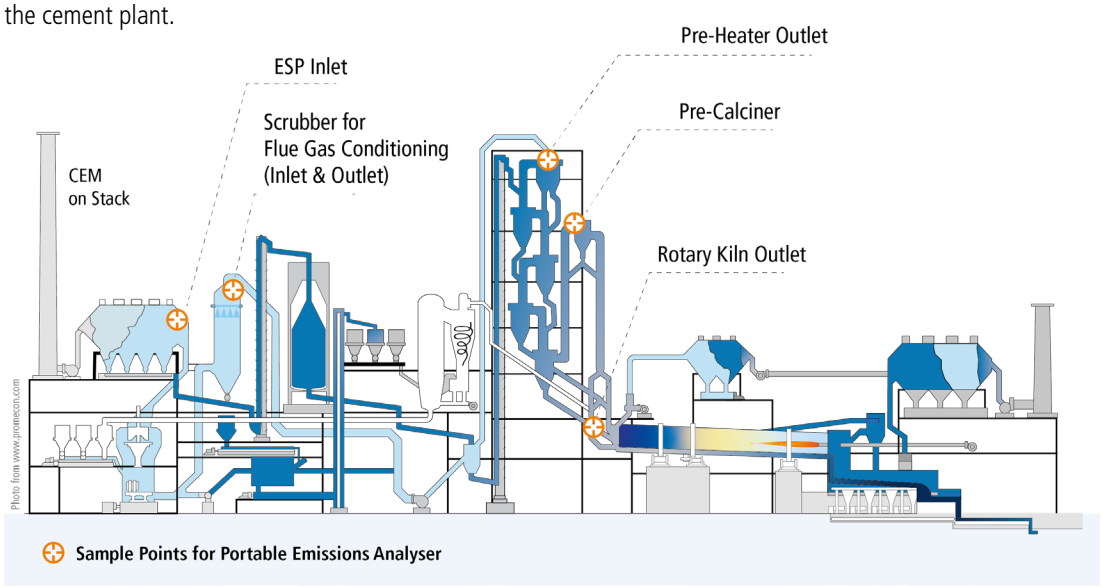
IMPORTANCE OF PORTABLE EMISSIONS ANALYZERS FOR PROCESS & EMISSIONS OPTIMIZATION AT A CEMENT PLANT

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

1. Rotary Kiln gas outlet – O_2, CO, NOx, CO_2, SO_2, CxHy, temperature
2. Pre-Heater & Pre-Calciner – O_2, CO, NOx, CO_2, temperature
3. Flue Gas Conditioning System – CO, NOx, SO_2, CO_2 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 – O_2, CO, NOx, CO_2, SO_2, CxHy

Although a CEM measures the emissions from the main stack for regulatory compliance, a portable flue gas analyser 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, CO_2, NOx (NO & NO_2), SO_2, & 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 Analyser

The Si-CA 8500 portable emissions analyser can easily be used for accurate emissions measurements of O_2, CO, CO_2, both NO & NO_2 for True NOx, SO_2, and CxHy throughout a cement plant.

The Si-CA 8500 flue gas analyser 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 chiller.