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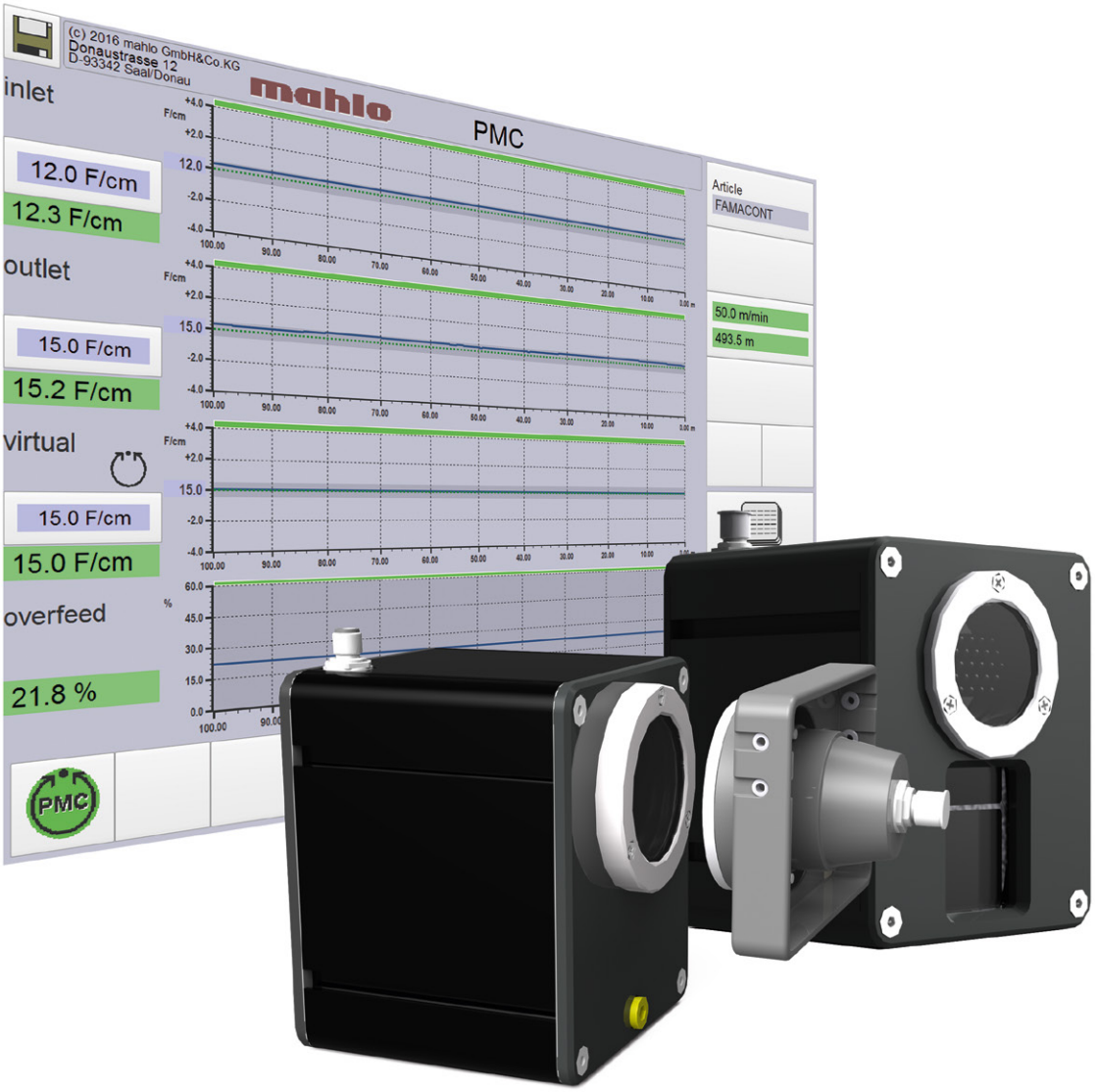
FAMACONT PMC–15

Control of weft thread and course density



FAMACONT PMC–15

Quality made in Germany

TEXTILE NONWOVEN COATING & CONVERTING PAPER EXTRUSION

FAMACONT PMC

WEFT THREAD AND COURSE DENSITY CONTROL

Continuous exact scanning of the weft thread or course density is an important factor for quality optimisation when finishing textile products.

