



## Emissions Monitoring in the Cement & Lime Industries

- ~ Comprehensive Solutions
- ~ Worldwide Support
- ~ Extensive References & Experience

## Stack Emissions Monitor



A key issue in the measurement of the products of combustion in Cement and Lime industries is the high levels of particulates.

The Procal 2000 in situ analyser's heated probe option is especially suited to this industry as it efficiently deals with variations in process temperature, keeping the probe above the sample dew point and safe from corrosive condensate.

Auto-zero and calibration facilities ensure that the analyser requires minimal manual intervention under normal operation. Service and maintenance requirements are infrequent and low cost.

## Our Solution

Capable of receiving signals from other analysers, the Procal 2000 can form the basis of a complete emissions monitoring system including Dust/Opacity, Oxygen and Flow.

The Procal 1000 controller is capable of multi-analyser control and has networking capability to allow several terminals to be connected both locally and remotely.



### Cement Kilns

The Procal 2000 analyser is ideally suited to monitor emissions from all types of cement kilns and can monitor SO<sub>2</sub>, NO, NO<sub>2</sub> CO in a background of high water vapour and Carbon Dioxide which is a characteristic of Cement Kilns. Procal have experience in monitoring dry and wet kilns with 30% water vapour present.

Procal emissions analysers run comprehensive diagnostic and therefore are ideal for remote installations where reliability is a prerequisite.

#### Typical Ranges:

SO <sub>2</sub>	0-1000/2000ppm
CO	0-1000/2000ppm
H <sub>2</sub> O	0-20%
NO	0-2000ppm
CO <sub>2</sub>	0-30%



### Lime Kilns

The Procal 2000 is used in many Lime Kiln applications both in large plants and specialised, small to medium installations. The analyser is normally installed on the stack and can be fitted with an optional probe heater to ensure that the probe temperature is maintained above the dew point of the flue gas. The benefits include removal of risk of corrosion and the capability to monitor during plant start up when the flue gas is below the dew point.

Procal supply a comprehensive range of accessories to meet the requirements of the process including cooling probes for high temperature applications.

#### Typical Ranges:

H <sub>2</sub> O	0-20%
CO <sub>2</sub>	0-20%
NO	0-400mg/Nm <sup>3</sup>
SO <sub>2</sub>	0-1000mg/Nm <sup>3</sup>
NOx	0-650mg/Nm <sup>3</sup>



ATEX



**PROCAL**  
emissions innovation

**Kittiwake Procal Ltd**  
5 Maxwell Road  
Peterborough  
PE2 7HU  
United Kingdom

Tel: +44 (0) 1733 232495  
Fax: +44 (0) 1733 235255

sales@procal.com  
www.procal.com