

# Yield Master™

FOR TENTER FRAMES

INDICATING CONTROLLER  
MODEL 1603e



## A COMBO

FOR  
PICKS & COURSES,  
AREAL DENSITY, SKEW,  
WIDTH, COLOR, MOISTURE,  
TEMPERATURE,  
AND STACK HUMIDITY

## OPTIMIZE YIELD NOW!

A STRANDBERG pick and course counter at entry dynamically regulates machine overfeed for target counts at delivery.

Enter your set points as you go or call them up by preprogrammed style numbers.

Then, turn it on automatic.

For the record, print out your results at delivery. Include the pick or course count, the areal density, skew, width, color, moisture and fabric temperature.

While you're at it, tell your combo to close your dampers to keep hot, dry air in. Tell it to open them to let cold and wet air out.



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## -GENERAL INFORMATION-

The Yield Master's primary job is to monitor thread count at entry, compare it with your target and regulate the tenter overfeed to get your target at delivery.

Staying on the mark is important, so the fast, dynamic controller wastes no time between measurement, comparison, and control.

Then come the options. And, there are lots of them. The Strandberg Width Monitor at delivery tracks fabric width to the nearest tenth of an inch (2.5mm). It regulates the widening motor to achieve setpoint width control. Then, there is damper opening control. Simply add high-temperature humidity sensors and control motors at each damper. If the air inside the dryer is cold and wet, the dampers are automatically opened to let the air out. If, on the other hand, the air is hot and dry, the dampers are automatically closed to keep the air in. The degree of damper opening is then proportional to the humidity of the air inside the dryer.

The payback is astoundingly high. Energy is just too expensive to waste.

Other options include a pick and course counter at delivery, just to prove the dynamic setting of overfeed was correct. It is not only important to hit the target, but it is also important to keep the thread count constant.

Add two more pick and course counters to monitor fabric skew, another important quality measure.

The percentage of moisture in the fabric at delivery tells the difference between adequate drying, underdrying, and overdrying. Underdrying can cause color bleeding, mildew, and other damage to the fabric. Overdrying is expensive in energy and production. And, excessive heat can damage the fabric.

Areal density is another important measure of fabric quality. The Strandberg low-energy beta gauge is a low-cost sensor that was designed specifically for this purpose.

Radiation pyrometers to monitor the surface temperature of the fabric add important quality control data.

Fabric color and its consistency are important quality measures.

Perhaps there will be more measures of fabric quality to come in the future. The Yield Master offers up to 24 channels of measurement and control functions, so there is plenty of reserve capacity.

## -SPECIFICATIONS-

Power Requirements .....	115/230 volts a-c
Weights and Dimensions .....	12.0 lb (5.5 kg), 12.5" (318mm) high, 10.9" (277mm) wide, and 6.25" (159mm) deep
Sensors .....	Picks & Courses (0.1/in or cm) <i>by laser optics</i> Areal Density (to 106 oz/yd <sup>2</sup> or 3,000 g/m <sup>2</sup> ) <i>by low-energy Beta Gauge</i> Skew (in or cm off normal) <i>by laser optics</i> Width (0.1 or 2.5mm) <i>by collimated light</i> Color (L* a* b) <i>by spectrophotometry</i> Moisture (% dry basis) <i>by electrical conductivity</i> Temperature (°F or °C) <i>by optical pyrometry and electrical resistance</i> Stack Humidity (relative units) <i>by electrical capacitance</i>
Housing .....	Fiber-glass NEMA-4X with hinged cover for use in wet processing areas
Control .....	Step corrections and PID, set points and tolerances in tenth pick and course counts, all other measurements in tenths and tenth percent steps
Display .....	Liquid Crystal 4.8 x 3.5" (120 x 90mm)
Outputs .....	0-10 volts and 4-20 mA d-c for recorders, etc., RS-232 for printers and other serial devices, and RS-485 for networking, 4-20 mA d-c proportional to skew angle



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