



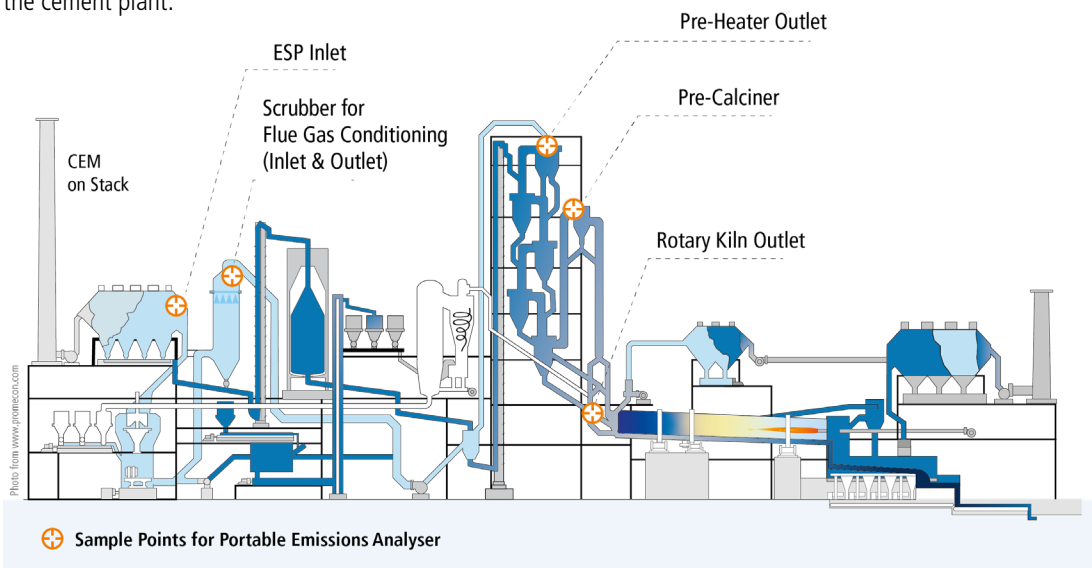
# IMPORTANCE OF PORTABLE EMISSIONS ANALYZERS FOR PROCESS & EMISSIONS OPTIMIZATION AT A CEMENT PLANT



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<sub>2</sub>, CO, NOx, CO<sub>2</sub>, SO<sub>2</sub>, CxHy, temperature
2. Pre-Heater & Pre-Calciner – O<sub>2</sub>, CO, NOx, CO<sub>2</sub>, temperature
3. Flue Gas Conditioning System – CO, NOx, SO<sub>2</sub>, CO<sub>2</sub> 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<sub>2</sub>, CO, NOx, CO<sub>2</sub>, SO<sub>2</sub>, 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<sub>2</sub>, NOx (NO & NO<sub>2</sub>), SO<sub>2</sub>, & 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<sub>2</sub>, CO, CO<sub>2</sub>, both NO & NO<sub>2</sub> for True NOx, SO<sub>2</sub>, 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 cooler.