



MCERTS Continuous Emissions Monitoring

Cross Duct DOAS CEM Systems

MCERTS Approved

ET has been designing, installing and supporting high quality CEM systems since 1983.

Our philosophy for CEMS remains unchanged to this day:- to supply CEMS that are of high quality, offer high reliability, are internationally approved and most importantly deliver maximum customer value and benefits, including the minimum of operator maintenance and lowest cost of long-term ownership.

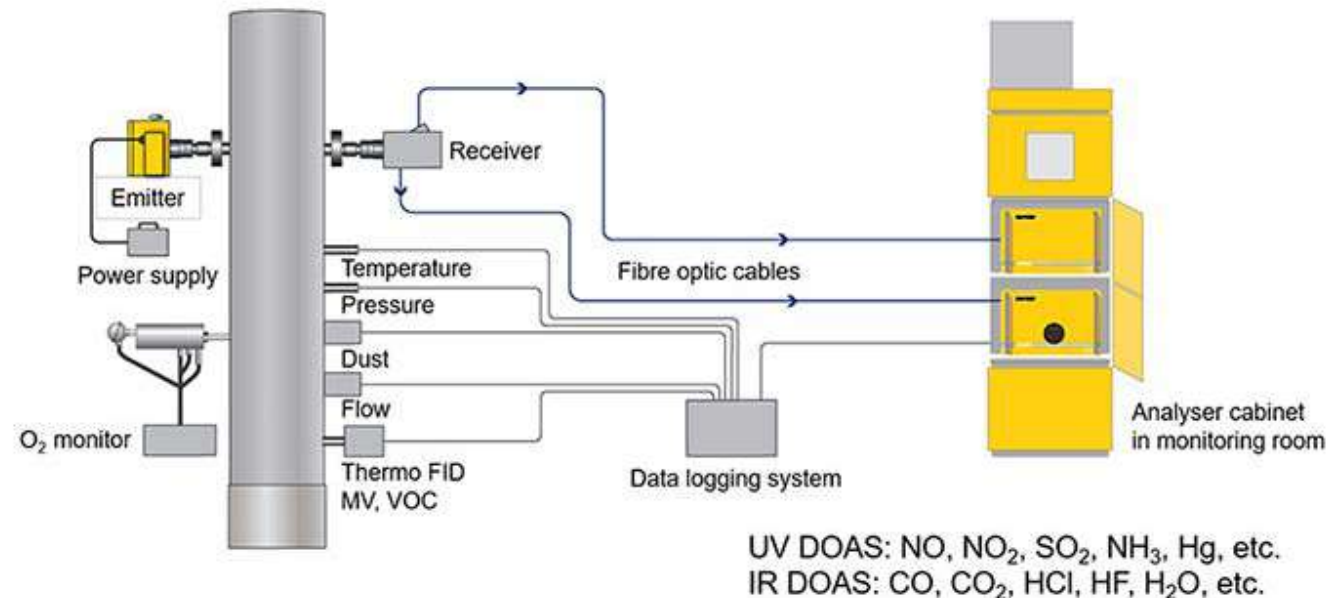
At the heart of our CEM system is Ophis DOAS cross-duct technology. DOAS (Differential Optical Absorption Spectroscopy) is an optical, cross-duct, multi-gas measurement technology that measures stack gases directly without any contact as they pass through the stack. It is a true non-contact, nonextractive measurement based on the differential optical absorption of gas molecules in the UV, visible and IR wavelengths.

By virtue of the fact that Ophis DOAS measures over a wide range of wavelengths, a corresponding wide range of organic and inorganic gases can be measured including NO, NO₂ (direct), SO₂, CO, CO₂, HF, HCl, NH₃, H₂O, H₂S, VOC's, TOC and specific Aldehydes, Amines and VOC's.

The system therefore can be easily tailored for almost any CEM and Process Control application and due to it's non-contact, non-extractive principle of operation, requires the absolute minimum of operator involvement or maintenance.



Typical Waste Incineration Monitoring System



CEM System Integration & Project Management

In our experience, no two CEMS projects are exactly alike.

The specific process monitoring requirements, location and local site requirements all have a bearing on overall CEM system design and integration.

