



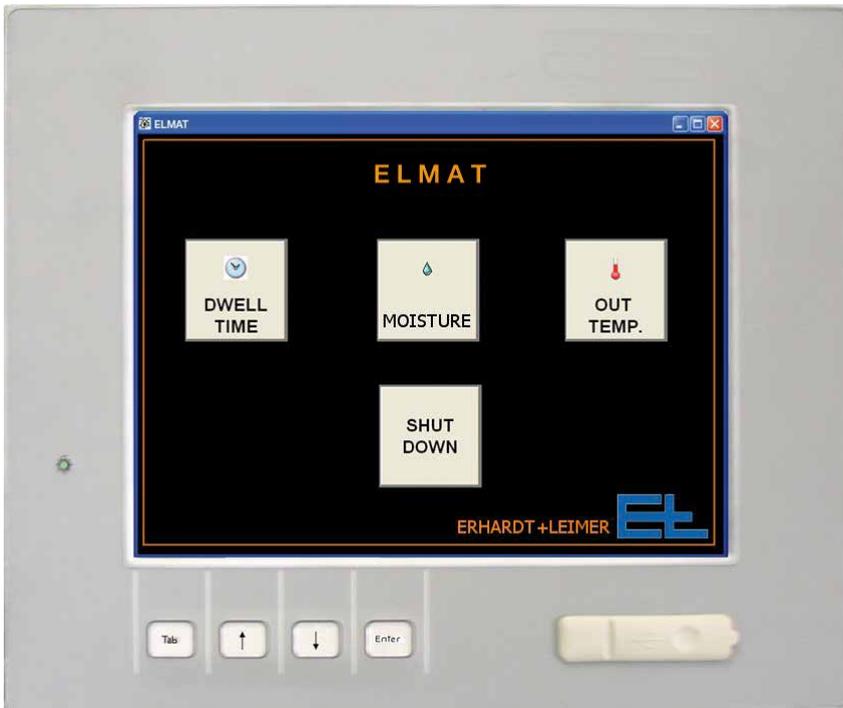
ELMAT

Process Control for Tenters and Dryers

EL-HygroAir – Air humidity Control

EL-Hygromatic Plus – Moisture Control

EL-TempMonitoring – Temperature Control



ELMAT

Integrated process control and visualization for tenter guiders and dryers offers:

- + Low residual moisture control
- + Exhaust moisture control
- + Thermosetting control
- + Fabric temperature display at the output end

Low residual moisture control optimizes your product quality by ensuring correct residual moisture. By preventing overdrying of the web, you reduce your energy costs and simultaneously maximize the drying capacity of the dryer.

The energy consumption of a dryer greatly depends on the amount of water vapor in the exhaust air. A greater volume of water vapor means that there is a lower volume of air which has to be warmed up from the ambient temperature to the exhaust gas temperature.

The quality of a textile made out of thermoplastic synthetic fibers depends greatly on the extent to which the correct setting parameters are adhered to. This is why exact web temperature measurement using infrared pyrometers and precise adherence to the required setting time is indispensable.

If low residual moisture measurement at the output end of the dryer is not available to the customer, they can make a rough estimation of the residual moisture of the web by measuring the fabric temperature at the output end.

All of the functions outlined above are integrated in a single ELMAT system device. Operation and the display of measurement results is self-explanatory and are structured in a logical way. Special product data can, if required, be saved as parameter sets in the device memory.

ELMAT offers end customers an ideal solution for retrofitting existing drying machines. It is also of course ideal for mechanical engineers who want to avoid programming complex visualizations and controls themselves.

ELMAT

System for controlling the complete finishing process for fabrics made of natural and synthetic fibres

Application fields:

- + Tenters
- + Dryers

Benefits:

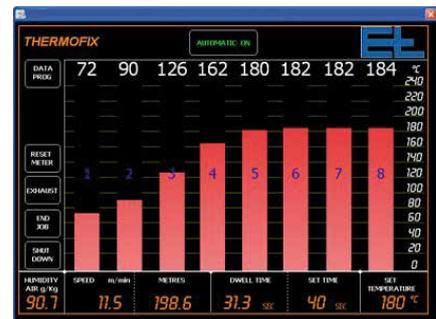
- + Automatic process control
- + Energy saving
- + Constant product quality
- + Easy installation
- + Minimum routine maintenance

Functions:

- + Fabric temperature measurement in the individual areas (min. 4, max. 8) and automatic control of dwell time, in order to achieve correct thermofixing (polymerization)
- + Measurement of the residual moisture in the fabric and automatic control of the machine speed, in order to achieve correct drying
- + Fabric temperature measurement in the individual areas (min. 4, max. 8) and automatic machine speed regulation with regard to the fabric temperature in the last area
- + Absolute air humidity measurement and automatic exhauster speed control in order to keep the process constant

Description:

