Fabric Density Measurement and Control

Why change from weighing fabric (GSM) to measuring the density (PPI or CPI)?

Because weight measurements are only small samples of the fabric. Fabric density can be measured continuously, providing complete data for every meter of fabric.

Facts

Fabric weight increases as fabric density increases

Fabric weight decreases as fabric density decreases

Weight Versus Density

The chart below shows how fabric weight and fabric density are related. Using the data from a continuous density measurement system to set up and adjust a finishing machine, the desired weight can be obtained.

Measuring the density of every meter of fabric provides the tool to

- Reduce weight variability
- Eliminate out-of-spec fabric
- Produce higher quality fabric

Automation Partners Inc.

Automation Partners Inc. provides fabric density measurement sensors and control systems.

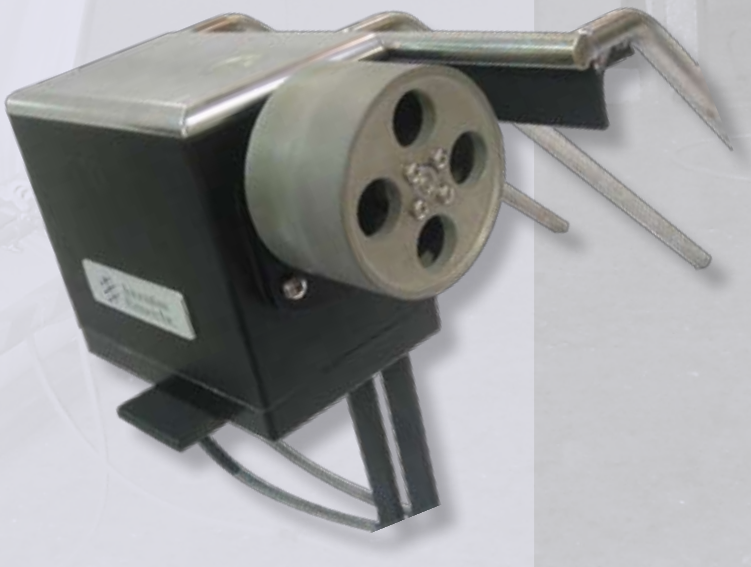
The Fabric Density Measurement Sensor

The PSM-200 Sensor System is the industry's most reliable, hands-off, linear density measurement tool. It provides continuous, reliable and completely automatic measurement of pick or course count—no operator experience is required.

- Operation is independent of operator skill.
- No prior set-up or programming for different styles or fabric types is required.
- Not affected by color, yarn size, fabric speed or moisture.

The sensor is an optical/electronic device using infrared light to determine the structure characteristics of the fabric.

There is no camera requiring calibration or maintenance and no radiation—no hazard to personnel and no special permits to import or use.

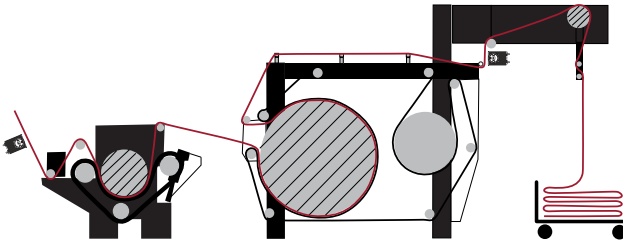


Systems That Work

The PSM-200 Sensor System provides critical data on your finishing operation, but it is just the first step in reaching maximum efficiency and profitability. The basic system can easily be expanded with plug-in options and networked within your production line for advanced capabilities.

Systems for automatic fabric density control can assure density, weight and shrinkage uniformity on stenters, compactors and sanforizers.

Density and Shrinkage Monitoring and Control

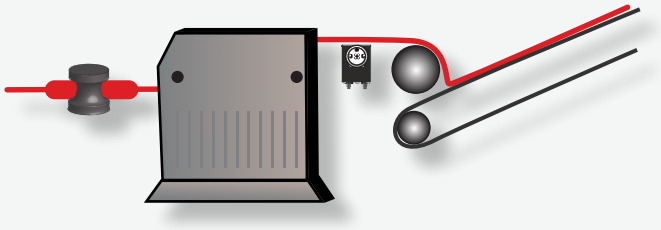


Measure fabric density and speed at the entry and exit of a sanforizer and control for desired machine shrinkage or finished fabric density using feedforward control at the entry.

The SMS-400 System provides accurate, real-time fabric shrinkage measurement and control, eliminating manual checking of shrinkage and provides the additional benefit of real-time fabric data.

The system uses two PSM Sensors and a signal processor with control outputs to automatically control machine shrinkage or finished fabric density.

Tubular Compaction Control



A system to automatically control fabric compaction in tubular compactors using finished fabric density as the controlled variable. The result is predictable fabric length shrinkage.

A PSM Sensor provides the course count measurement for the CCS-300 Compaction Control System.

