WASTE & RECYCLING MANAGEMENT

peo DETECTION

Table of contents

← Back to Table of Contents

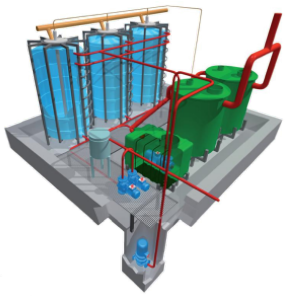
Partner Else Nuclear

ELSE NUCLEAR S.r.l. is an Italian OEM company specializing in advanced radiation-detection and environmental-monitoring systems for nuclear safety, industry and research.

Product offering

LEM – LIQUID EFFLUENT MONITORING SYSTEM

WDMS NT-VK



Radiation Detection › Laboratory Equipment

LEM – LIQUID EFFLUENT MONITORING SYSTEM

The LEM system is designed to sample the liquid effluents and to perform a spectroscopic analysis in Marinelli geometry.

LEM system is composed of the following main parts:

- Stainless steel frame
- Electrical and command board with touch-screen panel PC
- NaI(Tl) detector, 1 l Marinelli, 5 cm thick lead shielding well
- Self-priming pump (*)
- Software for system management, data acquisition and processing

The measurements are visualised in real time by the software, expressed in terms of specific/total activity through spectroscopic analysis.

LEM status and parameters are managed by the ELSE NUCLEAR software. The system provides also I/O contacts through dedicated connectors:

- Good functioning status output
- Alarm status output
- Pump activation input from customer PLC (*)
- Spare available I/O contacts (to be defined when necessary)

The software provides a calibration routine, to be used with a Marinelli calibration source (available as accessory).

A test program is also available, separate from the main application, to be used for maintenance or periodical quality controls.

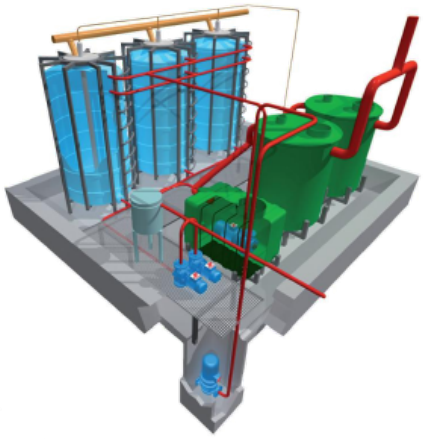
(*) If not available in the sampling/hydraulic equipment which LEM shall be connected to

← Back to partner

Radiation Detection › Laboratory Equipment

WDMS NT-VK

The WDMS NT-VK system is designed to collect and monitor radioactive wastewaters, which can be released only after their radioactivity drops below a defined value. The main application of such a system is related to diagnostic and therapeutic procedures involving radioactive substances, and their partial elimination through the patient’s metabolism.



The WDMS NT-VK system is designed to collect and monitor radioactive wastewaters, which can be released only after their radioactivity drops below a defined value. The main application of such a system is related to diagnostic and therapeutic procedures involving radioactive substances, and their partial elimination through the patient’s metabolism.

The WDMS NT-VK main components are:

- Purification group: Imhoff tanks designed to collect the wastewaters and to separate liquid from solid waste
- Sorting group: pumps and conduits pouring the wastewaters in the decay tanks
- Decay group: tanks array where the wastewaters are poured and stocked until their radioactive level drops below a defined value
- Sampling system: valves and pumps used by the system to wash the sampling circuit and to sample the stocked wastewaters, allowing the measurement in Marinelli geometry
- Release group: pumps and conduits releasing the wastewaters in the sewers, if allowed by the monitoring results
- Safety groups and devices: level and pump sensors installed in all the system critical stages, stopping the wastewaters flow in case of detected anomaly, and safety flooding well which can collect and stock wastewaters potentially overflowing from any system group

The entire system is locally managed by a PLC, which is commanded by a remote management software installed on a PC.

