

Chemicals

## Application notes

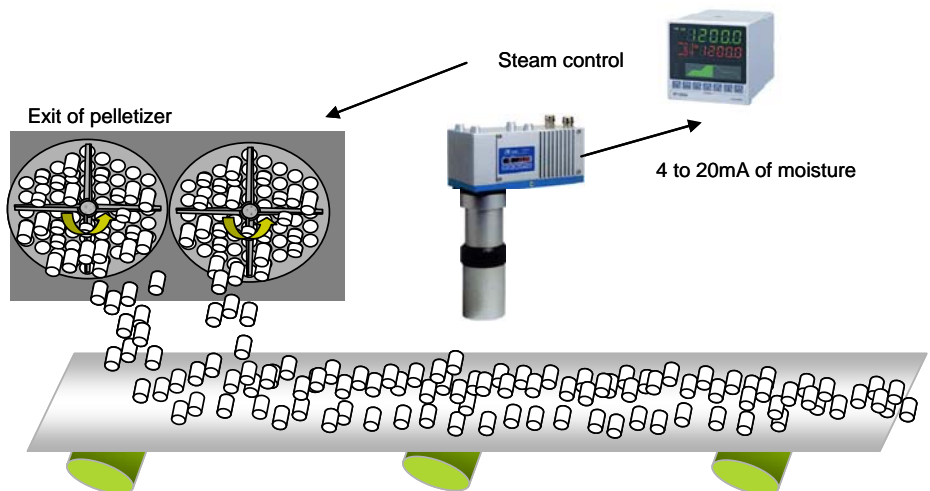
### Moisture in Soap Pellets

The CHINO IM series is an on-line multi wavelength analyzer utilizing infrared absorption technology to measure percent water in soap pellets. The standard moisture range of the unit is 0.0% to 15.0% with a 0.3% resolution or 0.0% to 30.0% with a 0.8% resolution.

Moisture content of soap pellets differs depending on desired characteristics of the soap bar. On-line moisture measurement at the exit of the Spray Dryer/Pelletizer provides immediate feedback on moisture levels enabling more rapid optimization of the process upon start-up, on-going cost savings from more efficient usage of the dryer, and consistent high quality product.

Signal processing capabilities are built into the compact designed detector unit for easy installation and operation. A maximum of 99 calibration curves can be stored into the detector memory for numerous measurement applications.

The detector can be used by itself or connected to a PC or DCS plant control system. Both analog (4 to 20mA DC) and digital (RS-485 or LAN Ethernet) outputs are provided. A remote setting display unit, which connects up to 9 detector units, can be used to set various detector functions and also displays measured values.



Products / Location	Parameter	Range
Soap (exit of pelletizer)	Moisture	5 to 15%
Soap powder (before pelletized)	Moisture	2 to 8%

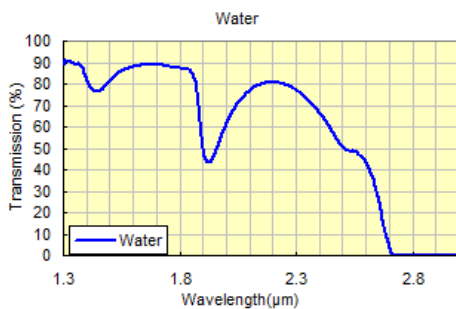
**Recommended model / Item**

- \* General moisture unit  
Model : IRMA1100S Qty : 1
- \* Air purge hood  
Model : IR-WEA Qty : 1
- \* Calibration checker plate  
Model : IR-WEB Qty : 1

**Installation**

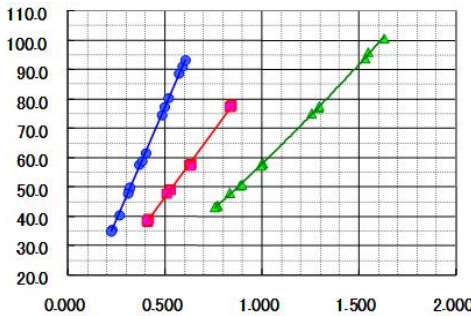
Moisture measurement is made at the exit of the pelletizer (extruder), the 4-20 mA output can be used to control steam pressure in the heat exchanger which influences the moisture content of the pellets. The gauge is installed at an angle of 20° to the horizontal in order to minimize specular reflection. If the exit chute is enclosed, the product can be viewed through either a viewing window or an insertion probe.

**Absorption characteristic**



Above chart indicated coalition between infrared spectrum and substance transmission.

**Calibration curve**



Calibration curve is a correlation between moisture determined by customer's reference instrument and IR absorption measured by IRMA.

[Basic sample test for moisture]

1. Prepare samples with various moisture content
  2. Show each sample to IRMA and record absorption level
  3. As conducting step-2, determine moisture level with your reference instrument
  4. Put all data points on a X/Y graph and see if there's a correlation
- Note: Reference instrument may vary depending on the method (by volume or weight).



Mirror type



Fiber type



Liquid cell type



Setting & Display unit



**Contact**

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