Embedded industrial PC, diskless, fanless, operating system embedded, solid-state disk, 12" colour LCD display, 4 touch-sensitive function keys and front USB port



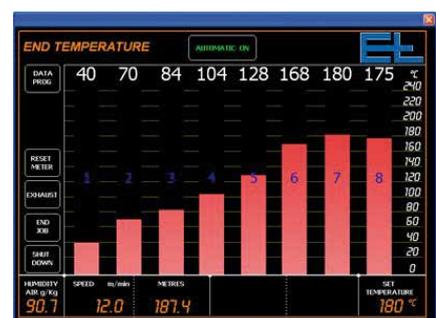
Dwell time control



Moisture control



Air humidity control



Final temperature control

EL-HygroAir

Microprocessor meter to monitor the absolute or relative humidity in exhaust air with automatic switch-in



Exhaust air humidity control



Probe EL - HygroAir for absolute humidity measurement (0-300°C)



Capacitive probe (0-160°C)

Application:

- + Tenters
- + Reel dryers
- + Conditioning chambers
- + Dryers in general

Functions:

- + Measurement of water content in the air expressed in gr/kg or measurement of relative humidity in the air
- + Automatic exhauster control

Benefits:

- + Energy savings
- + Quality constancy
- + Easy installation
- + Reduced routine maintenance
- + Resistance to etching chemical agents in the air

Overview:

24x1 LCD display, LED back lighting, to show humidity measured. Polycarbonate keyboard (20 keys) to enter process data

Equipment dimensions:

Built-in rack:

- + Size: 244 x 133 x 270 mm
- + Weight: 7.6 kg

Outside rack:

- + Size 312 x 175 x 350 mm
- + Weight: 7.6 kg

Input peripherals:

- + Probe for absolute humidity measurement (0-300°C) or capacitive probe (0-160°C)

Output peripheral:

- + Graphic recorder
- + Analogue output for automatic exhauster rate control
- + Analogue linear output for PLC or graphic recorder interface

Technical features:

- + Double-cell probe input voltage 24V DC, 1.5A
- + Capacitive probe input voltage 24V AC 0.5A
- + Equipment power supply voltage selection 110/220V 50/60Hz
- + Consumption 100mA 220V

EL-Hygromatic Plus

Microprocessor meter to monitor residual humidity in fabrics, yarns, paper, tops, ribbons, etc. for natural and synthetic fibers, with automatic switch-in



Residual moisture detector In the material



Standard roll sensors for fabric and paper

Application:

- + Tenters
- + Sizers
- + Preshrinkage
- + Cylinder dryers
- + Dryers in general

Functions:

- + Residual humidity measurement in the material
- + Selection of fiber used
- + Wide humidity measurement range
- + Automatic control of machine speed or modulating valve

Benefits:

- + Automatic process control
- + Energy savings
- + Constant product quality
- + Production optimization

Overview:

LCD display 40x2, LED back lighting to show the measured residual humidity and automatic control according to the desired humidity value; with light bar humidity indicator

Equipment dimensions:

Built-in rack

- + Size: 484 x 133 x 320 mm
- + Weight: 7.6 kg

Outside rack

- + Size: 457 x 133 x 320 mm
- + Weight: 7.6 kg

Input peripherals:

- + Set of 3 cylinder sensors (for standard fabrics and paper)
- + Special cylinder sensors for specific requirements (single width, double width, needle sensors, etc.)

Output peripherals:

- + Graphic recorder
- + Additional three-light signal lamp
- + Analogue output for automatic modulating valve control
- + Relay output for machine speed
- + Linear analogue output for PLC or graphic recorder interface

Technical feature:

- + Equipment input voltage selection 110/220V, 50/60 Hz

EL-TempMonitoring

Microprocessor system for controlling the dwell time for the correct thermofixing of fabrics

Application:

- + Tenters
- + Dryers



Fabric temperature controller for tenters and dryers

Functions:

- + Setting the dwell time and temperature of the process
- + Measuring and displaying the fabric temperature in each area of the dryer, actual dwell time and machine speed
- + Control and display of fabric dwell time for thermofixing
- + Control of the machine speed

Benefits:

- + Automatic process control
- + Energy savings
- + Constant product quality
- + Production optimization
- + User friendly



Infrared pyrometer

Overview:

Industrial PC, embedded, fanless, diskless with 8,4" LCD colour display with touch screen, 4 function buttons and USB port at the front

Suitable Peripherals:

Inputs:

- + infrared radiation pyrometer (min. 4, max. 8

Outputs:

- + Relay output for controlling the machine speed
- + Serial port RS232.
- + Ethernet card

Technical features:

- + 4 USB ports
- + Ethernet card
- + Input voltage PC and sensors 24 VDC
- + UPS for controlled shutdown when the external power supply fails
- + Operating temperature 0-50°C
- + IP65 protection (front)
- + Consumption: 300 mA, 220 V
- + General power supply: 220 VAC 50/60 Hz



Display with industrial PC



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