Through the interactive synoptic interface of the software the operator can activate the system automatic cycles, set the measurement parameters, visualize the alarms and release archives, and monitor the system’s status (filling levels, pump stages, measurements, alarms). Depending on the measurement results, and as defined by the procedures in force, the operator can also activate the monitored wastewaters release in the sewers.

← Back to Table of Contents

Partner BSI

Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

Free Release Monitor HERCULES-FRM

Waste Assay Monitor HERCULES

Hybrid cooling for the HPGe detector Nicole

Radiation Detection › Laboratory Equipment

Free Release Monitor HERCULES-FRM

Application

Free Release Monitor HERCULES-FRM main working principle can be described the following way. Any loading mechanism like forklift or a crane gently puts measuring object to the movable platform on the front roller-based conveyor. Scales which are inbuilt in the front conveyor are determining weight of the measuring object and automatically transfers information for the analytical software. Further actions are performed totally automatically or in manual mode. Measuring chamber opens front doors and movable platform slides inside of measuring chamber. Doors are closed and measurement starts. The FRM is equipped with 16 plastic scintillators surrounding the measuring object from all sides. Plastic scintillators are connected to digital multichannel analysers located in the control box. Analytical and control software packages guarantee total remote control and data acquisition from all plastic scintillators simultaneously. All analytical performance of the FRM is set up previously by inputting all information concerning measuring object, geometry, sizes, weights, filling of containers, etc. in the software package. After measurement is finished, operator is alarmed, record is stored in the database and report can be printed any time. In order to change the measuring object, the FRM opens the front doors and slides the platform out for further unload by the forklift or a crane. In case the operator needs to measure specific object, it is possible to open back doors to load the measuring object from the back. The whole measuring chamber is securely covered with stainless-steel for easy decontamination.

Features

General

- Overall dimensions of the FRM: 5000x2300x2100mm (LxWxH)
- Overall weight of the FRM: 10000kg
- Operation temperature: +10…+35°C
- Ready to accommodate object with size 1.2m x 0.8m x 1.0m (L x W x H)
- Lead walls not less than 50mm thick
- Stain-less steel protection
- External and internal automatic conveyor
- Inbuilt scales

Plastic scintillators (HPGe detectors optional)

- 16 or 24 or more plastic scintillators equipped with PMTs
- Energy range from 100 to 3000 keV
- Detection limit for Co-60 is less than 300 Bq

Software

- Total activity calculation
- Visualization of measurement and diagnostic information
- Storage of measurement data, controlled parameters and fixed constants in internal memory
- Control of all mechanically movable mechanisms
- Control and reset of the FRM in case of failure of automation
- Self-diagnostics control
- Visual and audible alarm in case of failure or exceed of previously set levels
- Alarm in case of fixed level activity exceed for separately chosen radionuclide
- 3D visualization interface for measurement object monitoring and setting geometrical parameters in order to decrease measurement uncertainties
- Visualization of inhomogeneities in activity distribution
- Automatic change of measurement parameters depending on measurement geometry (Geometry must be set up preliminary)
- All software packages run under Windows operation system

Control box Control box of the FRM includes the following components:

- Set of MCAs for reading and transforming signals from PMTs of plastic scintillators
- Set of power supplies for different modules of the FRM
- Set of controllers to manage all components of automation process
- Indicators for operator
- Control panel with colour LCD display and touchscreen
- An emergency stop button is provided on the control box and the measuring chamber

Radiation Detection › High Pure Germanium Detectors

Waste Assay Monitor HERCULES

Application

The WAM measuring system is intended for the measurement and the determination of nuclear waste activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and materials with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

Features

The WAM (Waste Assay Monitor) is a complex measuring system which is intended for the monitoring of radioactive waste in standard 200-litre drums. WAM involves the following systems:

