IM SERIES

Animai Food Products

Application notes
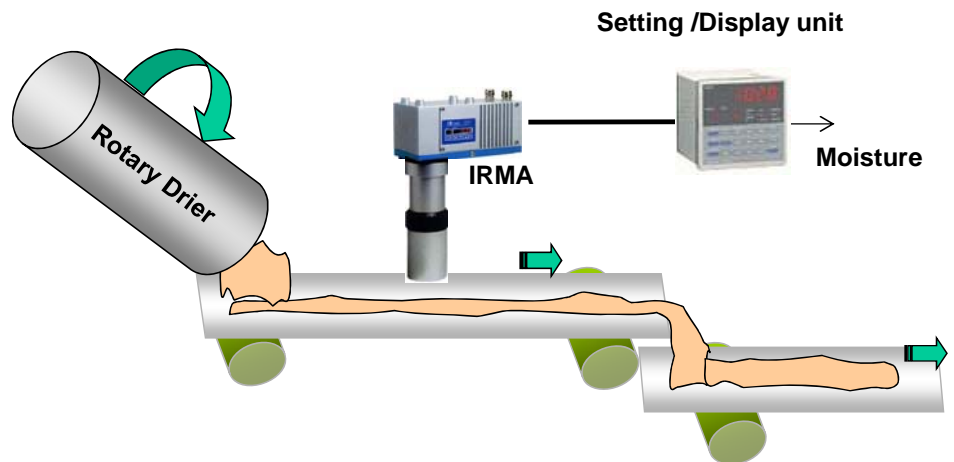
Dry Pet Food / Feed Stock Moisture

Moisture control for Pet Food is and has been in important roll in the Pet Food and Feed Stock Industries. It controls;
1. Product hardness, palatability, consistency in size and taste,
2. Weight of product, shelf life, and
3. Process efficiency.

CHINO IRMA Series high speed and non-contact measurement system can measure product's moisture content of 5 to 15%, accuracy within +/-0.2% and be utilized to improve product quality as well as manufacturing process efficiency.
CHINO IRMA Series can be used at various stages of the manufacturing process. Specifically determined calibration curve can be used for products that may be in different form, color and temperature from stage to stage and from product to product.
CHINO IRMA Series can be used as stand alone 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.

Setting /Display unit

Rotary Drier

IRMA

Moisture

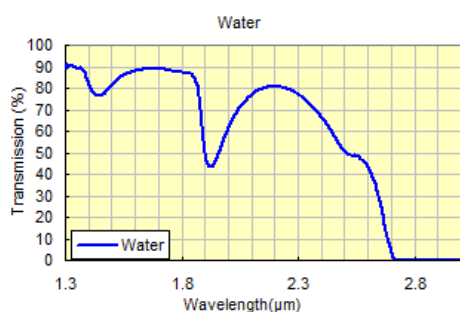| Products / Location	Parameter	Range
Dry pet Food	Moisture	4 to 12%
Feed stock	Moisture	8 to 14%

Recommended model / Item

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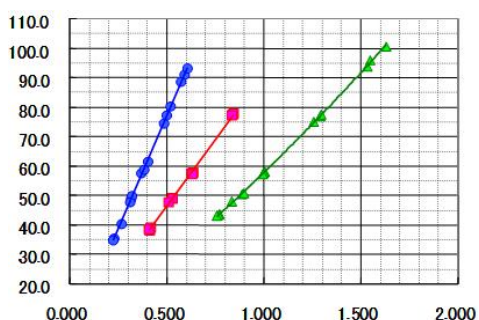 Model : IR-WEB   Qty : 1

Installation

The best installation can be over a conveyer that carries product continuously. CHINO IRMA should be installed so the beam path can be perpendicular against the pass way. In case of steam or dust being presence, air purging with filtered instrument air will eliminate any steam or dust coming into the beam path. In case that the height of the flow excessively varies, a leveling plate may need to be installed to level the height in order to stabilize the measurement.

Absorption characteristic

Water

Moisture(water) has a unique infrared absorption spectrum regions. Water absorbs at wavelength of 1.43, 1.94, and 3 micrometers.

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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