Area of application

The Famacont PMC is a reliable instrument for non-contacting, inprocess determination of the weft thread / course count. Essential parameters such as weight, stretch / shrinkage are thus monitored and controlled. The Famacont PMC is an important tool for the finisher: Quality requirements of the customers are complied with; costs due to rejects and quality loss is minimised. The system is very versatile. Stenter, shrinking and compacting equipment constitute the main application areas.

Principle of operation

The Famacont PMC determines the thread density by means of a non-contacting, optoelectronic or imaging process. The optoelectronic sensor determines the thread density in longitudinal direction (weft direction). With this process individual threads or courses pass the sensor and are projected onto the photocell using a precision optical lens. The resulting frequency is proportional to the thread count. The signal is amplified, prepared and digitally processed. Depending on the type of product, the sensor can work with transmitted light or reflex light.

With the imaging process the thread density can be determined at the same time in longitudinal and transverse direction (weft and warp direction). Images taken with a high-resolution camera are analysed with software (FFT analysis). The camera sensor is available

Product highlights

- ✓ Non-contacting and continuous
- ✓ Determines the thread or knit density with the greatest accuracy using digital signal processing
- ✓ With "smart" feed forward control algorithm
- ✓ Universal application

Customer benefits

- ✓ High repeatability
- ✓ Consistent residual shrinkage values
- ✓ Homogeneous product appearance
- ✓ Documentation of product quality
- ✓ Short amortisation times

Famacont PMC with optoelectronic sensor (TK)

Famacont PMC with camera sensor (CK and CK HF)

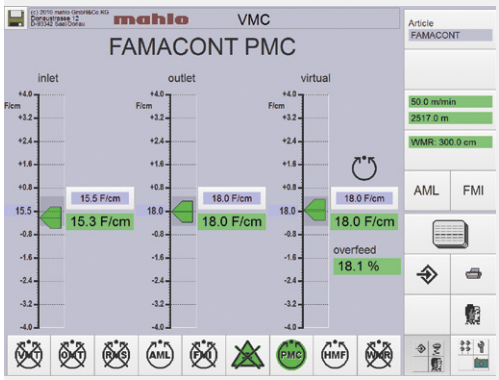
in two versions: for normal thread densities up to 70 T/cm and for high thread density products up to 270 T/cm. Knowing the thread density both in weft and warp direction the imaging process also allows for conclusions as to the grammage of the product.

Control strategy

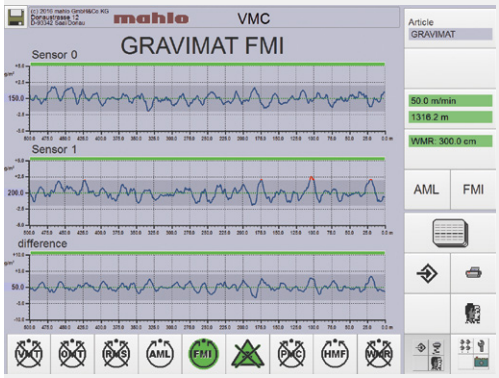
A sophisticated feed forward control algorithm and two sensors ensure outstanding results. The first sensor detects the thread density before the infeed of the stenter and controls the over-feed with inclusion of the chain speed. Even with short-frequency changes in thread density the target value is immediately adjusted to the actual value as soon as the product arrives at the infeed. By optimising the weft thread and course density, homogeneous product appearance and consistent residual shrinkage values are achieved.

The second sensor logs weft thread and course density of the product at the outfeed of the stenter. An optional printer package is available to document the process statistics. Date transfer to higher level computer systems per host computer interface is possible.

The sensor at the infeed is usually integrated as additional scanner in the Orthopac straightening system. This makes any installation effort unnecessary. A holder with guide panels allows easy installation of the sensor and light source even when space is at a premium.



