

Industry: Food and Beverage

Product: ZR802/ZR22 Oxygen Analyzer

Why Does Humidity Matter?

Humidity is a good indicator of drying progress as it expresses the amount of vapor in the carrier gas stream. Humidity affects the dryness of the solids with which it comes into contact. Therefore, humidity control is crucial for final product quality in drying processes such as in food manufacturing, tobacco production, and malt drying. Challenges vary from too much drying, which can cause cracking, to too little drying, which results in poor taste and texture quality.

Application Installation Example

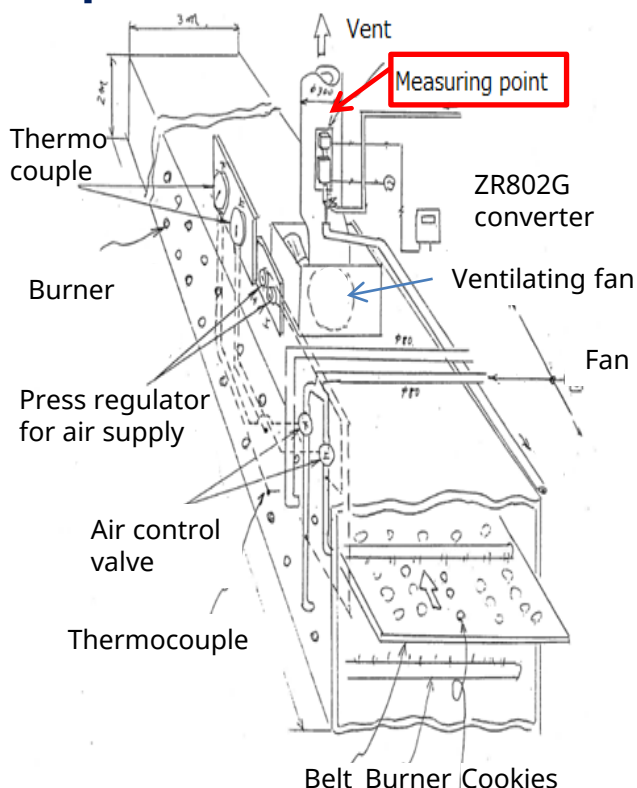
In dryers, inlet humidity is a controlled parameter that affects the process, whereas outlet humidity is a monitoring parameter that is affected by the process. Typically, a Zirconia Oxygen sensor is installed in the vent line of the dryer. While the measurement is the same, the indication varies slightly, depending on the process:

- **Continuous Drying:**

Humidity measurement indicates whether drying is consistent and can provide an early warning of fluctuations in solids inlet moisture content.

- **Batch Drying:**

Humidity measurement provides an indirect indication of how close the solids are to their desired final moisture content (endpoint).



However, in both cases, the analyzer is programmed for humidity monitoring. The process variable input is used by the dryer controller to increase or decrease the temperature.

Online Analyzer Solution

Sensor: ZR22 Oxygen Detector

Analyzer: ZR802 Oxygen analyzer

Calibration:

MC1 Single channel manual calibration unit

AC1 Single channel automatic calibration unit

IAC24 Integral automatic calibration unit



Key Advantages

Maintenance-friendly probe design

- Minimal hardware and tools are required for disassembly.
- Enables a reduction in maintenance downtime.

Large cell surface area

- High sensitivity to O₂ provides improved measurement.
- Resistance to poisoning extends cell life.

Local manufacturing in Newnan, Georgia

- The factory can ship a probe within two days ARO.

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