



ENVIRONMENT
AGENCY

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

SC620/680 Dust Monitor

manufactured by:

PCME Limited
Clearview Building
Edison Road
St Ives
Cambridgeshire
PE17 4GH
UK

has been assessed by Sira Certification Service
and for the conditions stated on this certificate complies with:

**MCERTS Performance Standards for Continuous Emission
Monitoring Systems, Version 2, Revision 1 (April 2003)**

Certification Ranges :

Particulate concentration 0 to 150 mgm⁻³

Certificate No: Sira MC 990005/02
Initial Certification: 22 February 2000
This Certificate Issued: 28 September 2007
Renewal Date: 21 February 2010

Technical Director

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

12 Acorn Industrial Park, Crayford Road, Crayford
Dartford, Kent, UK, DA1 4AL
Tel: 01322 520500 Fax: 01322 520501

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: Stack Components -20 to +55°C
Control Unit -10 to +55°C

Relative Humidity: Stack Components 5 to 95% (including condensation)
Control Unit 20 to 80% (excluding condensation)

The performance characteristics of the instrument are as presented below and, except where otherwise stated, are expressed as a percentage of the certification range; 'a' indicates compliance with MCERTS requirements.

Test	Results expressed as % of certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Linearity					a	>0.95 ⁽¹⁾
Drift	a				0.04%	<±2%
Ambient temperature: Zero shift	a				0.17% per °C	<0.3% per °C
Response time					20.4s	<200s
Detection limit	a					<2%
Repeatability					11.4%	<15%
Reproducibility					51.53	>30
Maintenance interval: (field test)					>6 months	To be reported
Availability (field test)					100%	>95%
Analysis function/integral performance (field test)					11.91%	C/<20%
Effect of particulate velocity (7.5 to 15 m/s)					-12% to +14%	Not specified
Effect of particulate size (change from 18 to 9 µm)					-56%	Not specified
Vibration 10-150Hz at 19.6m/s ²					no effect	Not specified

⁽¹⁾ Correlation coefficient requirement (as specified in ISO 10155)

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Field Test Site

The system was evaluated for 6 months on a large coal fired power station. The instrument was installed after the electrostatic precipitators. The instrument complied with the performance requirements stated in the above standard.

Approved Site Application

On the basis of these tests this certificate is valid when the SC620/680 instrument is used on waste incineration and large combustion plant applications, provided that the uncertainties and ranges meet the Environment Agency's requirements.

The manufacturer should be consulted if the instrument is to be mounted upstream of an electrostatic precipitator or after a wet collector.

The instrument is suitable for use in dust arrestment applications where velocities are greater than 7.5m/s. The manufacturer should be consulted if the instrument is to be used in applications where the air velocity is less than 7.5m/s. In applications where the flow rate varies, users should determine whether the system requires re-calibration.

Particulate monitors may exhibit sensitivity to various in-stack effects. Potential interferences are site specific and may vary from stack to stack.

Any potential user should ensure, in consultation with the manufacturer that the emission monitoring system is suitable for the process on which it will be installed.

For general guidance on stack emission monitoring techniques refer to Environment Agency Technical Guidance Note M2: Monitoring of stack emissions to air. Operators with installations falling under the Large Combustion Plant Directive or Waste Incineration Directive must refer to Technical Guidance Note M20: Quality Assurance of Continuous Emission Monitoring Systems, for guidance on the suitability of CEMS for their installations. M2 and M20 are available on the Agency's website at www.mcerts.net

Basis of Certification

This certification is based on the following Test Report(s) and on Sira's assessment and ongoing surveillance of the product and the manufacturing process:

AEAT Report	MCT/WTC/B.02/SO1 dated March 1999
AEAT Report	MCT/RUGC/B.01/SO1 Issue 2 dated December 1999
NPL Report	QE21/N99/007 dated August 1999
Sira Report	N 0318 dated August 1999

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Description:

The SC620/680 are optical scintillation monitors (dynamic opacity).

They operate on the principle of monitoring the variation in the amount of light received from a light beam transmitted across a stack. The variation derives from the distribution of particles across the stack, which attenuate the light at varying frequencies. The SC620/680 calculates the ratio of attenuated light to variation of light. This calculation is proportional to mass concentration. The monitor has facilities for zero and span checking.

The calculated units can be calibrated directly to mgm^{-3} by reference to a gravimetric sample (iso-kinetic sampling). Lens contamination creates virtually no effect to the instrument's response due to the calculation of absolute light being continuously updated by the instrument. The control unit is able to manage up to 4 sets of transmitter/receiver units and software is available for downloading any of the stored data from the internal dataloggers where applicable.

The SC680 has an inbuilt long-term datalogger, which enables reports for the regulator to be generated with the additional software.

The Ordering code of the instrument tested was Model SC620/SC680 models (specify Number of channels from 1-4 per control unit)

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this Certificate. The Manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of Sira Certificates'. The design of the product certified is defined in the Sira Design Schedule for certificate No. Sira MC 990005/04.
2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on this certificate.
3. The Certification Marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of Sira Certificates'.
4. This document remains the property of Sira and shall be returned when requested by the company.

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