



leading environmental monitoring systems
saving you money. saving the environment



Boiler Monitoring Systems from OX-AN[®]

OX-AN[®]'s Boiler Monitors provide Measures and Reports over the Internet, Fuel Efficiency, Carbon Dioxide Emissions, Real Time Fuel Consumption and Heat Flow, suitable for all boilers in:

- Schools and Colleges
- Hospitals and Medical Centres
- Hotels and Leisure Centres
- Offices and Factories
- Universities
- Government Buildings
- Shopping Malls
- Supermarkets

Why monitor your boilers?

With the ever-increasing concern over Global Warming, Greenhouse Gas Emissions, the availability of Gas and rising fuel cost, no business or organisation can ignore their responsibilities and actions required to save fuel and lower Carbon emissions.

Commercial and industrial boiler-plants for heat raising and process-use are like your car - only efficient if maintained and used correctly. The OX-AN[®] Boiler Monitoring System will monitor your boilers and advise the services engineer and the person with overall responsibility, of the fuel efficiency, fuel and heat flow and CO₂ emissions on their web browser.

Fossil fuel fired boilers, whether domestic, commercial or industrial, lose energy up the flue due to several factors, including losses to the water vapour turning into steam, losses due to associated nitrogen, losses due to carbon dioxide, all at an elevated temperature from the heat raised in the combustion process.

When boilers are serviced they are usually checked by an engineer with a portable emissions testing device and unlikely to be checked again for up to 12 months.

In the period between checks, conditions may change a boiler's operating parameters and result in energy loss and higher CO₂ emissions, including possible dangerous CO spillage into the boiler house.

How the system works

The OX-AN[®] Boiler Monitoring System measures the flue gases for O₂, CO, CO₂ HC & NO_x, and boiler room and flue gas temperature and calculates the fuel efficiency by knowing this data and the values of the fuel being used. Fuel flow data from fixed flow meters is also measured by the system. This will give the user a real time fuel flow rate for each boiler and calculate CO₂ being emitted. It is expected this part of the system will be useful when the trading of carbon credits commences in 2008.

Heat flow from meters can also be fitted to the system. This will allow the end user to view actual energy being delivered from each boiler.



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Be in control

The OX-AN[®] Boiler Monitoring System has an embedded PC connected to our Internet server, which allows clients to log on and view the data and take action if required before excessive fuel is used.

Another feature of the system is the ability to sequence boilers, only firing the minimum needs dependant on weather conditions and load, saving energy on idling boilers. Boilers which have gone out of limits on flue gas emissions or temperature can be isolated until such time action can be taken to rectify the problem.

Installation

OX-AN[®] Energy Ltd offer a full installation service using a network of HVCA, CORGI and ECA approved contractors.

Service and Maintenance

OX-AN[®] Energy Ltd offer a service contract providing a service visit at twelve monthly intervals.

OX-AN[®] Boiler Monitoring System Technical Details

- Maximum Boiler no. per system:** 4
- Flue Gas Temperature probes :** Type K 0 - 1100° Celsius 4 –20mA transmitters with 150mm standard probe ½” BSP female connection required in flue
- Flue Gas Sample Pipe:** 6 mm OD ASTM A312 type 316L ½” BSP female connection required in flue
- Sample Line Maximum Length:** 18 metres
- Flue Gas Sample:** Sequential
- Gas Measurement Technology:** CO, CO2 Hydrocarbons NDIR, O2 and NOx electrochemical cell
- Gas Measurement Range:** CO 0 – 10%, CO2 0 – 16%, O2 0 – 25%, HC 0 – 4000ppm, NOx 0 – 4000ppm
- Gas Measurement Resolution:** CO 0.001%, CO2 0.01%, O2 0.1%, HC 1ppm, NOx 1ppm
- Fuel Flow Meter Inputs:** 5V d.c. pulse, 4 – 20mA loop, RS 485
- Heat Flow Meter Inputs:** 5V d.c. pulse, 4 – 20mA loop, RS 485
- Secondary Temperature Probes:** RTD 3 wire 0 - 100° Celsius 4 –20mA transmitters with 150mm standard probe ½” BSP female connection required in pipes
- Burner Firing Signal Input:** 240V a.c. opto - isolated input
Remote panel twin screened data cable with overall screen



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- Boiler Control Circuit I/O:** 3 amp SPCO volt free contacts
- Voltage:** 240V a.c. 110v a.c. option
- Current Rating:** 5 amp
- Display:** 15" flat panel LCD
- Keyboard:** Slide out 102 key with touch pad
- Internet Connection:** Broadband 8Mb2 connection, 2 GB Monthly usage
- Main Panel Size:** 74.5 cm high x 53.5 cm wide x 31 cm depth from wall
- Main Panel Construction:** GRP IP 66 rated double insulated class 2, finish pale green RAL 6021

Experience

OX-AN[®] have manufactured gas monitoring and analyser systems since 1980. Today our equipment is used in Hospitals, Universities, Aerospace, Automotive, Food, Research Laboratories, Nuclear, Waste and Landfill throughout the World.

The OX-AN[®] Boiler Monitoring System is an unequalled product designed around the latest technology and not to be confused with systems produced by others. The electronic circuits with individual micro-processors and USB connection are designed and made by OX-AN[®], making the system cost effective for small to medium through to large boilers. In the past systems of this nature and less complexity have cost more than the boiler-plant and thus not been feasible. We know. We tried in the 1980's.

Contact OX-AN[®]

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