As one of Europe's leading Air Pollution System Integrators and Service Providers, ET offers a full and comprehensive systems integration and project management service.

We can in fact, "tailor" our CEM systems to our clients precise requirements including recommendations and advice based on our long-standing, professional understanding and experience of system integration and overall system design.

ET is an ISO 9001:2015 quality assured company assessed twice a year by BSI.

Quality is very much at the heart of everything that we do, from sales, application support, system design and build, project management, installation and ongoing customer support.



FM 30232



Applications include:

Power Generation, Waste Incineration, Energy from Waste Carbon Capture Oil & Gas, Cement, Glass, Mineral Wool, Aluminium and smelting Pulp & Paper, Process Optimisation, Many others

Enclosures and Housings

We can supply a wide range of enclosures and housings to both fully protect and maximise performance of our CEM systems.

Our enclosures offer a high security, temperature controlled environment which meets health & safety obligations and can even be designed to meet ATEX requirements.

Enclosures range from small, discrete housings for smaller CEMS installations through to larger, "walk-in" enclosures that offer space and convenience for the equipment, operators and service engineers.

Our enclosures can be designed to withstand the harshest environments and the most aggressive site conditions possible, for example sulphuric/nitric acid plants and even desert, equatorial and tundra climates where external temperature variation may be as much as +/- 40OC, or regions of high RH and rainfall where intelligent and well thought out enclosure design is vital for the overall success of the project.

It is this attention to detail and our wealth of knowledge and experience built up after nearly 30 years that makes us the first choice for many clients.



Particulate Measurement

ET works with some of the World's leading manufacturers of particulate, dust and opacity monitoring technology. Rather than partner with just one manufacturer, our philosophy is to work with all manufacturers so that we can offer our CEMS clients the most applicable particulate monitoring technology for their specific application.

There is no such thing as "one size fits all" with CEMS and even more so for particulate monitoring.

Particulate monitoring technology from ET includes Light Scattering and Electro-Dynamic products that have proven to be reliable, cost-effective and can be fully integrated with ET's CEM systems.



These products are also MCERTS approved for full compliance with LCPD, WID and BS EN 14181.

Process Measurements

In addition to continuous measurement of gases and particles, ET can also provide and integrate sensors for the measurement of O₂, Temperature, Pressure and Volumetric Flow for automatic normalisation of data to process conditions.

Our standard O₂ monitor is based on Zirconia Oxide sensor technology and is MCERTS approved whilst offering high reliability, accuracy and rugged build quality.

For volumetric flow measurement we can offer a choice of technologies depending on the process, stack geometry and process conditions including cross-duct, non-contact ultrasonic technology as well as probe based differential pressure/annubar designs.



Process Control & Special Gases

ET can offer a wide range of systems and analysers to measure gases for process control; we can also draw upon a selection of advanced analytical technologies for more unusual and exotic gases and specialist applications.

Leading our Process Control analyser range is the cross duct LD500 Tuneable Diode Laser system which can be used for numerous applications including scrubber control and ammonia injection. These applications normally have a positive effect on plant efficiency leading to increased profitability with a fast payback by saving money on dosing and scrubber materials.

Utilising optical laser technology, the LD500 gives a fast response in seconds, making it ideal for safety monitoring for example ESP CO monitoring”.

The cross-duct design allows the LD500 to be used at very high temperatures and with its multiplexing capability we can offer a system, measuring up to 8 paths in temperatures up to 1400oC.

This is an ideal solution for the steel and glass industries for slab re-heating mills and float glass manufacture. It allows the customer to control their energy consumption and realise big financial and CO₂ savings. The Opsis DOAS CEMS can also be used for similar process control applications including Sulphuric Acid plants and CO₂ capture facilities. Both of these applications present a very harsh monitoring environment with extremes of temperatures and pressures and very corrosive gases. The cross-duct, non-contact nature of the LD500 and Opsis DOAS CEMS make it easier to deal with these monitoring challenges; giving our customer longer analyser life, lower running costs and reduced maintenance requirements.



Other products



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CONTACT US

Kingfisher Business Park
London Road
Stroud
Gloucestershire
GL5 2BY

info@et.co.uk

+44 (0) 1453 733200

www.et.co.uk

