



Emissions Monitoring in the Refinery Industries

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

Refinery Industry Emissions Monitoring



Crude Oil Heaters / Furnaces / Incinerators

Procal 2000 measures products of combustion and can accommodate changes caused by variations in the make up of off-gas fuel. The heated probe option is especially suited to this application as it efficiently deals with variations in process temperature. It also keeps the probe hot, ensuring immediate availability when the plant is restarted after an outage.

Typical Ranges:

SO₂ 0 – 2,000 ppm

NO 0 – 500 ppm

NO₂ 0 – 500 ppm

H₂O 0 – 15%



Power Plant– Electricity and Steam

Procal 2000 is the ideal, field-proven, device to monitor emissions from refinery power plants. The instrument is compliant with international standards therefore meeting the stringent requirements of Environment Agencies.

Typical Ranges:

CO 0 – 200ppm

NO₂ 0 – 500ppm

NOx 0 – 500ppm

CO₂ 0 – 15%



Klaus Unit

Capable of reliably measuring the high concentrations of SO₂ found in a Klaus Unit, Procal 2000 can be offered with special corrosion-resistant materials such as Hastelloy 'C'. Procal 2000 is the only in situ IR analyser on the market that is available with optional ATEX / IEC approval for use in ZONE 1 Hazardous Areas such as those found in many refinery applications

Typical Ranges:

SO₂ 0 – 2%

H₂S 0 – 2 %



Catalyst Cracker Vent

This is an application for which the Procal 2000 analyser is well suited. The sintered filter assembly can function well even in cases where dust levels in the sample are high.

Typical Ranges:

SO₂ Normal 0-700ppm

SO₂ Plant Upset 0-14000ppm

NO 0-300ppm

NO₂ 0-250ppm

Comprehensive ATEX / IEC approved solutions

In addition to ATEX / IEC approved analysers, Procal offer a range of accessories suitable for installation in hazardous areas. For example, steam-heated probes and bypasses can be used to ensure that the sample temperature is maintained above the acid dew point.



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