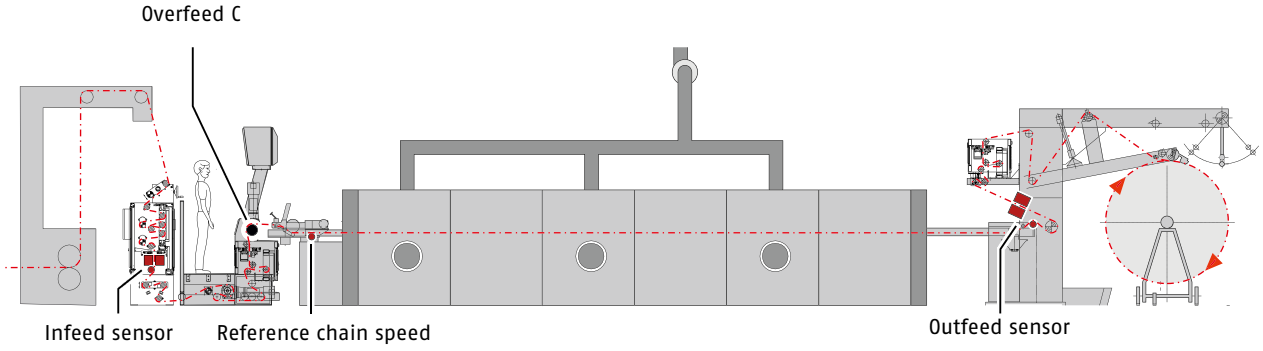
Thread count display



Thread density trend diagram

SMART FEED FORWARD CONTROL

In order to achieve homogeneous product density and increased production yield, the Famacont PMC controls the over-feed direction fully automatically.



Famacont PMC Smart-Feed-Forward Control on the stenter

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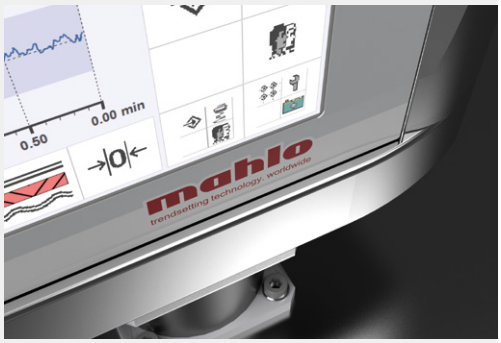
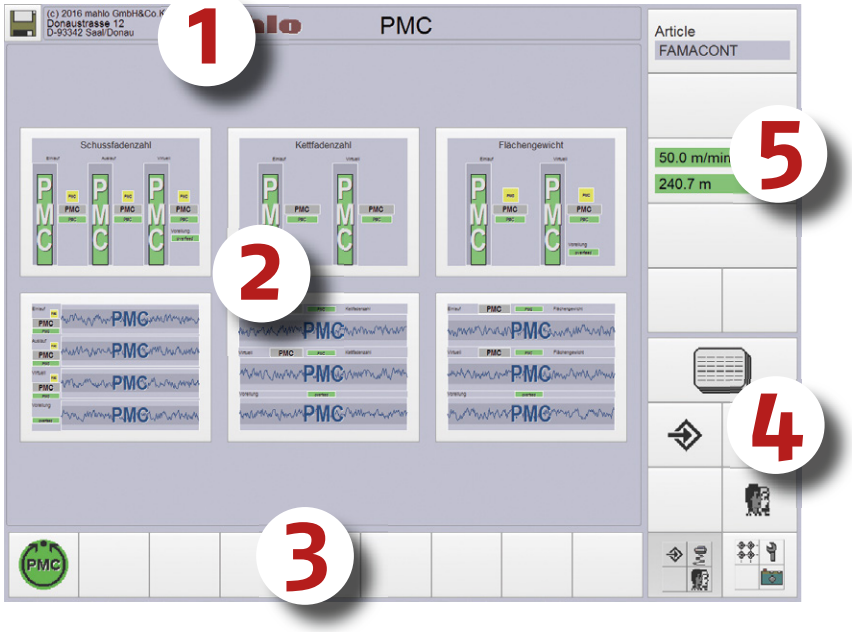
VISUALIZATION

EVERYTHING AT A GLANCE

All entries are made directly on the touchscreen using large, ergonomic buttons. Operation is simple and intuitive. All key information is visible at a glance.



