

## On-Line Moisture Control System – Dryer Energy Control –

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For applications where the dryer is controlled by adjusting the energy supply to maintain the moisture content of the product at the exit of the dryer at the desired level, a separate DRYCOM Moisture Controller is used.

These systems continuously monitor the moisture content of the product exiting the dryer and regulate the flow of energy (gas or steam) into the dryer to ensure the moisture content is maintained at the desired level.

### Applications

Some of the applications these DRYCOM systems can be used for include:

- ◆ Loose fibre
- ◆ Sliver
- ◆ Yarn
- ◆ Fabric
- ◆ Non-wovens
- ◆ HealthCare & Sanitary Products
- ◆ Carpet
- ◆ Toweling
- ◆ Food Products
- ◆ Wood Fibre



Typical DRYCOM On-Line Dryer Moisture Control Applications

### Benefits

DRYCOM customers benefit from our vast experience (over 20 years) in the area of moisture measurement and control and receive an appropriate moisture solution that is engineered to suit their requirements. Benefits include:

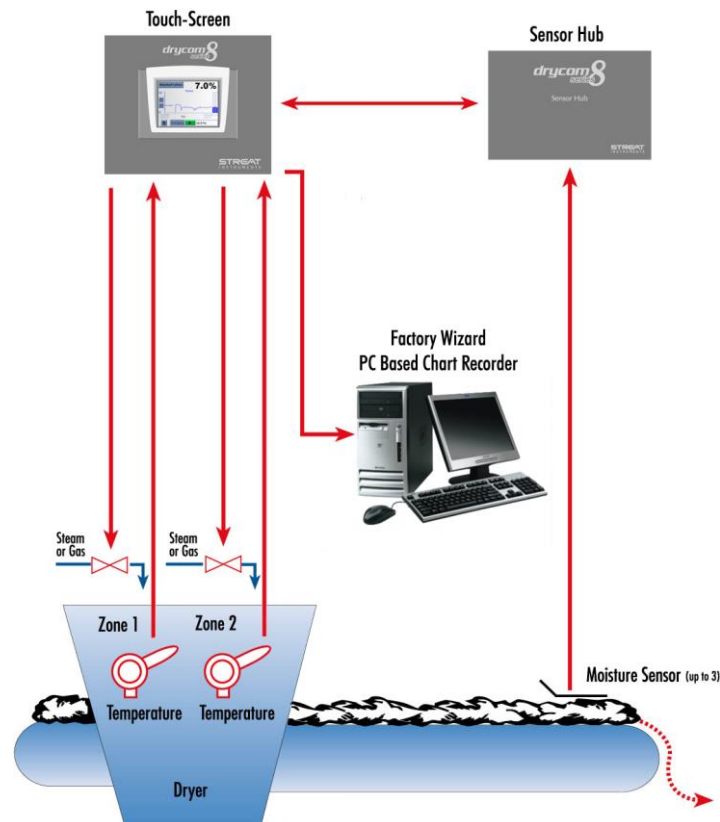
- ◆ Increased profits
- ◆ Increased productivity (20 to 30% in some cases)
- ◆ Reduced energy usage per kg of product processed
- ◆ Improved downstream processing
- ◆ Avoiding overdrying
- ◆ Improved and consistent product quality
- ◆ Increased average moisture content (resulting in higher sales value)
- ◆ Elimination of re-processing
- ◆ Elimination of claims from customers.
- ◆ Reduced shade variations

DRYCOM Moisture Control systems offer solutions to your moisture problems. Due to increased productivity and elimination of customer complaints the payback period is usually a number of months.

## Configuration

Moisture is a critical factor in many application areas and processes. By measuring the moisture significant benefits can be obtained. DRYCOM Moisture Control Systems are designed to assist our customers to optimise production processes and maximise productivity, quality, operating efficiencies and profitability.

The DRYCOM system has been applied to processes from Breakfast Cereals, to HealthCare & Sanitary Processes, to conventional Textiles and Non-Woven processing.



DRYCOM Moisture Control systems are precision instruments that use a unique adaptation of the conductivity principle. They are designed to operate in hostile industrial environments and provide our customers with:

- ◆ Simple operation.
- ◆ Immediate, continuous and accurate on-line moisture measurement
- ◆ Up to three independent moisture sensors
- ◆ Sensors that measure the entire thickness of product – not just the surface
- ◆ Readings not affected by the effects of surface presentation, colour, temperature, normal variations in thickness or density of the product under test
- ◆ Readings that take into account the moisture profile in the product.
- ◆ Measurement from 0% to approximately 2x the equilibrium moisture for the product under test.
- ◆ Enhanced control of startups, batch changes, stoppages, different materials etc.
- ◆ Independent control of two dryer zones if necessary.
- ◆ Advanced control modes available.
- ◆ Multiple 'recipe' selection enabling optimum processing of different products, dryer loadings, etc