- Monitor – a fixed segmented gamma-spectrometric monitor for the determination of activities of selected radionuclides in the individual drum segments with vertical motion and collimator
- Transfer system is used for moving the measuring part from/to the drum measured
- Dose rate monitor, direction-dependent, measures the dose rate of the segment in the defined distance from the drum
- Dose rate monitor measures the background dose rate
- Rotary table, control and power supply switchboards

The WAM measuring system is intended for the measurement and the determination of activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and the subjects with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

← Back to partner

Radiation Detection › Environmental Monitoring

Hybrid cooling for the HPGe detector Nicole

The NICOLE hybrid cooling system combines liquid nitrogen and electro-mechanical cooling. The merge of this two cooling systems provide detection unit non-stop operation for months without having liquid nitrogen to refill.

The NICOLE hybrid cooling system comprises Stirling-cycle cryocooler, cryocooler controller, Dewar vessel, pressure sensor and indicator, liquid nitrogen sensor and level monitor.

Application

Nicole hybrid cooling system for the HPGe detector allows you to keep your detector cold without filling with Liquid Nitrogen for months and years.

Features

One of the biggest advantages of Nicole hybrid cooling system is that it is extremely easy to perform maintenance and service. The user is given USB interface to get access to all parameters of the system. Majority of main parameters are displayed of the LCD display. And I case of maintenance, repair or replacement of the cooler is needed, it takes only 15 minutes to dismantle the cooling unit. It means the user can continue measurements by only using liquid nitrogen. It can be extremely important when routine measurements can’t be terminated.

← Back to Table of Contents

Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

HLM-6GP Laundry Monitor

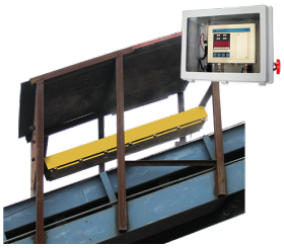
Model 375-600 Digital Area Monitor for Small Areas

Model 2100-1 Sample Counter

Model 329-32 Laundry Contamination Monitor

Model 2100 Conveyorized Sample Counter

Model 375P-3500 Conveyor Monitor



Model 375P-1000 Outdoor Monitoring System

Model 375P-2000 Outdoor Monitoring System

HLM-22, HLM-3G Laundry Monitor

← Back to partner

Radiation Detection › Waste & Recycling Management

HLM-6GP Laundry Monitor

Overview:

The HLM-6GP Laundry Monitor is designed for the measurement and release of clothing items such as overalls, towels, and overshoes from controlled areas. Featuring automatic measurements and a stainless-steel grid conveyor, the HLM-6GP provides precise and reliable detection of contamination.

Detectors, positioned to reduce dead zones, measure materials on the moving conveyor through the tunnel, above and below. A touch-screen display positioned next to the user on a moving arm allows for convenient and easy operation during measurements and service mode.

Features:

- 2 m x 1 m (6.6 ft x 3.3 ft) Measurement Belt
- Automated Adjustable Distance Between Detector and Material
- Variable Conveyor Speed
- Equipped with Heavy-Duty Lockable Wheels
- Automatic Start/Stop Measurement
- Power Provided By UPS for Measurement PC During Mains Power Outage
- Integrated Mini-UPS for Data Retention of the Measuring Computer in Case of Short-Term Power Failure
- Stainless Steel Lining for Easy Decontamination
- Export of Measurement Data and Parameters in XML Format via USB
- Access to Historical Measurement Data via Integrated Database
- Network Capability for Remote Monitoring and Supervision
- Access to Ludlum Detector Analysis Tool
- Loading Tray
- GP with Gas Proportional Detectors

← Back to partner

Radiation Detection › Waste & Recycling Management

Model 375-600 Digital Area Monitor for Small Areas

Overview:

The Model 375-600 is a highly integrated, high-sensitivity gamma measurement system that combines all components into one convenient package, thus making installation simpler and less costly. The internal detector is a 10.3 L (630 in^3) plastic scintillator shielded on five sides with 0.32 cm (0.125 in.) lead. The controller is Ludlum's popular Model 375 digital controller, which is located at one end of the cabinet. A red strobe is mounted on the top along with a large, industrial strength alarm acknowledgement pushbutton. The detector is accessible from a removable panel, and the entire system sits on a plate, which can be bolted to the floor.

