CONTRÔLE DE L'ÉVACUATION DE L'AIR ET DE LA VENTILATION

peo MEDICAL

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Partner Tracerco

Tracerco is a trusted global provider of radiation monitoring solutions, offering specialized instruments for contamination monitoring, dose rate measurement, and personal dosimetry. Their technologies are widely adopted in the medical field, supporting hospitals, radiology departments, and nuclear medicine facilities in maintaining safety and meeting regulatory standards.

Product offering

Mud Monitor Tracerco™

Mud Monitor Tracerco™

De Tracerco™ Mud Monitor is intrinsiek veilig (is getest en gecertificeerd voor gebruik in explosiegevaarlijke omgevingen, zone 0, 1 en 2). Het instrument wordt eenvoudig vastgeklemd aan de buitenzijde van het modder circulatiesysteem dankzij de krachtige magneet. Het systeem heeft een gevoelige detector die verbonden is met een boring controlesysteem. Het instrument bewaakt continu achtergrond stralingsniveaus. Bij detectie van een verhoging van straling, geeft het systeem een duidelijk signaal van radioactieve lekkage aan de bemanning van het boorgat.

Specifications Mud Monitor From Tracerco

Mud Monitor Tracerco

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Partner SDEC France

SDEC France is a leading provider of environmental monitoring technologies, offering a specialized range of samplers and counters designed to support radiological safety in medical settings. Their solutions assist hospitals, laboratories, and research facilities in monitoring airborne and surface contamination, ensuring compliance with health and safety regulations.

Product offering

Isokinetic Sampling Probes – SDEC

Isokinetic Sampling Probes – SDEC

The Isokinetic Sampling Probes (SDEC) are recognized in the nuclear industry and adapted for all type of sampling in single-point or in multi-points.

Isokinetic Sampling Probes features:

- quality and durability
- high level of finish
- customized manufacture
- the best price

Read more about the Isokinetic Sampling Probes on the SDEC website

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Partner Ludlum Medical Physics (LMP)

Ludlum Medical Physics (LMP), a division of Ludlum Measurements, Inc., specializes in radiation safety and medical imaging quality assurance (QA) solutions. Their comprehensive product line supports healthcare professionals in maintaining high standards of patient safety and diagnostic accuracy across various medical disciplines.

Product offering

Model 334A Alpha Air Monitor

Model 334A Alpha Air Monitor

Features

- Easy Setup and Use
- Integrated LCD and Touch Screen Display
- English or SI Units of Measurement
- Acute and Chronic Dose Modes
- Significantly Reduced False Alarms Using Peak Shape Fitting Capability
- 8-Hour Battery Life
- Radon Mode Option

The Model 334A is a compact, lightweight, and portable alpha air monitor designed to function both as a workplace monitor and a Continuous Air Monitor (CAM) for measurements in emergency response situations. Its functionality is enhanced by its splash- and dust-proof enclosure with splash-proof electronics.

Spectral analysis is conducted via a 1024-channel analyzer that feeds data to the embedded processor. Factory configuration provides either special nuclear materials (SNM) or radon progeny measurements of potential alpha energy concentration (PAEC).

Measurements may be taken in both fast-responding (Acute) or high-sensitivity (Chronic) assessments, and report in English or SI units. The Model 334A stores acquired data in comma-separated-variable (.csv) format that is recognized by most spreadsheet and database software. Data may be saved in the instrument's internal memory, or alternately may be written to an SD card for later retrieval and review.

Independent determination of nuclide peaks means they are impervious to radon equilibrium changes, thereby contributing to low probabilities of error and false alarms. Precise fitting of the ^{218}Po tail results in excellent sensitivity.

This Model 334A features an integrated LCD and touch screen that displays information on instrument status and readings during operation. The estimated dose of the isotope(s) of interest and instrument status is

displayed at all times. A window below may be switched from showing historical readings and battery status, or displaying the current spectrum.

Factory-configurable Radon Mode allows the instrument to monitor potential-alpha-energy-concentration (PAEC) of radon progeny.

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Partner Ultra Electronics

Ultra Electronics acquired Lab Impex Systems on July 17th, 2014. This is a known specialized manufacturer in radiation detection solutions and services for use in the global nuclear industry. Founded in 1976, Laboratory Impex Systems Ltd (LIS) is a leader in designing, developing and manufacturing health physics and radiation protection measurement instrumentation focusing on stack monitoring.

