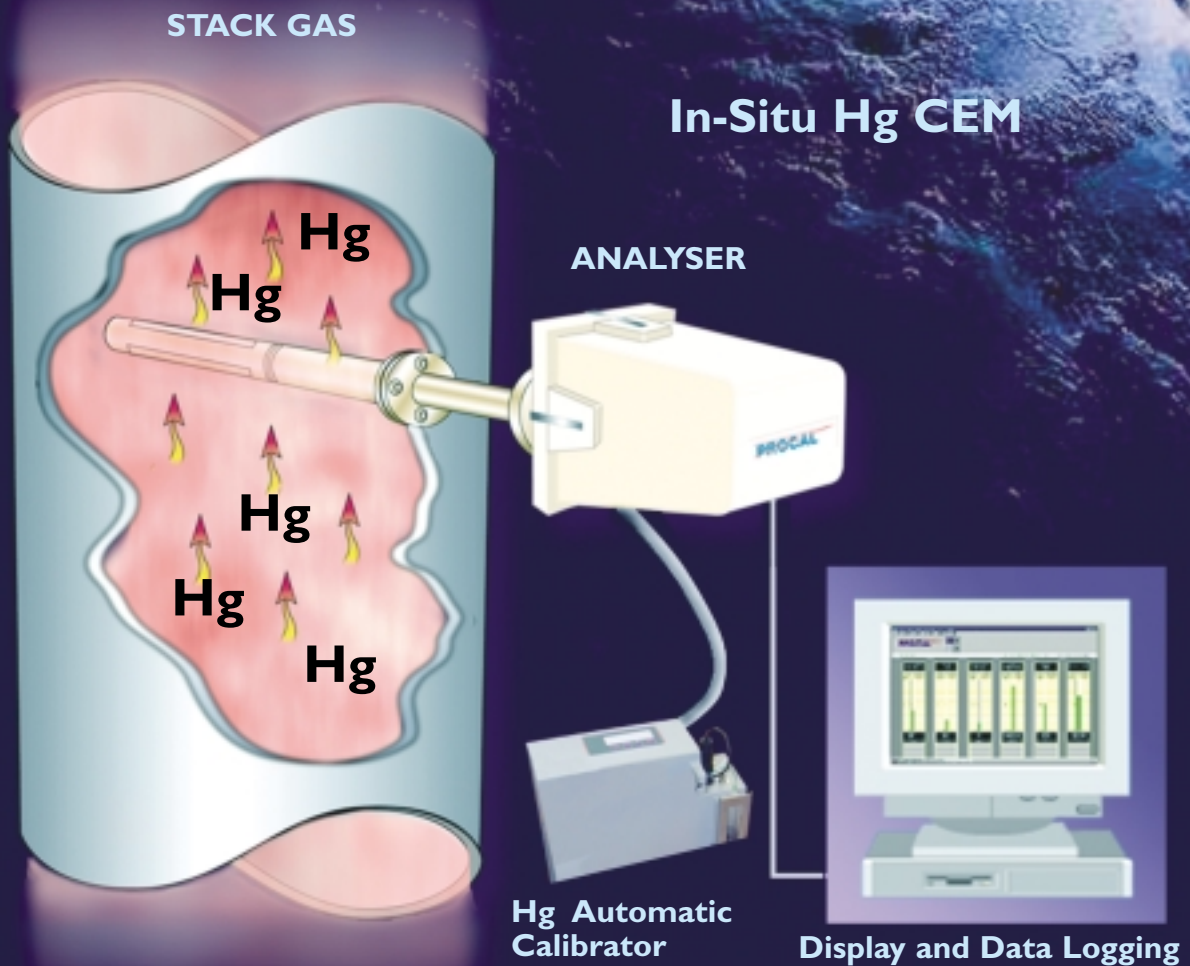


PROCAL

PROCAL 5000 Mercury CEM's

www.procal.com



US EPA
40 CFR
Part 60&75
Compliant



sira
Certification Services
ISO 9001:2000



PROCAL 5000 - Mercury Supplement

Use in conjunction with data sheet 7-3601 – Procal 5000

Procal Analytcs manufactures a range of Infra Red and Ultra Violet in-situ analysers. The systems comply with the requirements of both the US EPA 40 CFR Part 60 & 75 and European EN14181.

The Mercury Continuous Monitoring System (CEMs) is based on the successful PROCAL 5000, full spectrum Ultra Violet (UV), in-situ Enveloped Folded Beam multi component gas analyser.

The System is available in two versions:

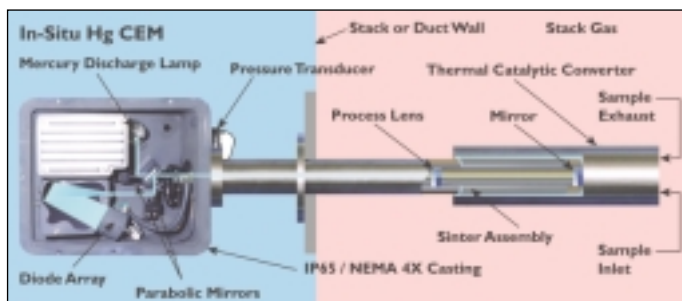
- **Procal 5000 Hg (0) - Elemental Mercury**
- **Procal 5000 Hg (0)+Hg(II) - Combined Mercury**

Typical Range 0 - 2ppb / 20µg/m³ Hg

Technique

The technique utilised in the mercury system is flameless atomic absorption spectroscopy. This is achieved using a mercury discharge lamp to generate a beam at 254 nm. The collimated UV beam passes down a steel tube through a lens and into an in-situ sample cell, then the beam is returned using the same path to the analyser. The energy absorbed by the mercury vapour in the sample cell enables the concentration of the mercury to be accurately calculated and reported. The sample cell is a similar design as used on all Procal Continuous Emission Monitoring Systems (CEMs), to date more than 3000 units have been delivered. The design of the unique in-situ cell is critical to the monitoring of mercury it enables a daily automatic zero / span fully challenging the analyser. In addition, both the temperature

and pressure in the cell are monitored enabling the effects of fluctuations to be corrected.



In combined mercury applications the in-situ sample probe has an integrated high efficiency **thermal catalytic converter**. The long life converter does not require any consumables and is designed to convert all the mercury species into elemental mercury {Hg (0)}

Calibrator

To comply with the requirements of some environmental agencies an automatic calibrator can be supplied. The calibration can provide a known concentration of mercury vapour into the sample cell to verify the system. If required the analyser will make and report any adjustment.

Benefits

- Compact
- Reliable - Only one intermittently moving part
- No heated lines required
- No liquids or gold collectors used
- Automatic cross sensitivity correction (effects of other gases)

Distributed By:

PROCAL

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