Features:

- Integrated Measurement System
- Internal Scintillator Detector
- User-Programmable Alarm Settings
- Highly Visible Red Strobe Alert
- Audio and Visual Alarms
- Networkable, Requires Ethernet or Webpage Interface Option
- 8-Hour Battery Backup

Radiation Detection › Laboratory Equipment

Model 2100-1 Sample Counter

The Model 2100-1 manually operated sample counting system processes sample steel slugs to determine whether any radioactive impurities exist. The gamma radiation counting system is a table-mounted, fully integrated design that includes a gamma detector, sample tray, and controller.

The counting electronics incorporates two channels to distinguish between low and high energy gamma isotopes. All parameters, such as alarm point and count time are user-adjustable from the front panel LCD touch screen via a simple menu selection.

Measurement results for each sample are displayed on the backlit LCD. An Ethernet port reports all results and system status in real time for remote data logging and alarm annunciation. Visual and audible alarms are annunciated via the system’s LCD and rear panel mounted buzzer respectively. A built-in relay provides a method for driving an external horn/strobe (available as an option).

One rear panel mounted USB port enables connection to either a keyboard or barcode reader device for the purpose of entering sample IDs.

Features

- High Sensitivity Gamma Detector
- Separate High & Low Gamma Energy Sampling
- User-Adjustable Parameters
- Color LCD Touch Screen
- Ethernet Connectivity
- Remote Alarm Output
- USB Ports for ID Input Devices

← Back to partner

Radiation Detection › Waste & Recycling Management

Model 329-32 Laundry Contamination Monitor

Overview:

The Ludlum Model 329-32 Laundry Contamination Monitor is intended for automatic monitoring of both alpha and beta-gamma contamination on clothing or other light articles presumed to be free of radioactivity, or within release or reuse limits. A motor-driven steel-mesh conveyor belt carries articles between two gas proportional detector arrays. An audible alarm will sound when contamination exceeds the given alarm setpoint. A LED array spanning the belt shows the approximate position of the alarm on the conveyor, and provides the operator with the status of the machine. A dual LCD shows the counts and the current operating conditions, such as conveyor speed and gas flow. A security-code protected 20-key keypad also allows the changing of alarm set points, operating parameters, and other system information. The entire system is mobile, with lockable casters to prevent unwanted movement of the monitor.

Features:

- Highly Automated System
- Simultaneous Monitoring of Upper and Lower Surfaces
- Lockable Caster Wheels
- 32 Alpha and 32 Beta-Gamma Channels
- Audible Alarm is Accompanied by Visual Indicator LEDs for Indicating Approximate Location of Contamination
- Real-Time Performance Status LEDs
- Pass-Through Tunnel Adjusts Up to 17.8 cm (7 in.) Height

← Back to partner

Radiation Detection › Laboratory Equipment

Model 2100 Conveyorized Sample Counter

The Model 2100 automated sample counting system processes sample steel slugs to determine whether any radioactive impurities exist. The gamma radiation counting system is a table-mounted, fully integrated design that includes a gamma detector, sample conveyor, and controller to facilitate automated processing.

Once the sample has been positioned on the conveyor, an infrared sensor automatically initiates conveyance of the sample into the lead shielded detector where it is counted for a predetermined time. Once the count is completed, the conveyor again advances until the sample drops into a discard container.

The counting electronics incorporates two channels to distinguish between low and high energy gamma isotopes. All parameters, such as alarm point and count time are user-adjustable from the front panel LCD touch screen via a simple menu selection.