Visualization and operation per touchscreen



Main screen for selection

The user interface consists of five areas:

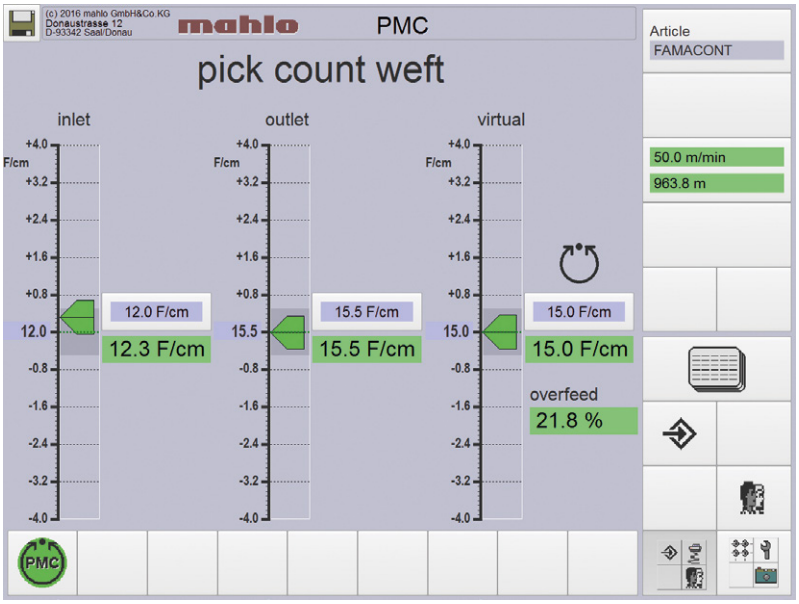
1. Title line:
   General information (including alarm bar)

2. Display area:
   Selectable screen pages (display forms)

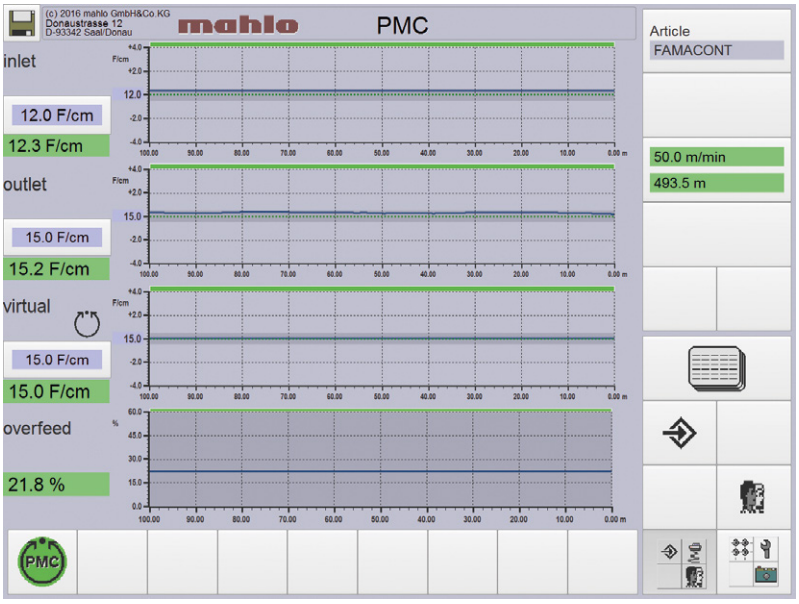
3. Horizontal block:
   Operating buttons for basic functions and submenu

4. Selection block:
   Navigation within the operating software

5. Vertical block:
   Operating buttons for the menu selection



Thread count display



Thread density trend diagram

Product highlights

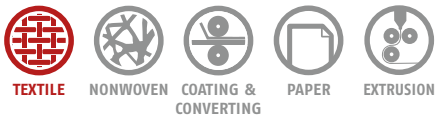
- ✓ Simultaneous management of various sensors
- ✓ Freely scalable trend diagrams
- ✓ Image scale for historical graph selectable
- ✓ Password protection: Unauthorised users are prevented from accessing the program
- ✓ Recipe management

Benefits for the customer

- ✓ Menu guide in all common languages
- ✓ Very user-friendly
- ✓ Ergonomic user prompting
- ✓ Ease of operation