Product offering

CMS Iodine Monitor – Lab Impex Systems

Gaseous Monitoring – PG10 Gas Activity Monitor – Lab Impex Systems

PET Cyclotron Facility Stack Monitoring – Lab Impex Systems

CMS Noble Gas Monitor – Ultra Electronics

Stack and Duct Sampling and Real Time Monitoring – Lab Impex

Shrouded Probes – Lab Impex Systems

Continuous Air Monitor – SmartCAM (Alpha & Beta) – Ultra Electronics

CMS Iodine Monitor – Lab Impex Systems

The CMS Iodine Monitor (Lab Impex Systems) is an advanced system for monitoring airborne concentration of radioiodine in the workplace and other areas of interest (stacks, cells and glove boxes).

The monitor is available in isotopic specific configurations including I-124, I-125, I-129 and I-131, and offers real time measurement of both molecular and organic forms of iodine.

In addition, the system is available in a skid, enclosure or cart mounted configuration.

The sensor element of the Iodine Monitor is a patented detector called the CGADC (Continuous Gas Analysis and Detection Chamber). The CGADC combines a sensitive scintillation detector with a stainless steel measurement chamber housing a radioiodine filtration cartridge. The CGADC is packaged as an integrated device, with shielding, pump, flow sensor and CMS processor, and is available in either a fixed or transportable configuration.

CMS Iodine Monitor features:

- filtration mechanism captures all forms of radioiodine
- achieves low MDL’s through unique detector design with Brehmstrahllung shield
- automatic background compensation
- temperature spectrum stabilization reduces inaccurate measurement due to spectrum drift
- CMS analysis algorithm provides a low stable measurement at background, but ensures a fast response to rising concentration levels

Read more about the CMS Iodine Monitor on the Lab Impex Systems website.

Gaseous Monitoring – PG10 Gas Activity Monitor – Lab Impex Systems

The PG-10 Gas Activity Detector (Lab Impex Systems) measures beta or positron emitting radioactive gases in the environment (or in a closed loop system). The detector is suitable for PET Radiation monitoring, Noble Gas monitoring and monitoring of Nuclear Medicine Radio-nuclides.

Primarily used for the measurement of emissions from stack and ducts, the PG-10 detector may also be configured to sample the air in the working environment.

Detectors are normally built for the specific application and supplied with NPL traceable calibration.

The CMS (Continuous Monitoring Station) can simultaneously measure the PG-10 output and the flow rate through the stack/duct and report the discharge rate in days/weeks/months/years etc.

PG10 Gas Activity Monitor features:

- accurate measurement of beta gamma gaseous discharge
- reports discharge emissions inline with regulator requirements
- customized systems to suit all applications

Read more about the PG10 Gas Activity Monitor on the Lab Impex Systems website.

PET Cyclotron Facility Stack Monitoring – Lab Impex Systems

The PET Cyclotron Facility Stack Monitoring (Lab Impex Systems) provides continuous monitoring of effluent discharges from cyclotron (and other positron gas users) facilities. The well established system measures the activity concentration of effluent being discharged as well as continuously measuring flow of the monitored stack. This allows calculation of the total radioactive effluent discharged to atmosphere.
A software package (9205 PET) provides a comprensive record of all raw data which can be analysed and facilitates the production of standard daily, weekly, monthly and annual reports for the regulator.

The key parts of the LIS Positron Gas Stack Monitor are:

- a continuous monitoring station (CMS PET) which continuously displays realtime indication of activity concentration in the stack and provides local audible and visual alarms.
- a radioactive gas detector (PG-10) which provides accurate measurement of activity concentration of positron gas.
- stack flow measurement device which uses an averageing Pitot and differential pressure monitor (DP2001) to measure the continuous and accumulated flow up the facility stack.

PET Cyclotron Facility Stack Monitoring features:

- designed to provide fast response to positron gas concentration, the CMS-PET system will provide a display of concentration (Bq/m3 or PCi/ml) and volumetric stack flow (m3/sec or CFM).
- the CMS PET Stack monitor can be networked to a facility control centre computer for remote monitoring, alarm annuciation, historical data collection and reporting function. See the 9205PET for more information on this package.

Read more about the PET Cyclotron Facility Stack Monitoring on the Lab Impex Systems website.

CMS Noble Gas Monitor – Ultra Electronics

The LIS Noble Gas Monitor (Lab Impex Systems) is an integrated solution for the measurement of the airborne concentration of radioactive (beta emitting) noble gases. The monitor is suitable for process, stack and health physics applications, and comprises detector, shielding, pump, flow sensor and CMS processor.

The heart of the system is the BG-10 scintillation detector. Offering unparalleled sensitivity to noble gases, the BG-10 uses a specially designed plastic scintillation sensor mounted in a flow through measurement chamber.