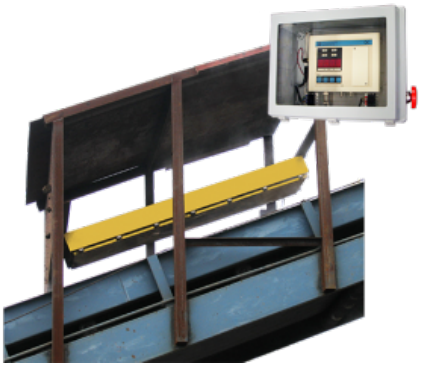
Measurement results for each sample are displayed on the backlit LCD. An Ethernet port reports all results and system status in real time for remote data logging and alarm annunciation. Visual and audible alarms are annunciated via the system’s LCD and rear panel mounted buzzer respectively. A built-in relay provides a method for driving an external horn/strobe (available as an option).

One rear panel mounted USB port enables connection to either a keyboard or barcode reader device for the purpose of entering sample IDs.

← Back to partner

Radiation Detection › Waste & Recycling Management

Model 375P-3500 Conveyor Monitor



Overview:

The Model 375P-3500 Conveyor Monitor is a heavy-duty radiation detection system designed for conveyor-belt applications in industrial settings (such as scrap-metal recycling, waste processing, or material flow facilities). It combines a large plastic scintillation detector with a rugged controller system to monitor for radioactive contamination of materials moving on a conveyor.

Features:

- Large-volume plastic scintillator detector (57.4 L / 3,500 in³) for high sensitivity in conveyor monitoring.
- Rugged controller housed in NEMA 4X enclosure with see-through viewing window, designed for industrial duty environments.
- Integrated mains relay to stop the conveyor on alarm, user-adjustable alarm settings and network/remote capability.
- 24-hour battery backup (in non-alarm condition) to ensure continued monitoring during power fluctuations.
- Weather-tight, lead-shielded detector enclosure suitable for harsh industrial environments such as scrap yards or recycling plants.

Model 375P-1000 Outdoor Monitoring System

Overview:

The Model 375P-1000 is a digital Model 375 Controller coupled to two shielded 7866 cm^3 (480 in^3) plastic scintillator detectors. The detectors are encased in weathertight enclosures suitable for the outdoor environment. The Model 375 Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately, see Options). This cost-effective solution offers a simple system that is easy to operate and maintain.

Features:

- Checks for Surface Contamination Entering/Exiting Facilities
- Affordable Digital Controller
- Weatherproof Encased-Shielded Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

← Back to partner

Radiation Detection › Waste & Recycling Management

Model 375P-2000 Outdoor Monitoring System

Overview:

The Model 375P-2000 is a digital Model 375 Controller coupled to four lead-shielded 7866 cm^3 (480 in^3) plastic scintillator detectors. The detectors are encased in weather-tight enclosures suitable for the outdoor environment. The Model 375P Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately, see Options). This cost-effective solution offers a simple system that is easy to operate and maintain.

Features:

- Checks for Surface Contamination Entering/Exiting Facilities
- Affordable Digital Controller
- Weatherproof Encased-Shielded Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

← Back to partner

Radiation Detection › Waste & Recycling Management

HLM-22, HLM-3G Laundry Monitor

Overview:

The HLM-22/HLM-3G Laundry Monitor is designed for the measurement and release of clothing items such as overalls, towels, and overshoes from controlled areas. Featuring automatic measurements and a stainless-steel grid conveyor, the HLM-22/HLM-3G provides precise and reliable detection of contamination.

Detectors, positioned to reduce dead zones, measure materials on the moving conveyor through the tunnel, above and below. A touch-screen display positioned next to the user on a moving arm allows for convenient and easy operation during measurements and service mode.