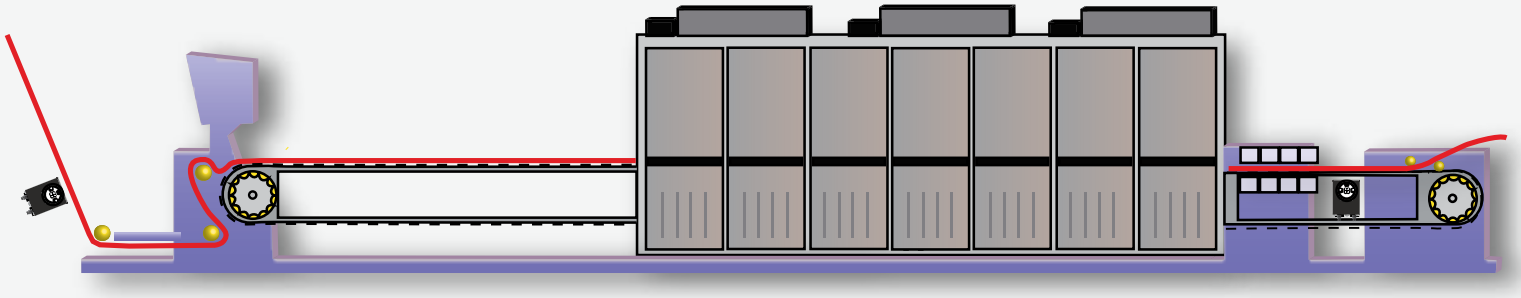
An optional width measurement device can be added to provide both fabric density and fabric width control for finishing the highest quality fabric.

Why Automation Partners Inc?

- **Premier manufacturer with 1,000 successful installations worldwide generating satisfied customers.**
- **Sensors and control systems that can be easily networked and expanded to suit your company's changing operations.**
- **Field proven fabric finishing measurement and control systems with documented results.**
- **Investment Justification that explains your potential savings using our solutions.**
- **Money back performance guarantee.**
- **Continued service and local support.**

Call today!

Stenter Overfeed Control

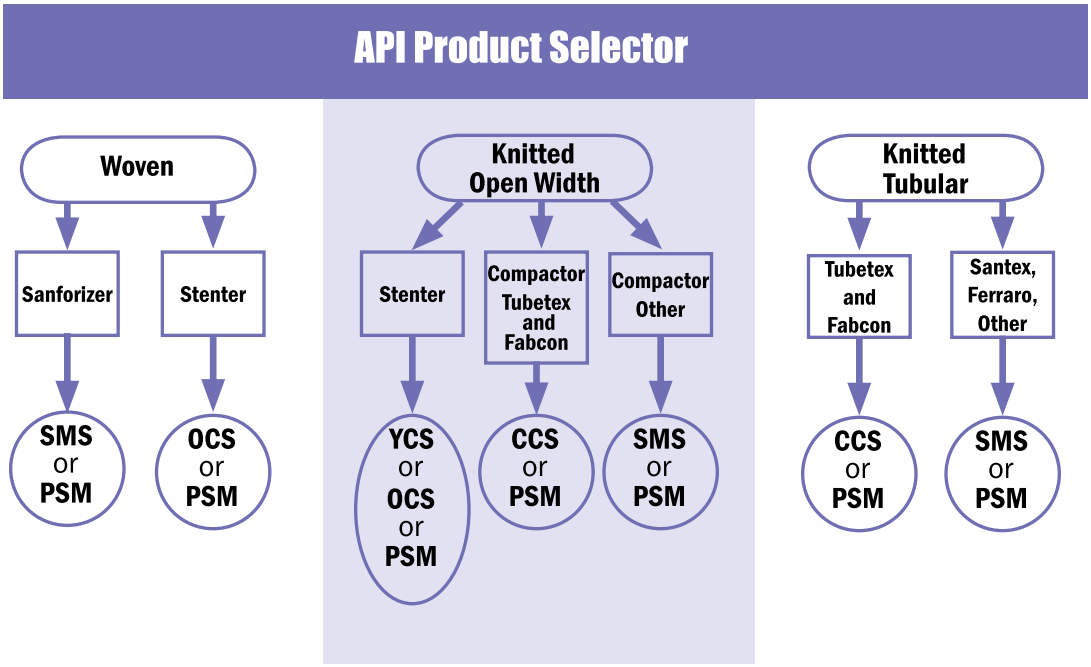


This system uses two PSM-200 Sensor Systems to measure fabric density and control overfeed of the stenter to achieve uniform fabric density and weight.

Fabric density is measured at the entry of the stenter and the controller uses the API-developed feedforward control algorithm to adjust the overfeed to achieve the desired finished fabric density and weight.

More uniform fabric results in higher quality fabric, better prediction of shrinkage and better shade consistency of dyed and napped fabrics.

Automation Partners Inc. — Your Technology Partner



Expandable. Plug and Play. Start with the PSM Sensor and Expand.

Automation Partners Inc. has provided electronic solutions to the textile industry since 1990. With thousands of sensor systems and control systems installed worldwide, API is the market leader in this technology.

You can count on this experience and performance to be assured of getting the best product—and the best service—at a fair price.

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