

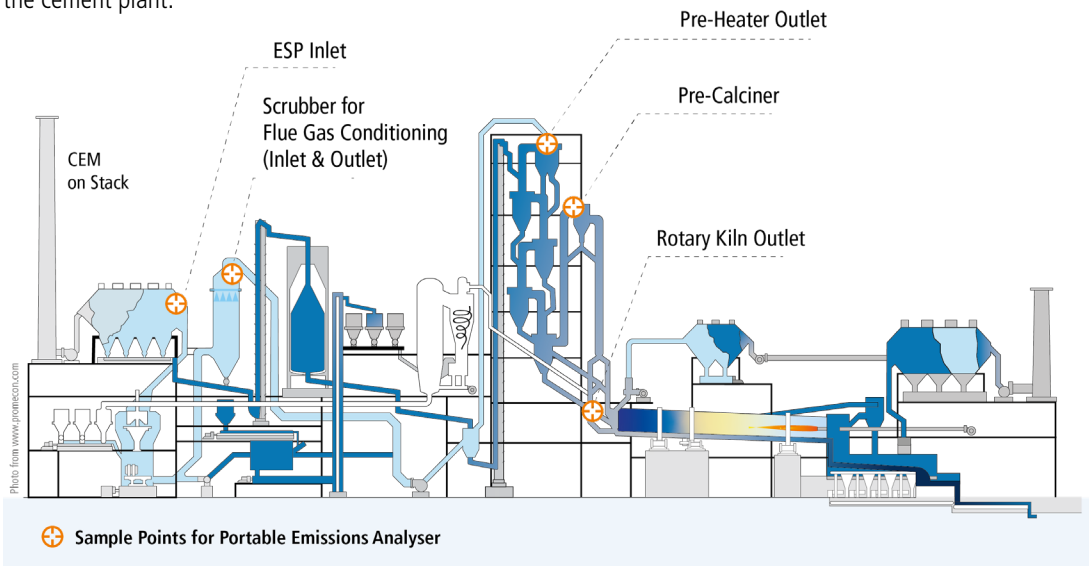
IMPORTANCE OF PORTABLE EMISSIONS ANALYZERS FOR PROCESS & EMISSIONS OPTIMIZATION AT A CEMENT PLANT



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, NOx, CO₂, SO₂, CxHy, temperature
2. Pre-Heater & Pre-Calciner – O₂, CO, NOx, CO₂, temperature
3. Flue Gas Conditioning System – CO, NOx, SO₂, CO₂ such as scrubber, SCR (Selective Catalytic Reduction), SNCR (Selective Non Catalytic Reduction)
4. Electrostatic Precipitator (ESP) inlet – CO
5. Main Stack for Continuous Emissions Monitoring system (CEM) back-up – O₂, CO, NOx, CO₂, SO₂, CxHy

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, NOx (NO & NO₂), SO₂, & CxHy 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: Si-CA 8500 Portable Emissions Analyzer

The [Si-CA 8500](#) portable emissions analyzer can easily be used for accurate emissions measurements of O₂, CO, CO₂, both NO & NO₂ for True NOx, SO₂, and CxHy throughout a cement plant.

The [Si-CA 8500](#) flue gas analyzer also has sample extraction and conditioning well suited for cement plants with high temperature (2200 °F / 1200 °C) probes, dust filtration, and a built-in thermoelectric cooler.