Features:

- Different Versions Possible Depending on Requirements
- Automated Adjustable Distance Between Detector and Material
- Variable Conveyor Speed
- Equipped with Heavy-duty Lockable Wheels
- Automatic Start/Stop Measurement
- Power Provided By UPS for Measurement During Power Outages
- Stainless Steel Lining for Easy Decontamination
- Export of Measurement/Parameter Data in XML Format via USB
- Access to Historical Measurement Data via Integrated Database
- Network Capability for Remote Monitoring and Supervision
- Access to Detector Analysis Tool
- Loading Tray

← Back to Table of Contents

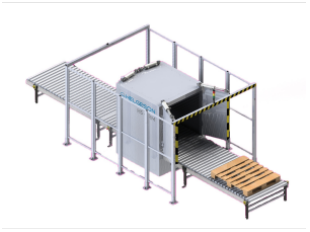
Partner Helgeson Scientific Services (HSS)

Helgeson Scientific Services (HSS) designs and manufactures advanced radiation monitoring systems focused on personnel safety, facility protection, and waste control. Their portfolio includes whole-body monitors, portal detection systems, and waste management solutions—each developed to support the safe handling of radiological materials in critical environments.

Product offering

HS-DRUM – Waste characterization system for drums

HS-FRM – Free release monitor for drums, containers and big bags



HS-OTM – Object and tool monitors for objects monitoring

Complete storage and treatment plant for NORM wastes

Descaling system for NORM waste

Soil segregation unit

← Back to partner

Radiation Detection › Waste & Recycling Management

HS-DRUM – Waste characterization system for drums

Overview:

The HS-DRUM is a specialized scanning and measurement system designed to perform waste characterization of drums, particularly in the context of radioactive or nuclear waste management. It's engineered to evaluate the activity distribution inside waste drums, enabling operators to ascertain how radioactivity is spatially distributed within the waste matrix.

Features:

- **Multi-Detector Configuration** – Equipped with HPGe and NaI detectors for precise gamma spectroscopy and a dose rate meter for comprehensive radiation assessment.
- **Rotating Drum Scanning System** – Uses a motorized rotating table and roller conveyor for accurate, uniform scanning of 180 L to 400 L drums.
- **Lead Collimation & Calibration Dummies** – Incorporates lead collimators for improved spatial resolution and standardized calibration drums for system accuracy verification.
- **Advanced Analytical Software** – Includes modules for spectrum analysis, calibration, quality assurance, and report generation, with optional Monte Carlo-based theoretical calibration.

← Back to partner

Radiation Detection › Waste & Recycling Management

HS-FRM – Free release monitor for drums, containers and big bags

Overview:

The HS-FRM is a free release monitor to be used with different types of waste like drums, containers and big bags.

It is a chamber shielded from the influence of external natural radiation and consisting of detectors in each of the 4 side panels, ceiling and floor.

This allows to perform a fast and efficient detection and quantification of radiation from the waste present inside the chamber.

Features:

- **Comprehensive Detector Coverage** – Equipped with detectors on all sides, including top and bottom, ensuring full 3D monitoring of radioactive materials within drums or containers.
- **Heavy Lead Shielding** – Features thick lead shielding on all walls, floor, and ceiling to minimize background interference and enhance measurement accuracy.
- **Fast and Sensitive Detection** – Provides rapid scanning with very low minimum detectable activity (MDA), allowing accurate results in just a few minutes.
- **Advanced Analytical Software** – Includes intelligent software for isotope identification, background correction, calibration management, and detailed reporting.

← Back to partner

Radiation Detection › Waste & Recycling Management

HS-OTM – Object and tool monitors for objects monitoring

Overview:

The HS-OTM is a monitoring system designed to detect and measure gamma (and optionally beta/gamma) radiation in objects and tools that may have been exposed. It is suited for screening anything from small items up to larger objects (like drums or big bags). The system is configurable in terms of detector number, shielding, and chamber size, so it can be tailored to different workflows. It comes with built-in software for control, alarm, calibration, and data handling.

Features:

- **Multi-Detector Configuration** – Equipped with up to 10 gamma or beta/gamma detectors for high detection efficiency and comprehensive object monitoring.
- **Customizable Chamber and Shielding** – Adjustable chamber size and lead shielding thickness to suit various object types and ensure accurate measurements.
- **Smart Control and Safety System** – Features a touchscreen interface, automatic measurement timing, presence detection sensors, and visual/audio alarms.
- **Advanced Data Management Software** – Includes modules for calibration, verification, data logging, remote operation, and report generation with ISO-compliant detection limits.

