News and Highlights 2024

PLEVA
Sensors and Controls

SL smart

- Automatic weft-straightener
- For woven and knitted fabrics
- Distortion detection over whole width for best results

High-performance camera technology CAM

- Unbeatable, high-performance structure analyses, pick/course density measurement
- Quality improvement and reporting
- Retrofitting of old systems possible

PLEVATEC pro

- Modular visualization and control system for advanced application
- Versatile application possibilities for a wide range of processes tailored to individual requirements
- Optimization and monitoring of complex production lines for highest quality, efficiency and sustainability

HEROES FOR SUSTAINABILITY

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New Machines, Measuring And Control Systems

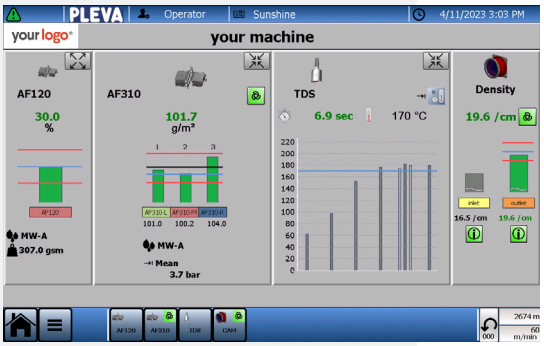
The smart way of weft-straightening

The weft-straightening machine SL smart is designed particularly for knitted and woven fabrics with a maximum fabric width of 3.2m with a plurality of new design solutions. The heart of the SL smart system is the well-established advanced traversing camera technology which is unique in weft-straightening. The universal high-resolution camera captures more than 20 measuring points per meter of fabric width. Advanced evaluation algorithm enable an ultra-precise distortion analysis for perfect straightening results in a blink of time.

The all seeing eye – CAM series 400

For the assessment of quality parameters but also weft-straightening, precise detection and advanced image processing is the most important aspect. The brand new CAM offers cutting-edge technology with many novelties for best results: Completely new lighting with increased brightness and special lighting possibilities allow a detection of all kinds of fabric independent from density or color.

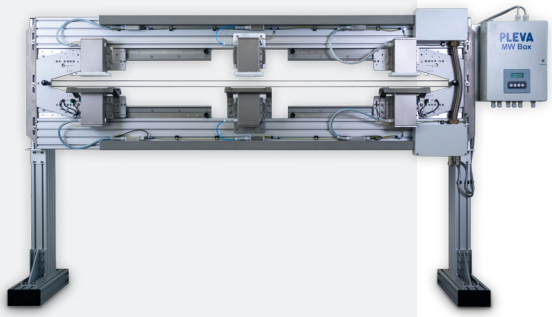
This in combination with a four times higher calculation power, higher resolution with five-times more pixels and revised algorithms for calculation of distortion and pick/course density makes it the leading technology in the area. On top, it is also designed as a retrofit for existing PLEVA systems with easy connectors and is fitted for even the harshest conditions thanks to an improved housing design.



Easy operation at complex processes with new process control system

The advanced process control system PLEVATEC pro allows an integration of a huge variety of process critical data with all information at one glance and optimal controls. It is designed to enhance and simplify operation even at complex production lines with different modules. In addition, tolerances can be set as well as parameters saved and loaded within the integrated recipe management system. The customizable system provides solutions to a huge range of different processes, e.g. production line with foulard, vacuum, predryer, coating and dryers (stenter frames, ovens, etc.).

An integration of the following devices is possible:
- Exhaust humidity FSX
- Fabric temperature TDS
- Residual moisture RR, RF/AF
- Application moisture/coating AF
- Pick/course density CAM



Moisture measurement with high accuracy and without safety precautions

Our newly improved microwave measurement technology for moisture, coating, application / add-on and dye pick-up measurement offers several benefits for an even more efficient and comfortable usage:

