Infrared Moisture Analyzer

MT-SCAN

Non-contact measuring of particle and fiber moisture.

Multi-wavelength infrared light is used which is targeted to, and reflected by the material surface. A certain wavelength of infrared light is absorbed by water molecules, thus more or less weakened. The weakened signal is compared to the unweakened signal. The resulting values indicate the moisture content.

Measuring can also be effected through a glass window. If moisture is monitored at different locations within the production process, valuable information will exhibit for optimization of the process.

Benefits of accurate moisture control.

Moisture measurement is one of the most-important parameters for efficient panel board production.

A moisture content in raw material that is too high results in a slow-down in production speed with an increased risk of causing blows.

If raw material becomes too dry excess energy will be consumed. Also the risk of fire and explosion in the dryer is greatly increased.

"Material Collection Device"

View from outside

Inside view of "Material Collection Device"

Description of "Material Collection Device"

A fraction of material from drop chute will be collected in the collecting tray for measurement.

After measurement the material will be blown out of the tray by compressed air purge.

After this the collecting tray again will collect the next sample for measurement.

Technical Data

Technology:	Infrared
Materials:	Fibers, particles, OSB Strands, bulk goods
Results:	O.D. (oven dry) or ATRO
Display:	Operator terminal with display
Stand-off distance:	150 – 400mm [6 - 16"]
Max. height variation of the material:	+/- 100mm [4"]
Ambient temperature:	0 – 50 °C [0 – 90 °F]
Power:	90 – 260VAC, 40W
Measuring range:	selectable O.D. between 1 - 50% (oven dry) > 50% (specific filter required)
Repeatability:	+/- 0.1%
Accuracy:	+/- 1.0% of chosen range
Protection class:	IP 65
Dimensions:	190 x 167 x 327 mm [7.5 x 6.6 x 12.9"] (W x H x D)
Interfaces: On request:	4 - 20mA, RS 232 / 485 ProfiNet, ProfiBus, Ethernet IP, Modbus TCP, DeviceNet)

Conversion from % O.D. in % absolute
% O.D. = % abs. x 100 / (100 - % abs.)

Conversion from % absolute in % O.D.
% abs. = % O.D. x 100 / (100 + % O.D.)

Example:

Measuring range:	20% O.D. (oven dry)
Accuracy:	+/- 0.2%

Locations

- After drying
- Before / after blending
- On conveyor belt
- In forming / on mat

Any mounting orientation is allowed.

Compressed air connection for air purge

By generating low pressure in measuring tube dust contamination will be avoided.

Options

- Protection against freezing (ambient temperature <0°C)

- Visualization-PC

- "Material Collecting Device" for drop chute applications (e.g. after dryer)

- Measuring thru glass window (e.g. silo, bin, screw conveyor)

- Temperature sensor for measurement of product temperature.