← Back to partner

Radiation Detection › Waste & Recycling Management

Complete storage and treatment plant for NORM wastes

Overview:

The Complete Storage and Treatment Plant for NORM Wastes is a fully integrated facility designed for the safe handling, treatment, and storage of Naturally Occurring Radioactive Material (NORM). Developed by Helgeson Scientific Services, the plant provides a complete solution for industries such as oil and gas, mining, and manufacturing, where NORM waste is commonly generated.

Features:

- **Comprehensive Treatment Options** — Includes multiple treatment units such as descaling, centrifugation of sludges, incineration, and solidification to address various forms of NORM-waste.
- **Integrated Storage and Disposal** — Besides treating the waste, the plant is engineered for safe storage and final disposal of NORM materials.
- **Custom Plant Design by Helgeson** — The facility is designed and built by Helgeson Scientific Services to meet regulatory, safety, and handling requirements for naturally occurring radioactive materials.
- **End-to-End Waste Handling** — From generation (industrial, mining, oil & gas, etc.) through treatment and storage, the plant supports the full process chain for NORM waste management.

← Back to partner

Radiation Detection › Waste & Recycling Management

Descaling system for NORM waste

Overview:

The Descaling System for NORM Waste is designed to remove radioactive scale deposits from pipes and metal equipment typically used in oil & gas operations. It uses high-pressure water to clean both the interior and exterior surfaces of tubulars and other metallic parts. The system is partially automated (for pipe decontamination) and also includes a manual cleaning booth for larger or complex metal equipment. The unit is transportable for on-site campaigns, minimizing the need to move large contaminated items to centralized cleaning facilities.

Features:

- **High-Pressure Water Cleaning** – Utilizes water jets up to 1400 bar to efficiently remove radioactive scale from both internal and external pipe surfaces.
- **Automated and Manual Operation** – Features a fully automated cleaning cabinet for tubulars and a manual booth with a high-pressure gun for large or irregular equipment.
- **Closed-Loop Water Treatment System** – Recycles and treats used water without chemical additives, converting waste into a solid matrix for safe disposal.
- **Portable and Customizable Design** – Built for on-site operation with adjustable capacity to handle different pipe diameters and lengths as needed.

Soil segregation unit

Overview:

The Soil Segregation Unit by Helgeson is a compact, transportable system designed to analyze, classify, and segregate contaminated soil based on its radioactive content. Housed within a 20-foot container, the unit is ideal for on-site decontamination and remediation projects in industries such as nuclear, mining, and environmental management.

It automatically measures radiation levels in soil samples and separates them into appropriate waste categories (clean, low-level, or contaminated), optimizing waste treatment and minimizing disposal costs. The system supports multiple detector types and includes safety monitoring features for reliable and efficient operation in the field.

Features:

1. **Flexible Detector Options** — Supports multiple detector types (plastic scintillators, inorganic scintillators, and HPGe) depending on whether you are monitoring alpha, beta, or gamma radiation.
2. **Modular Analysis Cabinet** — Built in a 20 ft container for easy transportation; can be configured with up to two “analysis trains” to double throughput.
3. **Automated Soil Screening and Segregation** — The system automatically segregates soil/material into big bags based on contamination, helping speed up decontamination or waste management workflows.
4. **Operational Safety & Monitoring** — Equipped with aerosol monitoring (for airborne alpha & beta emitters), CCTV to observe internal processes, and designed for easy installation and operation.

← Back to Table of Contents

Partner SDEC France

SDEC France is a specialized manufacturer of environmental monitoring and laboratory equipment, offering comprehensive solutions for waste and recycling management, environmental monitoring, and laboratory applications. With over 30 years of experience, the company designs and produces high-quality instruments to support professionals in environmental science, agronomy, and radiological safety.

