

Specialists in Automation, Control

FACTS, Inc.

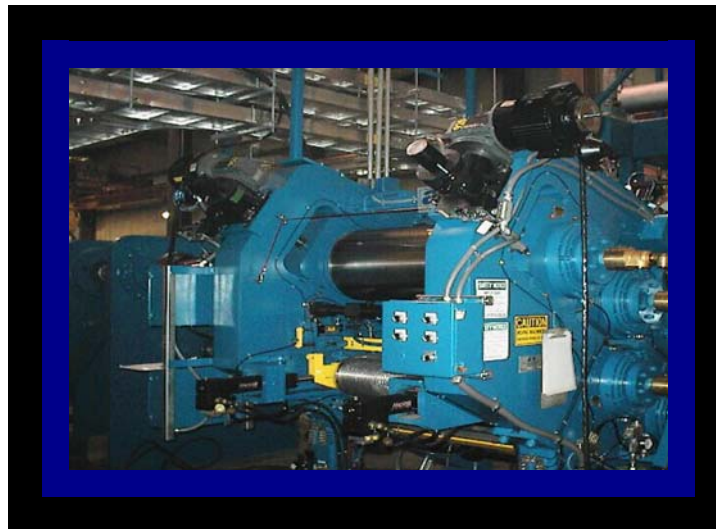
And Information Management

The size and design of the **FACTS** gauges and controls enables the **FACTS** gauges to be very close to the nip, and can be used on virtually all calender configurations. The **FACTS** gauges can measure and control the top gum wall, as well as, the bottom on 4-Roll calenders; where other designs can not because of their size. The **FACTS** On-Cal Gauges have no electronics on the calender, are a simpler design, and far more robust. For these reasons they are more accurate initially and maintain their accuracy longer. Using a **FACTS** Calender Gauge Control System results in consistent performance through improved accuracy, direct measurement of all the gum walls, and reduced transport lag. This enables the **FACTS** system to reduce the gauge distribution even on calenders that have a functional existing control system.

The back side of this sheet describes the basis for material savings, which is the single largest justification for a calender gauge control system.

**Dramatic
Material
Savings**

**Non-nuclear
Transducers
Eliminate
Safety and
Regulatory
Concerns**



**Proven
Track Record**

**No maintenance
Contract
Required!**

**Rapid
Return On
Investment**

**The *FACTS* Calendering Gauge Control System is
able to reduce the standard deviation
or gauge distribution on:**

- ◆ Calenders with existing gauge control systems
(20% - 30% reduction is typical)
- ◆ Calenders in less than perfect condition
- ◆ Calenders with no prior gauge or controls

www.facts-inc.com

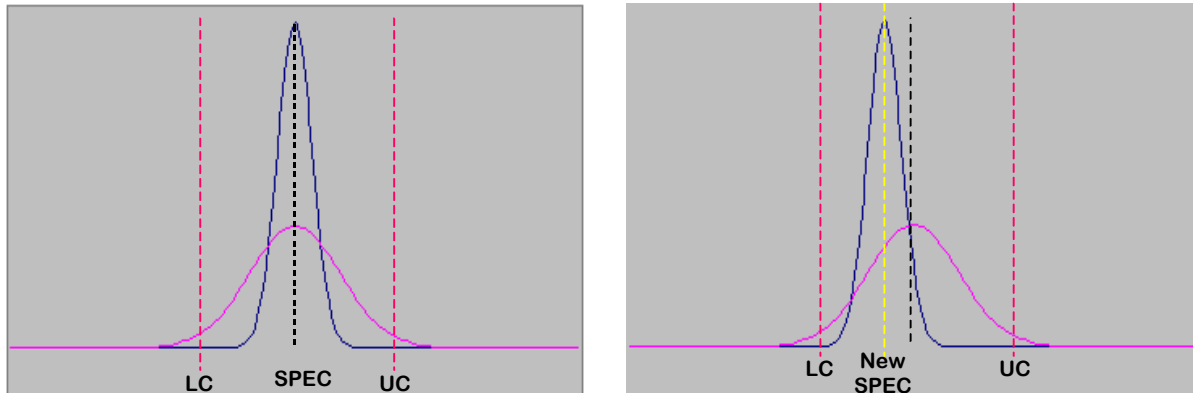
Dynamic Target Optimization

The principal basis for cost reduction and savings is the ability to reduce the distribution (blue verses red in graphic) and then save material by taking a small shift of the spec, based on a continuous real time calculation. As the right hand graphic demonstrates, there is reduced risk of the product being out of specification, a narrower distribution for more consistent quality, and significant material savings.

The shifting can be either a fixed amount (static) based on the reduced gauge variation, or dynamic. Dynamically shifting the target is done under computer control and adheres to a specific set of rules. The control system constantly calculates the gauge distribution and adjusts the shift up or down depending on current results. The maximum shift, a lower boundary that must not be exceeded, and the degree of aggressiveness are specified by the customer. This allows more aggressive shifting for greater savings but still maintains the reduced risk of exceeding the specification since it is based on current running conditions.

The following graphics demonstrate this principal:

Results



Note the shift downward by the **FACTS** System

Results of Target Shift based on Reduced Sigma

- ◆ Reduced risk of out of spec product
- ◆ Significant material savings

Red represents the upper and lower control limits
Magenta represents the distribution without **FACTS** Gauge Control
Blue represents the reduced distribution with **FACTS** Gauge Control
Black represents the original product specification to control to
Yellow represents the new optimized product specification to control to