## Drying Problems solved with DRYCOM

| Typical Moisture Related Problems  | DRYCOM Solution Offers   |
|--|--|
| <b>Over drying</b> resulting in lost production or excess energy usage. For every 1% you over-dry productivity drops 2 to 3%,                            | Increased productivity through processing product at the desired moisture levels.                          |
| <b>Under-drying</b> resulting in the need for re-drying of product.  | No re-dries required by ensuring product is processed at the desired moisture content levels.              |
| <b>Under-drying</b> resulting in fibre damage in storage due to the moisture content being too high (resulting in product going mouldy or catching fire) | Production of product at the desired level to ensure no fibre damage in storage.                           |
| Over-drying resulting in difficulty in future processing causing excess fibre damage, static problems and fly.   | Consistent production at the correct moisture levels to optimise future processing (carding, gilling etc). |
| <b>Poor product quality</b> (often resulting in claims or complaints from clients).  | No claims by ensuring production of high and consistent quality product.                                   |
| <b>Wastage of product</b> due to poor quality.   | Greatly improved and consistent quality product.   |
| <b>No records</b> of moisture content.   | Reporting functions available in line with ISO standards.  |
| <b>Inefficient use of labour</b> for regular laboratory testing for moisture content.  | Optimum deployment of labour to other vital tasks.   |

## Technical Specifications

DRYCOM Moisture Control Systems are precision instruments that have been designed to assist Textile, Food and Related Industry Processors optimise their production processes and maximise productivity, quality, operating efficiencies and profitability.

### Measuring Ranges – Non Textiles (examples only, contact us for a complete list)

| Product        | Regain % Range    | Moisture Content % Range |
|----------------|-------------------|--------------------------|
| Dried Biscuit  | 0 to 20           | 0 to 18                  |
| Flaked Wheat   | 0 to 25           | 0 to 20                  |
| Malt           | 0 to 20           | 0 to 18                  |
| Meat Meal      | 0 to 12           | 0 to 10                  |
| Soya Bean Meal | 0 to 18           | 0 to 16                  |
| Sunflower Meal | 0 to 20           | 0 to 18                  |
| Tobacco        | Typically 0 to 30 | Typically 0 to 25        |
| Wheat          | 0 to 25           | 0 to 20                  |

## Measuring Ranges – Textile fibres, sliver, yarn, fabric etc

| Fibre                   | Regain %<br>Range | Moisture Content %<br>Range |
|-------------------------|-------------------|-----------------------------|
| Acetate                 | 0 to 13           | 0 to 12                     |
| Acrylic                 | 0 to 4.0          | 0 to 4.0                    |
| Cotton                  | 0 to 25           | 0 to 20                     |
| Cotton/polyester 50/50  | 0 to 12           | 0 to 11                     |
| Cotton/viscose 50/50    | 0 to 27           | 0 to 22                     |
| Flax                    | 0 to 25           | 0 to 20                     |
| Jute                    | 0 to 30           | 0 to 23                     |
| Nylon 6                 | 0 to 10           | 0 to 9                      |
| Polyester               | 0 to 1            | 0 to 1                      |
| Silk                    | 0 to 25           | 0 to 20                     |
| Viscose                 | 0 to 30           | 0 to 23                     |
| Viscose/polyester 50/50 | 0 to 15           | 0 to 13                     |
| Wool                    | 0 to 35           | 0 to 26                     |
| Wool/nylon 50/50        | 0 to 25           | 0 to 20                     |
| Wool/polyester 50/50    | 0 to 17           | 0 to 15                     |
| Wool/viscose 50/50      | 0 to 30           | 0 to 23                     |

## Specifications

|                           |   |
|---------------------------|---|
| <b>Power Supply</b>       | <b>Sensor Hub</b><br>24v DC (supplied from Touch-Screen)<br><b>Touch-Screen</b><br>Universal Power Supply for 100 to 260 volt, 50 or 60 Hz operation, Power consumption: 30 watts |
| <b>Dimensions (mm)</b>    | <b>Sensor Hub</b><br>280 (W) x 170 (H) x 90 (D)      2.5kg<br><b>Touch-Screen</b><br>330 (W) x 280 (H) x 130 (D)      4.4kg   |
| <b>Operator Interface</b> | LCD information displays and membrane keypad  |
| <b>Interface</b>          | Industrial standard interfaces for connection to other devices (SCADA systems etc)  |
| <b>Moisture Sensors</b>   | Wide range available depending on application – contact us for details  |
| <b>Enclosure</b>          | Hose-proof and Dust-proof with IP65 rating  |
| <b>Environmental</b>      | 0°C to 45°C, maximum humidity 90% RH  |



Streat Drycom Limited  
6 Great Russell Court  
Fieldhead Business Centre  
Bradford  
BD7 1JZ  
UK

Ph: +44 1274 733145

mail@streatdrycom.com  
www.streatdrycom.com