Product offering

Isokinetic Sampling Probes – SDEC

Carbon 14 Sampler with 2 Vials – SDEC

Carbon 14 Sampler with 4 Vials – SDEC

Tritium Sampler with 2 Vials – SDEC

← Back to partner

Radiation Detection › Waste & Recycling Management

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

← Back to partner

Radiation Detection › Waste & Recycling Management

Carbon 14 Sampler with 2 Vials – SDEC

The Carbon 14 Sampler with 2 Vials (SDEC) has been designed to capture CARBON gas (CO_2 or CO). It can be equipped with a cooling system that will prevent all sample loss due to evaporation in the feeding bottles.

Carbon 14 Sampler with 2 Vials features:

- in compliance with the nf m60-812-1 norm
- excellent trapping efficiency (close to 99%)
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- easy to use
- connectable to all sampling lines

Read more about the Carbon 14 Sampler with 2 Vials on the SDEC website

← Back to partner

Radiation Detection › Waste & Recycling Management

Carbon 14 Sampler with 4 Vials – SDEC

The Carbon 14 Sampler with 4 Vials (SDEC) brings original solutions in the exploitation of sampling systems for carbon gas and carbon water. This sampler is mainly used for the detection of chimney rejects and carbon wastes degassing.

Carbon 14 Sampler with 4 Vials features:

- excellent trapping efficiency (close to 99%)
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- easy to use
- connectable to all sampling lines
- in compliance with the NF M60-812-1 norm

Read more about the Carbon 14 Sampler with 4 Vials on the SDEC website

← Back to partner

Radiation Detection › Waste & Recycling Management

Tritium Sampler with 2 Vials – SDEC

The Tritium Sampler with 2 Vials (SDEC) offers original solutions for the operation of collection systems for tritium gas and tritiated water. This collection system is mainly used for the detection of stack waste and the degassing of tritium waste.

Tritium sampler with 2 bottles features:

- good pedaling efficiency
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- very robust
- easy to use
- can be connected to all sampling lines

Read more about the Tritium Sampler with 2 Vials on the SDEC website

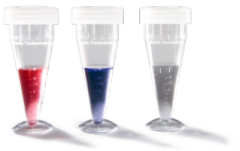
← Back to Table of Contents

Partner Bertin Instruments

Bertin Instruments is a global provider of advanced radiation detection and environmental monitoring solutions, specializing in handheld monitors, personal electronic dosimeters, environmental monitoring systems, and waste & recycling management technologies. Their instruments are designed to meet the rigorous demands of nuclear facilities, emergency response teams, and environmental agencies.

Product offering

Coriolis Consumables – Bertin Instruments



← Back to partner

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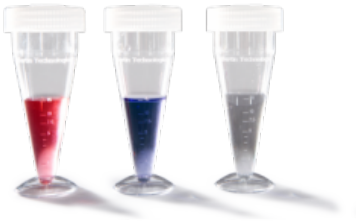
Coriolis Consumables – Bertin Instruments

Coriolis consumables are part of the cyclonic technology: the separation of the airborne particles from the air flow is due to the air flow rate, the air intake geometry, the design of the cones and the collection liquid (surfactant in low concentration).



Introduction video

Consumables

- cones & caps : The cones and caps are designed specifically for the use with the Coriolis µ
- collection liquid doses
- LTM consumables : collection liquid in bottle and tubing kit
- air intake : depending of your research you can adapt the air intake
- standard air intake : air take compatible with all Coriolis for classical samplin
- LTM air intake : dedicated to long time monitoring collection (only compatible with the LTM platform)
- 25 mm connection LTM : designed to propose a hose attachment (testing chamber, confined space …)

Advantages Coriolis consumables

- dedicated cones to perform high efficiency collection
- adaptor to connect to any 25 mm diameter connector
- easy set up with calibrated 15 ml collection liquid dose
- liquid collection compatible with any downstream experiment
- cones available sterile and non-sterile

Please contact our product specialist.