

Importance of Portable Emissions Analyzers for Process & Emissions Optimization at a Cement Plant



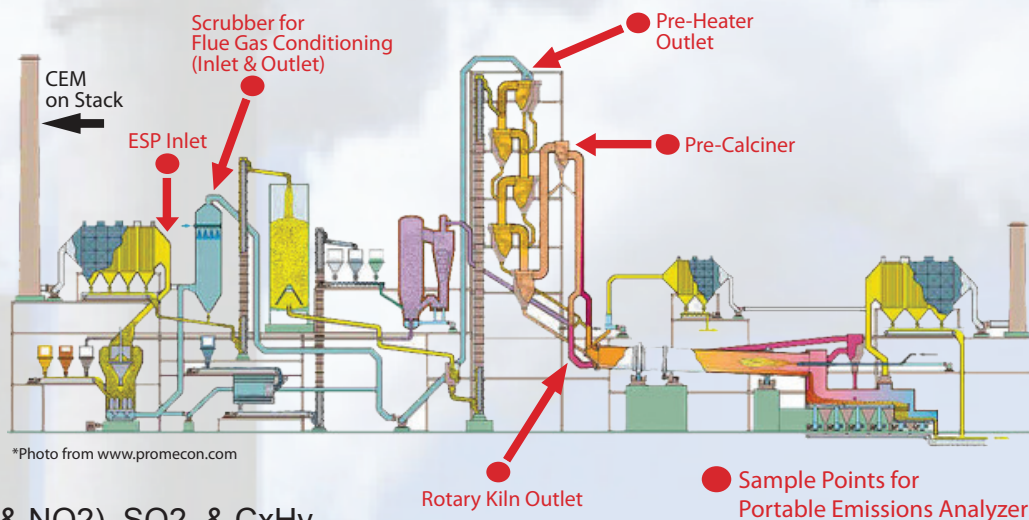
Application Note # IA-13-0601

There are many locations that should be measured & monitored with a portable emissions analyzer to maximize product quality, combustion efficiency, safety, & emissions reduction in a cement plant including the following:

1. **Rotary Kiln gas outlet** – O₂, CO, NO_x, CO₂, SO₂, C_xH_y, temp.
2. **Pre-Heater & Pre-Calciner** – O₂, CO, NO_x, CO₂, temp.
3. **Flue Gas Conditioning System** – CO, NO_x, SO₂, CO₂ (such as scrubber, SCR, SNCR)
4. **Electrostatic Precipitator (ESP) inlet** – CO
5. **Main Stack (for CEM back-up)** – O₂, CO, NO_x, CO₂, SO₂, C_xH_y



Although a CEM measures the emissions from the main stack for regulatory compliance, a portable flue gas analyzer with a high temperature sampling probe is fundamental to measure the parameters that significantly affect the cement process control & product quality, the kiln combustion efficiency, and the emissions generated throughout the cement plant.



The levels of CO, CO₂, NO_x (NO & NO₂), SO₂, & C_xH_y as well as gas temperature should be measured to ensure optimal combustion efficiency of the kiln that will result in fuel savings and reduced emissions.

Instrument Solution: E8500 Portable Emissions Analyzer

The E8500 portable emissions analyzer can easily be used for accurate emissions measurements of O₂, CO, CO₂, both NO & NO₂ for True NO_x, SO₂, and C_xH_y throughout a cement plant. The E8500 flue gas analyzer also has sample extraction and conditioning well suited for cement plants with high temperature (2200F/1200C) probes, dust filtration, and a built-in thermoelectric chiller.



E Instruments International

www.E-Inst.com

P: 215-750-1212 F: 215-750-1399 A: 402 Middletown Blvd, Ste 216 Langhorne, PA 19047