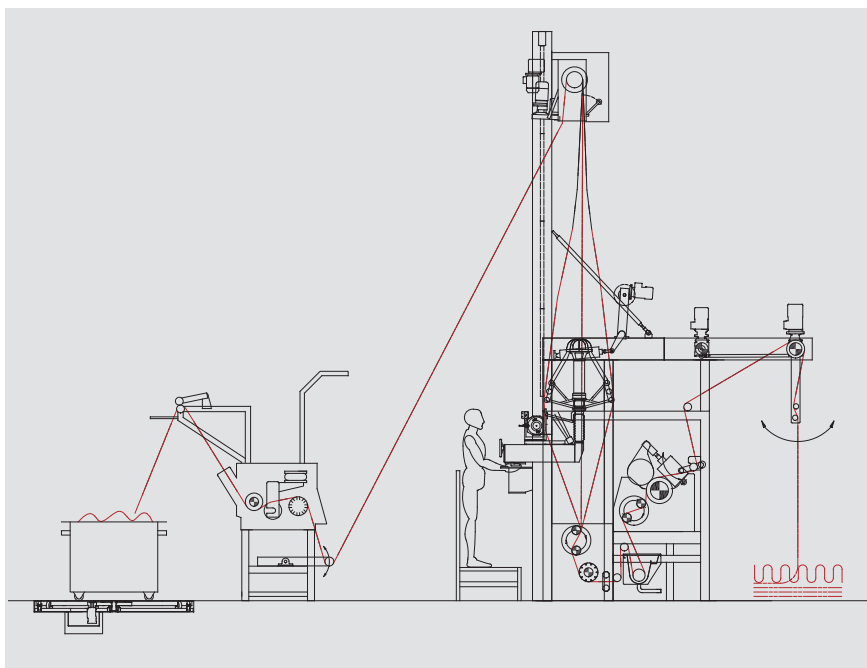
- + Integrated drop stitch matrix sensor and digital position controller
- + Easy teaching process for different drop stitches and different drop stitch structures: Can detect many different drop stitches
- + Drop stitch matrix sensor detects the drop stitch using the transmitted light principle
- + Infrared transmitted light sensor for optimal contrast
- + LED basket interior lighting
- + Excellent resolution of the drop stitch sensor
- + Rapid, delay-free positioning of the drop stitch in front of the cutting blade due to defined static friction between the tube and the spherical guide rollers
- + Continuous comparison of target and actual values
- + Stable closed loop with position, speed and current controller



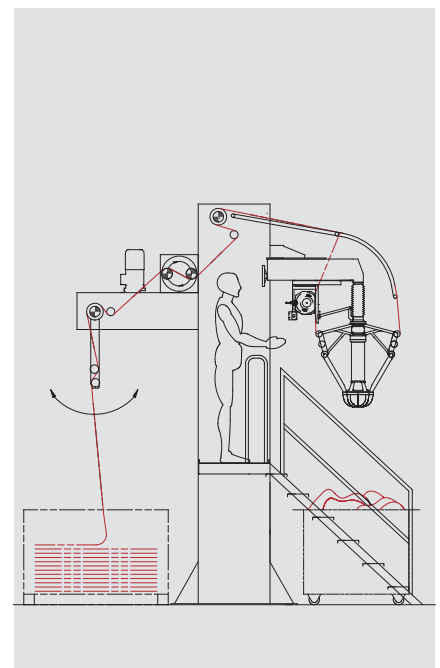
Erhardt+Leimer has a vast experience with rope opening and slitting lines, both for wet and dry fabric in hundreds of installations around the world.



Rope opening for wet fabrics line with anti-pilling device



Rope opening line for wet fabrics



Rope opening line with triangle for dry fabrics

# Open width squeezing and impregnation padder

Erhardt+Leimer offers different padder layouts according to the application: standard squeezing and impregnation padders for installation in for example stenter, coating, tubular cutting and ballooning lines. Furthermore, we supply padders with equalized pressure technology with 2 or 3 bowls for applications where an extremely even and uniform nip pressure is required.

