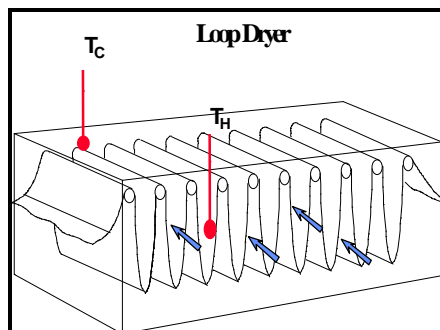
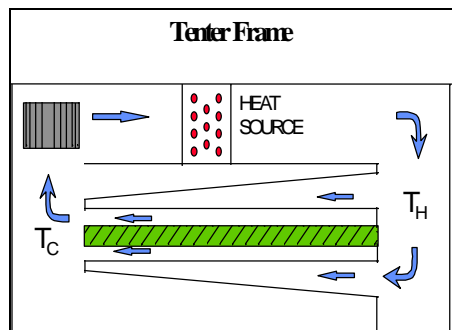
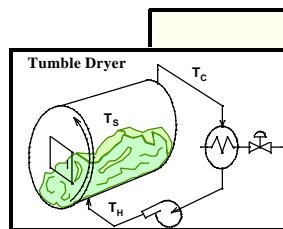


# Delta T Moisture Control Technology for the Textile Industry



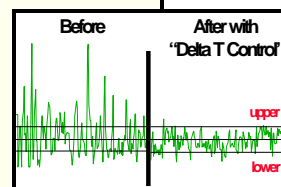
**Increased Production**  
**Energy Consumption Reduced**  
**Moisture Content Distribution Narrowed**

Tenter Frame    Can    Loop    Tumble    Coater    Flow-Through



## Delta T Moisture Control Technology

Patented moisture control technology incorporating an *inside-the-dryer* moisture sensor that reduces product moisture content distribution



<http://www.moisturecontrols.com>

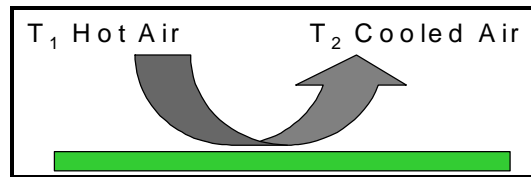
**Drying Technology, Inc.**

P.O. Box 1635    Silsbee, TX 77656  
Tel: 409-385-6422    Fax: 409-385-6537



## A New Concept in Textile Dryer Control: the Delta T

The Delta T is an improved method for controlling the moisture content of textiles from dryers. Simple, off-the-shelf temperature sensors are used for measuring moisture content inside a dryer utilizing the patented Delta T dryer control model,  $M = K_1(\Delta T)^p - K_2/S^q$ , relating the textile moisture (M) to: (1) the temperature drop ( $\Delta T$ ) of hot air after contact with the wet textile; and (2) the dryer speed or production rate (S).

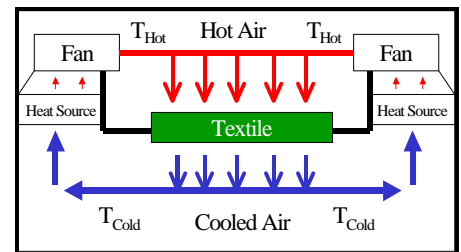


### Delta T Principle

Hot air flowing over or through wet textile is cooled by evaporation. This drop in temperature ( $T_1 - T_2$ ) is a relative measure of the moisture content of the textile.

### Delta T Flow-Through Dryer Application

Shown below is a cross-sectional view of a Flow-Through Dryer illustrating location of the temperature probes  $T_{hot}$  &  $T_{cold}$  in the control section of the dry end. Textile entering this section produces a temperature difference in the circulating air ( $T_{hot} - T_{cold}$ ) proportional to the moisture content of textile. Deviation of this Delta T value from the setpoint is processed through the patented drying model with the aid of a microcomputer. A control signal is then supplied for manipulating dryer speed, energy



### Increased Consistency with the Delta T

Conventional dryer controls measure the moisture at the exit or dry end of the dryer. They assume uniform moisture content of the textile entering the dryer. The actual inlet moisture content may vary significantly. The Delta T system senses these variations inside-the-dryer and makes the necessary corrections before the product exits the dryer.

### Benefits of the Delta T

- System may be modified to control resin curing
- Eliminates resin pre-cure by preventing overdrying
- Provides uniform and precise control of fabric moisture
- Maximizes production and reduces energy consumption
- Yields drying uniformity shift-to-shift and product-to-product
- Is applicable to a wide range of dryers, both continuous and batch

