

Rapid response hydrogen fluoride analyser

Norwegian manufacturer NEO Monitors has introduced its LaserGas III Portable analyser.

It is its first portable instrument in the 3rd generation of LaserGas analysers and is designed for detection of local short-term hydrogen fluoride concentrations, wherever diffuse emissions occur representing a risk to the work force.

The entire instrument weighs 2kg and is battery powered for HF measurement on the spot.

With on-board pump and connections for Teflon tubing the target gas is continuously transferred into the internal measurement cell. Due to the instrument's digital low power design it may be operated for an entire working shift with one battery charge.

The instrument uses Tuneable Diode Laser Spectroscopy (TDLS), which is a non-contact optical measurement method employing solid-state laser sources.

The laser source, operating at room temperature, scans the single gas absorption line specific to hydrogen fluoride, eliminating cross interference from other gases and enabling a detection limit of 50ppb.

The sensor remains unaffected by the sample gas and does not require regular maintenance. Automatic correction for

sample gas temperature and pressure variations is included. TDLS also provides an absolute zero point and a stable calibration (a yearly calibration check is sufficient).

Analyser details

With an approximate footprint of 12 x 12 x 25cm, the LaserGas III Portable is very compact.

The instrument is self-contained with an on-board pump, touch screen display, internal memory for logging of data, measurement cell, and Li-ion battery for 10 hours of continuous operation per charge. The new digital electronic design requires power of less than 10W.

The analyser offers sufficient range to measure sub ppm and several hundreds ppm HF concentrations.

Once the instrument is turned on, the gas is continuously drawn into the measurement cell with a flow rate of 3 l/min, which corresponds to a response time of less than two seconds.

In contrast to many other measurement techniques, short-term HF emissions are uncovered with the LaserGas III.

Measurement readings are emitted



Neo's portable analyser is designed for detection of short-term hydrogen fluoride concentrations

through current loop outputs or digital outputs (Ethernet, USB, RS-485) and the Modbus protocol is supported.

Neo say the analyser is the solution for reliable detection of short-term HF concentrations, wherever diffuse emissions occur representing a risk to the work force. The company said that the LaserGas III is its most reliable and repeatable gas sensor with all electronics designed according to IEC 61508, Safety Integrity Level 2.

Applications include potroom worker protection and mapping plant emissions in aluminium smelters, leakage detection in refinery alkylation plants, or HF stack gas testing in general.

NEO Monitors is a subsidiary of Norsk Elektro Optikk AS (NEO) and is a manufacturer of laser-based gas analysers and dust monitors. ■

Contact

Neo Monitors

Solheimveien 62 A N-1473, Lørenskog, Norway

Tel (+47) 67 97 47 00 Fax (+47) 67 97 49 00

Web: www.neomonitors.com

Handheld spectrometer delivers results

Spectro has launched white papers for use with its xSort handheld XRF spectrometer.

The four white papers document environmental and compliance analysis as well as metal processing and the metal trading industries.

The instrument is a compact handheld ED-XRF spectrometer. It records all relevant elements from aluminium to uranium in every measuring cycle and delivers results in a few seconds. The 1.7kg instrument is optimised for fatigue-free onsite analyses. The operator places the measuring aperture on the sample and presses the start button. The user interface and results are presented on an ergonomically attached PDA.

Environmental analysis plays a key role in fighting environmental contamination. The xSort analyses waste, soil, wood and building material without sample preparation and measures the contents of many important elements.

For elemental compliance, increasingly laws define maximum values for elements

and/or element bonds in products in order to minimise the effects of harmful substances. The xSort recognises relevant elements such as lead, chromium, mercury, cadmium, bromine and many more. It delivers measurement results within a few seconds and, as a non-destructive system, is suited to the screening of products that are intended for resale.

Use of the incorrect material in production or plant engineering can have grave consequences. The xSort identifies materials that cannot be optically or tactilely differentiated.

The instrument determines the material grade at the press of a button and provides certainty to users in incoming inspections and shipping. It can also sort scrap quickly. The instrument is ergonomic, enabling fatigue-free onsite use.

Spectro is a supplier of analytical instruments for optical emission and X-ray fluorescence spectrometry. ■

The white papers can be downloaded at www.spectro.com



The 1.7kg xSort XRF spectrometer is useful for fatigue-free onsite analysis