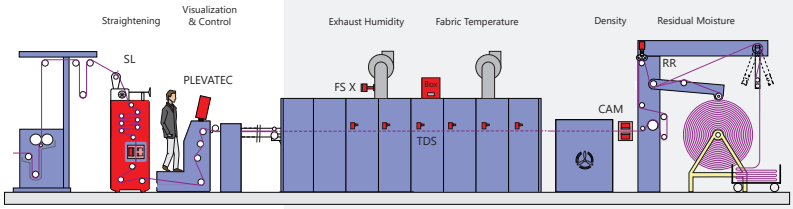
- New and easier adjustment of the side heads with improved precision of adjustment at AF 310
- Improved sensitivity and accuracy by more than 30%
- Automatic and fast adjustment of measuring range
- Quick and easy commissioning and maintenance
- Interfaces: analog (0/4...20 mA), RS485 (Modbus), CAN (option), Profinet (option)
- Enhanced protection of measuring heads for robust use in even the harshest environmental conditions

Solutions For The Textile Industry

HIGHLIGHTS

Stenter frame

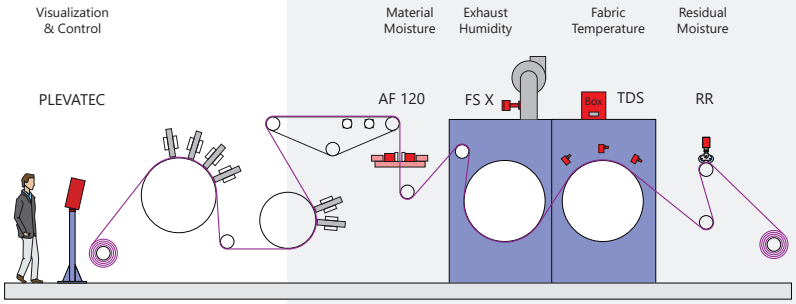
At very energy-intensive processes such as drying or heat-treatment (stenter frames), a modular system consisting of different individual devices can optimize the parameters to highest efficiency with increased quality.
For woven and knitted fabrics the weft-straightener SL allows to produce directly the aimed result. Sensors for fabric/air temperature (TDS) make drying/heat-treatment process transparent, the exhaust humidity sensor (FS X) is great for energy savings, and residual moisture measurement (RR) helps to improve fabric quality and efficiency. Finally, a pick/course density measurement (CAM) ensures the highest fabric quality at consistant output.



Nonwovens / spunlace production

For best energy management at spunlace/nonwoven production, a measurement and control concept is required.

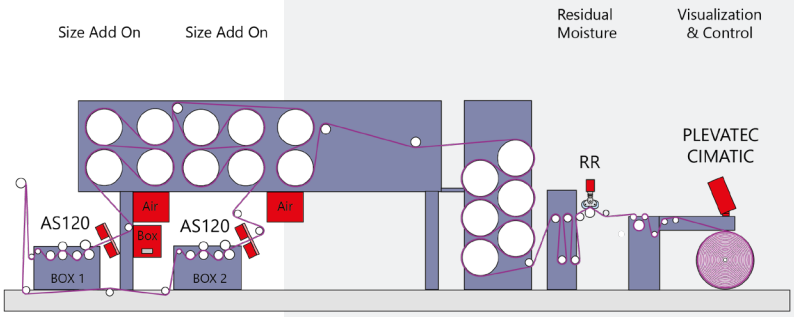
After the spunlace process, a contactless microwave moisture measurement AF 120 is used to determine the water content. Inside of the drum dryer, the fabric temperature is monitored with TDS sensors. This ensures that the quality of the spunlace nonwoven is not affected by overheating. The exhaust air humidity in the screen drum dryer is monitored by the FS X air humidity sensor and can be regulated in the production process via an exhaust control. For measuring the low residual moisture after the drum dryer and thus for controlling the fiber-dependent drying temperature, an RR sensor is used.



Size application

Uniform size pick-up on warps increases the efficiency of the sizing looms crucially. The desired degree of size pick-up is controlled by a combined pressure setting and control system varying the pressure of the squeezing rollers in size box 1 and size box 2 individually.

The result is an increase and stabilization of weaving efficiency from 1.5 up to 4 % as well as reducing the amount of applied size by 10 up to 25 %. By this, wastewater load is reduced and only the required sizing agents used which is great for sustainability.

