

**Product Data Sheet**

# Model G-CEM4100 Extractive Flue Gas Analyser

## Extractive Flue Gas Analyser

The G-CEM4100 is a hot extractive analyser for difficult flue gas monitoring applications. It uses infrared absorption spectroscopy to measure up to seven pollutant species in a single self-contained unit.

Many conventional extractive systems require the sampled gas to be cleaned and dried to a very high standard prior to analysis, invariably resulting in a high maintenance demand. Such elaborate pre-conditioning is not required; the G-CEM4100 creates 'perfect' duct conditions in a temperature controlled chamber within a separate free-standing, air-conditioned cabinet. Process gases are simply cooled (or heated) then transferred along a heated sample line, without further conditioning, to be measured using a CODEL multi-channel analyser housed in the cabinet.

Increasingly, environmental agencies demand that continuous emission analysers have the facility to prove their performance using known concentration audit gases. The G-CEM4100 provides the facility to automatically check and control zero using clean, dry compressed air (or N<sub>2</sub>). Where independent span checks are required, bottled gases of known concentration can be injected directly into the measurement chamber.

- multi-species infrared absorption analyser for up to seven gas species
- extractive system to local analyser with full zero & span verification using audit gases
- real-time normalisation for STP & H<sub>2</sub>O
- ppm, mg/m<sup>3</sup> (measured) & mg/Nm<sup>3</sup> (normalised)
- automatic calibration verification facility and full range of outputs & alarms
- 5 years+ data logging via pc software package
- remote access for diagnostic checks via modem
- full EMC & LVD approvals

### Measurement Species

- Sulphur Dioxide
- Nitrogen Dioxide
- Nitric Oxide
- Carbon Dioxide
- Carbon Monoxide
- Hydrogen Chloride
- Methane
- Water Vapour

### Analyser Parameters

Species	Range	Zero/Span Drift Rate	Linearity	Repeatability	Response Time
SO <sub>2</sub>	25000ppm )				
NO <sub>2</sub>	3000ppm )				
NO	3000ppm )				
CO <sub>2</sub>	25% )	2% span/day	<2%	<2% span	200sec
CO	3000ppm )				
HCl	1000ppm )				
CH <sub>4</sub>	3000ppm )				
H <sub>2</sub> O	25% )				

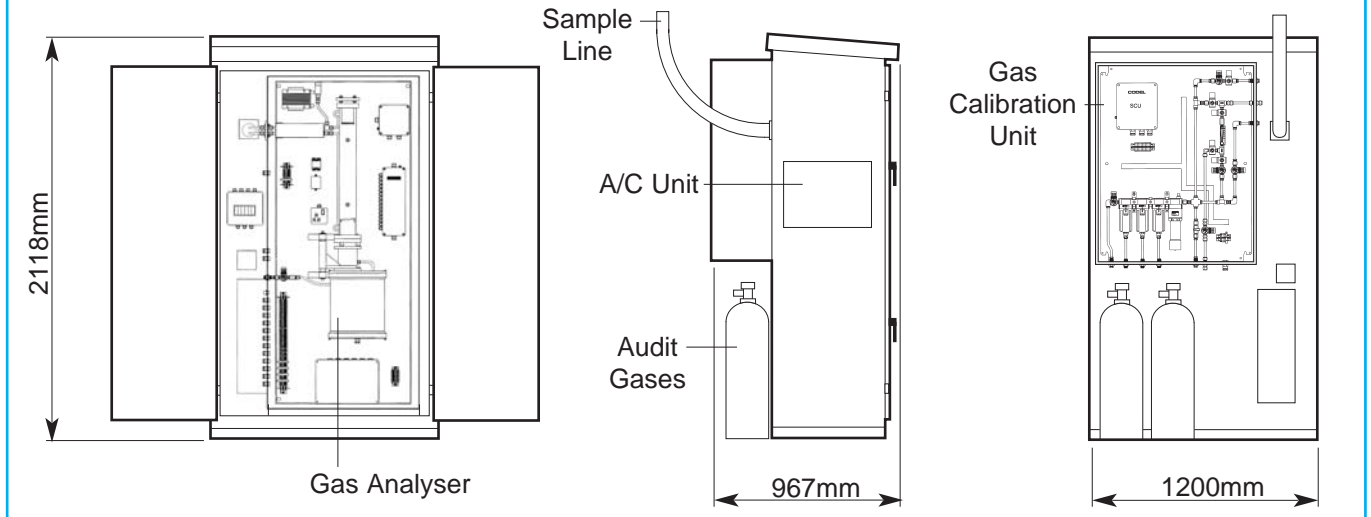


## Total Solutions - Total Confidence

SmartCem



## Overall Unit Dimensions



## Specification

SmartCem

### Measurements

Gas Species - up to 7 gases (including H<sub>2</sub>O) from CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, HCl, CO<sub>2</sub> & H<sub>2</sub>O

Accuracy - CO, NO, NO<sub>2</sub>, SO<sub>2</sub>, HCl : +/-2ppm (or 2% of reading)  
CO<sub>2</sub> & H<sub>2</sub>O : +/-0.2%

Measurement SO<sub>2</sub> : 50,000ppm (vol)  
Limits others : 6,000ppm (vol)

Process - dewpoint to 600°C (below dewpoint  
Temperature by arrangement)

Ambient - -10°C to +45°C (up to 60°C by  
Temperature arrangement)

Measurement - ppm (vol), mg/m<sup>3</sup> & mg/Nm<sup>3</sup> (kg/hr,  
Units tonnes/annum by arrangement)

Diagnostic - local via RS232 laptop connection  
Access  
- remote via pc operating CODEL Integrated Emissions Monitoring (IEM) software providing access to real-time/historical trend data, diagnostic/trend data, calibration data, operating parameters, set-up menus, summary reports & CODEL on-line support

Sample Line - 3m standard (up to 15m available)

### Input & Outputs

Analogue Inputs - 1 x 4-20mA for remote O<sub>2</sub> measurement

- 1 x 4-20mA for process gas temperature measurement

Outputs - analogue : up to 8 x 4-20mA, 200V common mode isolation, max. load 500Ω, fully configurable for span, zero and response time

- logic : up to 8 x volt-free contacts SPCO rated at 50V/1A

Power Requirements - cabinet : 110/240V AC, 50/60Hz, single phase, 600VA total

- sample line : 110/240V AC, 50/60Hz, single phase, 150VA per metre

Compressed Air (or N<sub>2</sub>) Requirements - clean, oil-free compressed air (or N<sub>2</sub>) dried to -20°C min., 4 bar min. pressure, 0.5 litre/sec continuous

### Compliances

MCERTS certified product

EMC - 89/336/EEC directive compliant

Low Voltage - 73/23/EEC directive compliant

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### Distributor :