Noble Gas Monitor features:

- excellent MDL resulting from minimal detector response to external sources of gamma.- Low response to NORM such as radon and thoron
- available in a fixed or transportable configuration
- CMS analysis algorithm provides a low stable measurement at background, but ensures a fast response to rising concentration levels
- optional gamma dose-rate detector for dynamic gamma background compensation or dose rate measurement

Read more about the Noble Gas Monitor on the Lab Impex Systems website.

Stack and Duct Sampling and Real Time Monitoring – Lab Impex

Lab Impex Systems have the capability to survey, design, supply, install and commission complete isokinetic sampling and stack flow monitoring systems.

Within any stack monitoring installation accurate flow measurement is an important consideration. Depending upon the geometry and the length of straight duct, either an averaging Pitot or a Pitot array can be used. The Pitot array assembly can contain a section of flow straightener to maximise flow monitoring accuracy by minimising the effects of turbulence and cross flow.

Differential pressure generated by stack airflows tends to be small (typically less than 100 Pascals) therefore the DP2001 Differential Transmitter has been designed specifically for use on this type of facility. The DP 2001 can display flow locally via its integral LCD, provide alarm contacts for high or low flow and can transmit a 4-20 mA signal back to a building management PC.

Isokinetic sample probes can also be included as part of the Pitot Array assembly if required, or installed directly into the stack/duct as individual items. The gas sample may be fed either to a SAS Static Air Sampler or to a CMS 2000 Mk6 or SmartCAM alpha/beta Continuous Air Monitor.

Stack sampling instrumentation can be built into stand-alone cabinets, skids or wall-mounted enclosures. Also included in these assemblies would be vacuum pumps and control gear.

The scope for addressing each projects needs is endless. For example, a stack sampling scheme may call for only one pump, or it could require a duty and standby pump, with automatic or manual switchover in the event of a pump failure or maintenance.
The complete system can be tailor made to suit each customer’s individual site needs, with the number and type of samplers /monitors varying from project to project.

Read more about the Stack and Duct Sampling and Real Time Monitoring on the Lab Impex website

Shrouded Probes – Lab Impex Systems

The Sampling Shrouded Probes (Lab Impex Systems) for extracting particulate matter from stacks and ducts, has several advantages over non-shrouded probes. These include lower internal wall losses, better off-angle performance, lower sensitivity to flow stream turbulence, and the ability to operate in either a fixed flow or variable flow rate mode.

Continuous sampling of effluent discharge gases from stacks and ducts that could possibly emit significant quantities of radio nuclides in the form of gases and aerosols are required to have installed continuous extractive sampling (CES) systems installed by regulatory agencies such as the U.S. Environmental Protection Agency (EPA). To ensure that the quality of the emission data is maintained, it is important that any losses within the sample probe and transport lines are kept to a minimum. A shrouded probe is used to extract the sample from the flow stream in the stack; with an optimally designed transport system used to convey this sample to the sampling or monitoring equipment.

Shrouded probes features:

- lower Internal wall losses
- better off-angle performance
- low sensitivity to flow stream turbulence
- can operate in either fixed or modulating flow rates
- the Shrouded Probe can operate over a range of flow rates.

Read more about the Shroudes probes on the Lab Impex Systems website.

Continuous Air Monitor – SmartCAM (Alpha & Beta) – Ultra Electronics

The Ultra Energy SmartCAM is a next-generation Continuous Air Monitor (CAM) that provides the user unparalleled performance in terms of its detectable limit, sensitivity and speed to alarm. The SmartCAM utilizes state-of-the-art Spectral Measurement Analysis in Real Time (SMART) Technology, that provides real advances in alpha measurement techniques. Using an isotope peak fitting algorithm proven to be more accurate than regions-of-interest or tail-fitting methods, results are faster, more accurate and more reliable than ever.

In operation, the SmartCAM continually monitors alpha and beta particulates deposited on a static filter with a high-efficiency detector. Air is drawn through the filter by an external wall mounted vacuum pump or distributed vacuum main.

Continuous Air Monitor – SmartCAM Features:

- Large color touchscreen display.
- Measurement of alpha and/or beta particulate.
- Allows the user to identify air concentration by isotope or as gross alpha.
- Detachable head assembly for remote monitoring.
- Full alpha spectral analysis with unique radon-thoron peak fitting algorithm.
- Improved measurement quality as a result of alpha spectrum stabilization, by means of continuous air pressure and temperature measurement.
- Fixed filter or moving filter configurations available.

• SmartCAM Moving Filter Detector Head

- SmartCAM Fixed Filter Detector Head