

Minerals



## Application notes

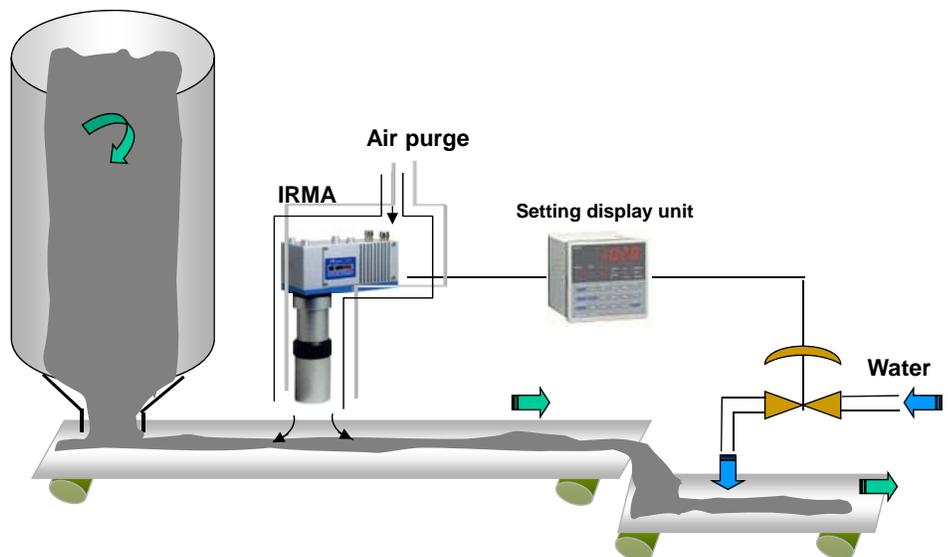
### Moisture Measurement for Incinerator Ash

Incinerator ash needs extensive moisture control; ash would be scattered around with very low moisture, while excess moisture would cost more (to transport).

CHINO's IM series can measure the moisture of the ash placed on the running conveyor belt quickly and without touching the material. As the results, the amount of water mixed into the ash after the burning process can be controlled properly and easily.

Because there is dust around the installation area, IRMA should be kept inside an insulated cooling box, with air purged. Usually the moisture of incinerator ash can be measured within 0 to 30 % (±0.5% accuracy).

IM Series is equipped w/ 4-20mA Analog output which can be easily incorporated with existing process control systems.



Products / Location	Parameter	Range
Incinerator Ash	Moisture	0 to 30%

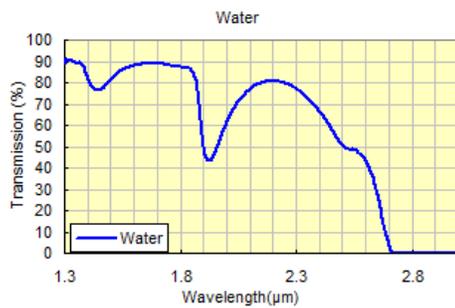
**Recommended model / Item**

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

**Installation**

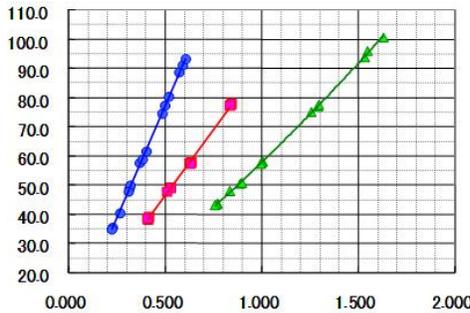
Install at 90° to measure. Strongly recommend to use air purge AND insulated cooling box to prevent lenses from dusty ash. Some samples are dark in color and not in good condition to reflect well. To get better results, place a sample in a stable condition, such as measured on leveled surface, and with proper distance; eliminating external lights, or preventing from dust, as possible. Also, it is highly recommended to run zero calibration by simply using IR-WEB every 3 months.

**Absorption characteristic**



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



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