VISUALIZATION

TECHNICAL DATA | **FAMACONT PMC**

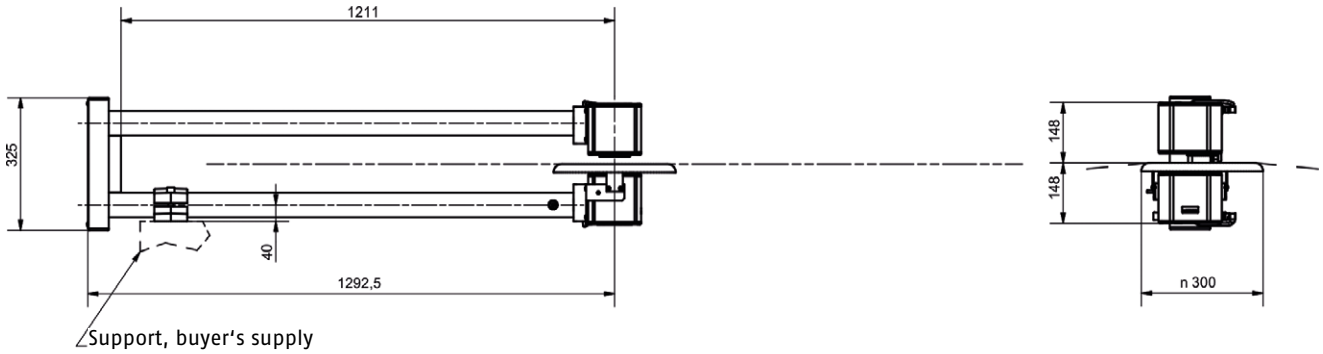


Sensor	Famacont PMC
Measuring principle	Continuous optoelectronic scanning (transmitted light or reflex light) or imaging scanning
Measuring range	Optoelectronic sensor TK: up to 220 threads/cm Camera sensor: CK up to 70 threads/cm; CK HF up to 270 threads/cm (depends on web speed and type of fabric)
Max. product speed	150 m/min (depending on threat count and type of fabric)
Permissible distortion angle	±40°
IP protection class	IP 54
Temperature range	0 – 50 °C
Relative humidity (non-condensing)	0 – 95 %

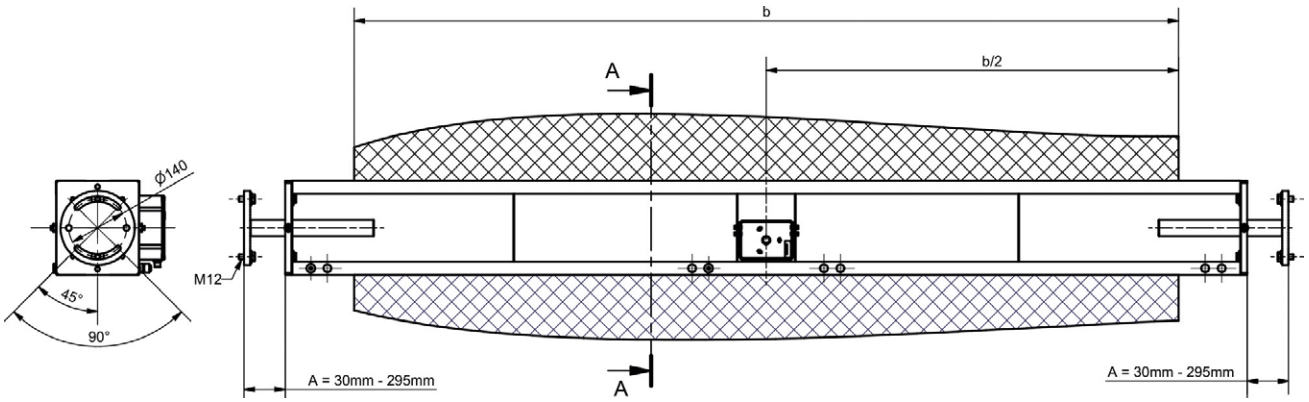
INNOVATIONS

We love being technology leaders. And our development team works every day to make sure it remains so. Innovations, inventive talent and future-oriented thinking – to guarantee your success.

Dimensions



Sensor Famacont PMC;
version with fork and plate
91-013415



Sensor FAMACONT PMC
version with guide panel
91-013336-02

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