



SEMITRONIK



MOISTURE INDICATOR AND AUTOMATIC CONTROLLER

FOR

- GINNING, SIZING AND STENTER MACHINE
- DRYING RANGE
- DRIER FOR GRAIN PROCESSORS
- PAPER & BRICK MANUFACTURERS

FOR

CONSISTENT PRODUCT QUALITY
AND

ELIMINATION OF :

- Wastage of heat energy due to over drying
- Human or manual error and labour



MOISTURE INDICATOR AND AUTOMATIC CONTROLLER

Increase the production by automatic control of speed of the sizing, stenter & drying machines.

Eliminates :

- Wastage of energy
- Re-process
- Human error & labour to the extent that investment can be recovered in less than a year.

Control moisture to pre-set level by controlling :

- Speed of dryer of any make & type
- RPM of air circulating fan of last chamber of stenter machine.
- Temperature of dryer to meet specific requirement.

MOISTRON range of instruments work on the principle of measurement of resistance of yarn or fabric/paper etc. which is a relative logarithmic function of moisture content.

The equipment can be installed on sizing machine, stenters, drying machines where moisture content at the exit end is required to be kept uniform.

THIS INCREASES THE PRODUCTION & ELIMINATES WASTAGE OF ENERGY, ENSURES QUALITY OF THE PRODUCT. Besides textile industry these instruments find application in jute, paper, tobacco, tea, coffee, agriculture & food processing industries also.

MOISTURE INDICATOR AND AUTOMATIC CONTROLLER indicates % moisture content and controls it by controlling speed of the machine steam pressure applied to drying machine. Indication and controlling actions are indicated by flashing of the impulse lamps. When the system is installed on machine one has to only set the required moisture content on the setting keyboard, leaving the control to the instrument.

The operating speed of the machine will be controlled in such a way that the material leaving the drier emerges with the desired amount of moisture.

Changes in drying conditions due to fluctuations of steam pressure or other external factors are accounted for. The automatic control system enforces highest efficiency to be reached i.e. to maintain maximum operating speed under given conditions with optimum results as to have minimum specific energy consumption.

The frequency of the impulses is a function of the difference between the measured value and desired value.

Thus great deviation from desired value implies a rapid series of impulses, whilst a small deviation causes the signals to be set out at a low frequency (proportionate regulation).

In order to avoid moist warps or fabrics safely, control is working faster in the direction of 'DRY' than in the direction of 'WET'. Besides the actual measuring value its derivative is effective.

Thus regulation is accelerated when the measured value is leaving the set value, but slowed down when approaching the set value (derivative action).

FEATURES

- Digital indication of moisture content in percentage.
- Flashing lights to show the DRY, NORMAL or MOIST condition of fabric or yarn.
- CONTROL proportional to speed of the machine by techo-feed back.
- Progressive, deviation dependent step-type control system with PID characteristics.
- Continuous and accurate modulation over a wide range of machine speeds, thereby adapting to differing dwell times at various speeds.
- Adaptability to all standard types of dryer.
- System available with suitable measuring range and measuring electrodes for measurement of moisture content with or without automatic control for paper/food processing/ceramic/sanitary ware/agriculture/gum mfg. plant and other chemical processes to suit applications.
- Backed by performance guarantee and efficient after-sales-services.

TECHNICAL DATA

Supply : Single phase 230V AC, 50 Hz.
Power consumption : 100 watts.

MOISTURE RANGES

Cotton: 3.5 to 20 % or 10 to 30 %;
Wool: 10 to 40 %; Jute: 7 to 32 %;
Rayon: 7 to 32 %;
Staple Fibre: 7 to 40 %; Silk: 6 to 30 %;
Nylon: 3 to 17 %; Acrylic: 1 to 5 %;
Glass & Olefin: 0.1 to 0.5 %;
Polyester: 0.5 to 2.25 %;
Paper, Ceramic, Tea, Wood, Sand.

CONTROL

PID characteristic with :

- Two relays with contact rated of 1 Amp. non-inductive load OR
- 4-20 mA or 0-10 V output.

SETTING REQUIRED MOISTURE

By keyboard only.

CALIBRATION

Internal standard provided for periodic check.

LIGHT INDICATION

AMBER :

Light FLASHES to show DRY condition.

GREEN :

Light GLOWS to show NORMAL condition.

RED :

Light FLASHES to show MOIST condition.

All conditions are with respect to SET-POINT, required moisture content.

STANDARD ACCESSORIES

These are supplied along with the instruments

- Sensing system with THREE SENSOR ROLLERS with side sockets/brackets.
- Moisture measuring sensor for knitting or hosiery fabric for drier/calendar/compactor machine.

ALSO AVAILABLE

- Feedback system with a TECO-GENERATOR.
- Special cable for connection of measuring section.

ADDITIONAL ACCESSORIES

Supplied at additional cost.

- PLC or serial interface RS 485 with computer.
- Non-contact type infra-red sensor with mounting arrangement.

REQUIREMENTS FOR INSTALLATION

- Continuously variable speed drive with push buttons for increasing & decreasing speed of the machine.
- A metallic roller at the exit of drier for moisture measurement.

MODELS AVAILABLE

MOISTURE INDICATOR MODEL FMIM-101

Only moisture indicator.

Dimensions : 390 x 180 x 280 mm

MOISTURE INDICATOR WITH FLASHER MODEL FMIF-101

To measure and indicate dry-normal-moist condition of fibre/fabric with respect to the SET-POINT.

(i.e. required moisture content).

Operator has to maintain desired normal level by adjusting steam supply or speed of the machine.

Dimensions : 390 x 180 x 280 mm

MOISTURE INDICATOR AND AUTOMATIC CONTROLLER MODEL FMC-101

For moisture indication & control for any processing/drying machine.

Dimensions : 390 x 180 x 120 mm

System also available with non-contact type sensing arrangement based on infra-red sensor to measure and control moisture in different forms of material under process.

For further details, contact



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