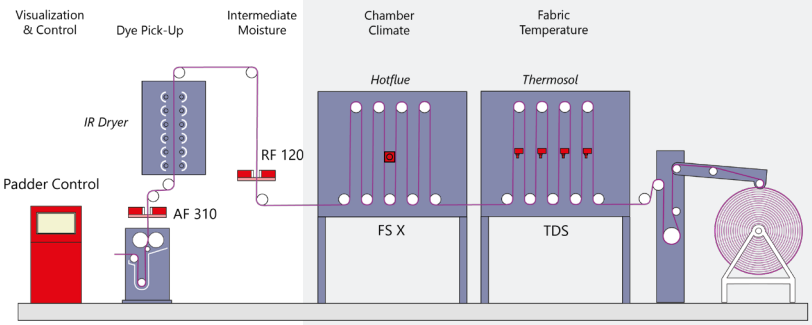


Continuous dyeing

The uniform dye pick-up over the length and width of the fabric is essential for a perfect dyeing result on continuous dyeing processes Pad-Dry / Pad-Steam and ColdPad-Batch.

The **brand new AF 310** with a lot of improvements measures the dye pick-up and the Padder Control CIMATIC if required controls the pressure for left side, right side and center on dye padder.

Supervision of predrying after infrared dryer and control of thermofixation can be integrated as an option.



These optimizations can be implemented not only in new production lines but also in existing lines as a retrofit.

... further solutions, applications and options are always possible.

SENSORS

Heroes For Your Process

PPB, MWB I Evaluation electronic

NEW: All of the PLEVA evaluation electronic boxes, which are used for the installation of the sensors TDS, FS, RR, OS (PLEVA Process Box PPB) and the microwave sensors AS/AF/RF (Microwave Box MWB), can be equipped with latest interfaces such as CAN-Bus and Profinet. This ensures the perfect integration of your process to enhance flexibility and transparency.

At the new MWB a connection of up to 2 sensors of AF 120, AS 120 or RF 120 is now possible.

TDS I Fabric and air temperature

Fabric temperature sensors TDS are used to supervise a heat treatment process e.g. drying, heat-setting, curing, vulcanisation, shrinking, ageing and cross linking of textiles, carpet, paper, fibreboard, plastics and much more. TDS can be used in the hot zone inside dryers and ovens.

NEW: A version for temperatures up to 450°C is now available. And for special application in Ex-zones, TDS sensors with a special PLEVA Process Box can be supplied as well.

FS I Air humidity

The air humidity measurement FS is used to minimize the energy consumption of drying processes in dryers and stenter. The maintenance-free exhaust humidity sensors type FS X measures the humidity of the process air to control the exhaust air rate for an economic efficiency on drying process. It can be used in processes up to 600 °C.

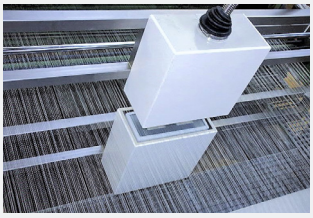
RR I Residual moisture

The measuring device RR and RR W measures the residual moisture of planiform fabrics. The type RR tandem roller is used for lower moisture values or the measurement of synthetics or mixed fibres with synthetics. The type RR W measures the residual moisture over the full fabric width on two rollers at knitted fabric or at surface sensitive fabrics.

OS I Oxygen content

The oxygen sensor OS continuously measures the oxygen content and steam saturation in textile steamers. The content of oxygen has a direct impact on color fixation and reaction processes. Accordingly, the reliable oxygen measurement increases the production safety and allows considerable savings of steam.

AS I Size application



Sizing is the key aspect for a high warp quality and high weaving-efficiency.
The AS 120, which is based on microwave technology, measures the size application reliably and continuously. A special construction with integrated protection against steam vapours and high temperatures ensures a reliable and consistent measurement.

NEW: Improved measuring heads with higher sensitivity combined with a new, easy-to-mount construction enhance the usability of the AS 120.

AF, RF, MP I Material moisture

The application moisture measurement is based on microwave technology for contactless online measurement of moisture application, coating, continuous dyeing and residual moisture in planiform webs. The types AF 120 and RF 120 are single head measurements, the type AF 310 has 3 heads to measure left side, center, right side. MP 120 is traversing over the whole fabric width for a complete overview of the fabric properties.

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