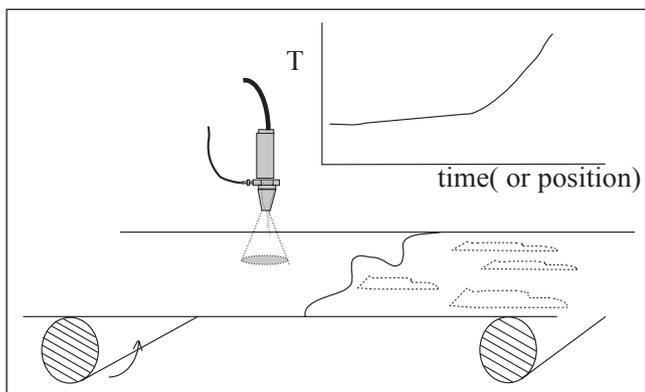


IRt/c CONTROLS PRODUCT DRYING (PAPER, WOOD, TEXTILES, FILM)

In processing of products such as paper, wood and textiles, it is important to be able to determine quickly when the products are sufficiently dry.

The surface temperature of a “wet” product will change (rise) very slowly as constant heat is applied to the product. This occurs because the moisture in the product absorbs much of the heat energy as it evaporates. At the point that the product becomes “dry”, however, the same constant heat supply will quickly raise the temperature until it reaches the same as the surrounding air, or higher if the heat source is radiation. If temperature vs. time is plotted for a heated drying process, the target “dry” temperature point can clearly be seen as the beginning of a rapid rise in surface temperature.

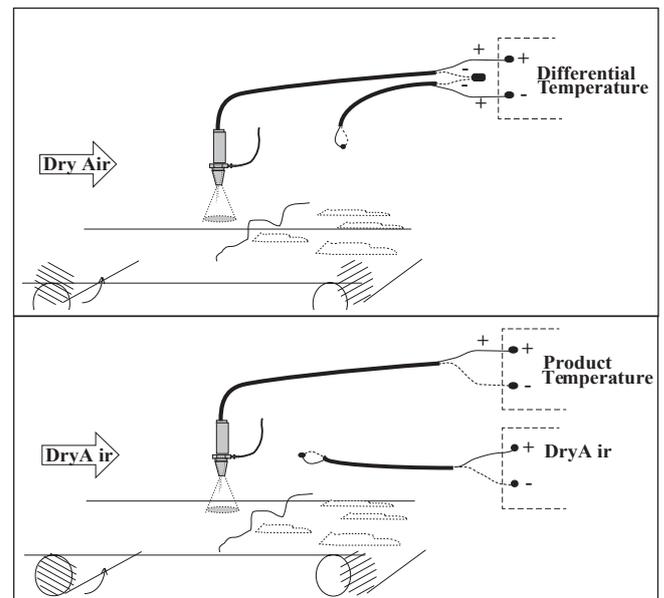
IRt/c's can be used to monitor these changes in surface temperature. With their fast 0.1 second response time, IRt/c's can quickly detect when the surface temperature begins to rise rapidly, an indication that the products have reached a low moisture content. (See also Tech Note No. 67)



A simple implementation method is to measure the difference in temperature between the product and the ambient air. Determine the delta T that results in the correct dryness, and set the control system to maintain that delta T.

The IRt/c is particularly convenient because it can be wired differentially with an ordinary thermocouple. The combined signal can be fed to a single control channel. Alternatively, if absolute temperature is preferred, the IRt/c and thermocouple can be read and controlled independently.

For hot, humid, dusty environments, the IRt/c.3x is recommended because of its small size and super-efficient purge air system. Fully developed, patented IRt/c-based drying systems are available. Contact Exergen for referrals.



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