

## REENGINEERING GIVES CONVERTER A BIG BANG FOR THE BUCK

*It's not always necessary to buy new equipment to get high performance. Sometimes re-engineering an existing line with state-of-the-art web guides, drives, tension controls and other modern features makes sense.*

Tension control is a key factor in Arkwright Inc.'s efforts to enhance its overall process control and attain repeatable numbers, says Glenn Markel, director of engineering. Based in Fiskeville, RI, the specialty paper and film coater has gradually replaced its more traditional dancer tension and pneumatic controls with Dover Flexo Electronics Tension Roll transducer. Other Dover Flexo products have been integrated into its lines as well, such as indicators and brakes to enhance performance.



“Dancer controls were a constant maintenance problem,” says Markel. They’re delicately balanced and have a lot of precise components, so they require constant attention.”

DFE's Tension Roll™ transducer is actually an integrated dead-shaft idler roll and two tension transducers combined into one unit that measures tension and supplies a signal via an automatic tension controller to Control Techniques digital drives. A very accurate

method of controlling speed changes, the DFE tension control system doesn't require the dampening a dancer system does, says Markel.

“If you have a sudden shock in the web, a dancer 'dances' to compensate, and it is a kind of touchy-feely process to dampen it out,” he says. “But with the Tension Roll, speed and tension are so accurate and track so well, shocks and surges in the web are not the problem they used to be.”

Unlike traditional tension measurement systems that use an individual, discrete transducer and cable connected to each end of an idler roll, the Tension Roll has a single cable at one end. This eliminates the problem of a second cable, which typically has to cross over the coater to link the transducer to the control electronics at machine side.

The Tension Roll also eliminates extra design time spent installing load cells or traditional tension transducers into the web path. The plant engineer doesn't have to resize the width of the machine frame or devise complicated mounting configurations that are required to accommodate load cell/ transducers and a separate idler roll. The Tension Roll is sized to fit the machine frame exactly.

“All you do is drop them in place, align and calibrate them,” says Markel. “And they're practically bullet proof because they're self contained without a lot of extremities.”

Of the approximately 50 Tension Rolls installed at its plant over the last 10 years, [Arkwright] has only had to replace four. The Tension Roll is competitively priced (approximately \$1,400/roll) with other tension control systems that use a roller and two load cells, says Markel.

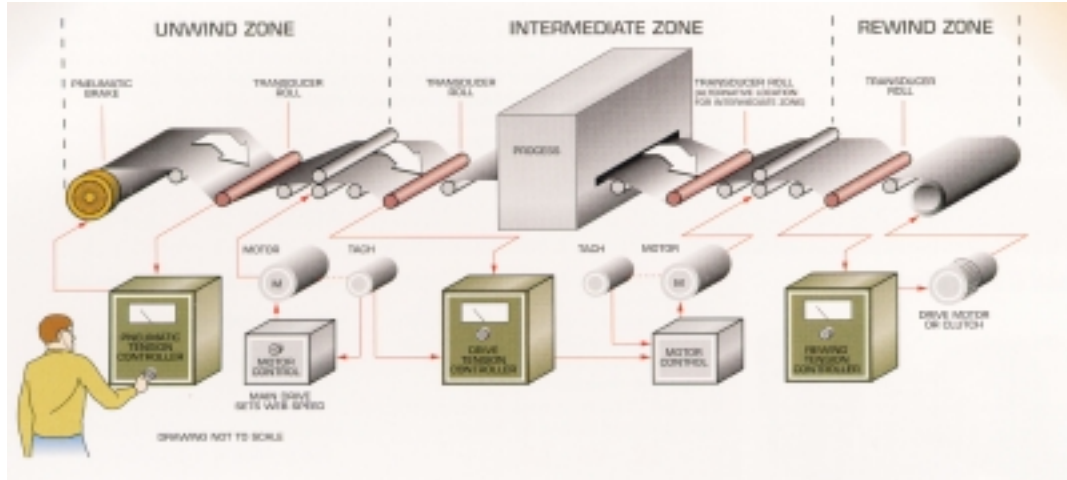
*This article was excerpted directly from its complete version in the April 1998 issue of Converting Magazine. It was written by Stephanie Duschene, Senior Editor.*

[www.dfe.com/241appArkwright.html](http://www.dfe.com/241appArkwright.html)



# INFO REQUEST

www.dfe.com controlling process tension



Stable tension control compensates for process deviations that cause web and roll defects. It's a fact. Dover Flexo tension measurement components or a closed loop control system can be integrated smoothly into your press' web path in only the tension zones that need them.

For fast information complete and **fax** this form to DFE at **(603) 332-3758**. Or call us at (603) 332-6150.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Tel. \_\_\_\_\_ E-mail \_\_\_\_\_

We manufacture/process (material):  
\_\_\_\_\_

The project we're considering involves:  
\_\_\_\_\_  
\_\_\_\_\_

Send me your recent white paper on:  
**"Improving Web-Processes with  
Direct Tension-Sensing"**

### Please send:

- Product Guide (14 page overview)
- DFE catalog (80 page 3-ring binder with complete product specs)
- CD ROM with product CAD library
- Tension Transducer data sheets
- Indicator/Transducer interface data sheets
- Tension Controller data sheets
- Pneumatic Brakes Catalog
- Application Note/Case History on:  
\_\_\_\_\_
- Data sheet on: \_\_\_\_\_
- Other: \_\_\_\_\_
- Have a Sales Rep call me



THE TENSION CONTROL SPECIALISTS

**DOVER FLEXP ELECTRONICS, INC.**

217 PICKERING ROAD, ROCHESTER, NH 03867 USA • 603-332-6150 • FAX 603-332-3758  
E-Mail: info@dfec.com • Internet: www.dfec.com • ISO 9001 Certified