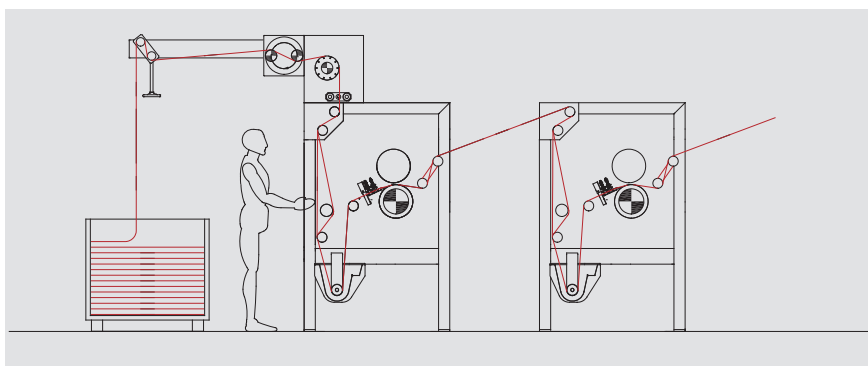


## Main characteristics

- + High water extraction and uniform chemical application thanks to the applied rubber technology and equal squeezing pressure
- + Integrated pneumatic speed compensator with finely controlled fabric tension
- + The stainless steel trough is extractable for easy cleaning. It can be supplied with heating or unheated
- + Design for woven and knitted fabric as well as technical textiles with different guide, bow and scroll rollers

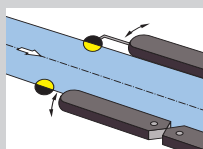


- + Minimum fabric elongation due to extremely short fabric paths
- + User-friendly handling, completely integrated in the support stand
- + Different shore hardness according to the application
- + Version with equalized pressure with 2 or 3 rollers available

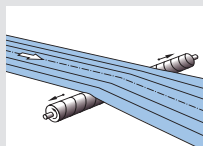


Passage of the web through the OPEN WIDTH SQUEEZING AND IMPREGNATION PADDER

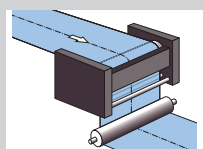
## Other products for the textile industry



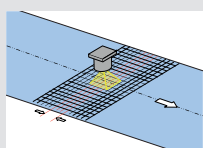
**ELFEED** – Tenter infeed systems



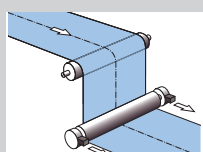
**ELSPREADER** – Web spreading systems



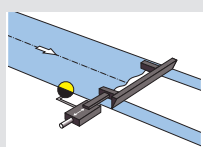
**ELSMART** – Web guiding systems



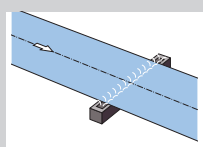
**ELCOUNT** – Thread counting systems



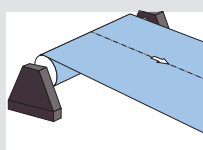
**ELTENS** – Web tension control systems



**ELPOSER** – Positioning and follow-up control systems



**ELMETA** – Metal detection systems



**ELWEBTEX** – Infeed and exit systems for textile production processes

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E+L Steuerungstechnik St. Egidien, Germany · E+L Corrugated Bielefeld, Germany · Dr. Noll GmbH,  
Bad Kreuznach, Germany · E+L Bradford, England · E+L Mulhouse, France · E+L Stezzano, Italy  
E+L Bucharest, Romania · E+L Barcelona, Spain · E+L Burlington, Canada · E+L Duncan, S.C.,  
USA · E+L Guarulhos-São Paulo, Brazil · E+L Ahmedabad, India · E+L Hangzhou, China · E+L Tao  
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