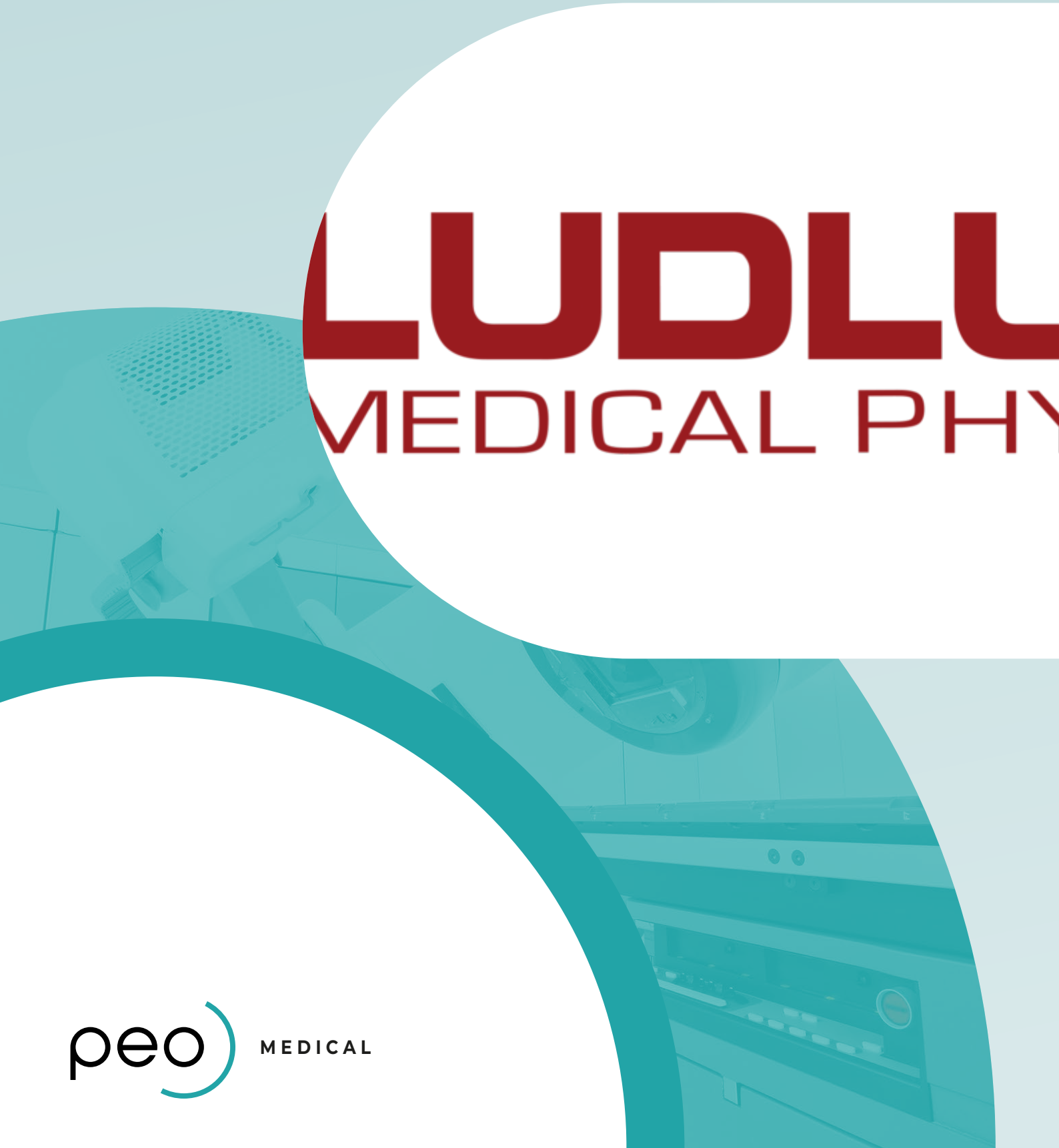
LUDLUM MEDICAL PHYSICS (LMP)



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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.

In radiation therapy, LMP provides tools that assist in verifying treatment plans and monitoring equipment performance, ensuring consistent dose delivery. Their imaging QA solutions enable precise calibration and performance assessment of diagnostic equipment, contributing to reliable imaging and diagnosis.

LMP's commitment to innovation and quality ensures that their instruments provide accurate measurements, supporting medical institutions in maintaining safety and compliance with radiation protection standards.

Enhance your clinical practice with Ludlum Medical Physics' trusted radiation safety and imaging QA solutions, tailored to meet the evolving demands of modern healthcare.

CONTAMINATION MONITORING

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Model 26-1 Frisker with integrated GM Pancake – Ludlum

This Frisker with Geiger Mueller is the more advanced version of Ludlum's popular model 26 frisker.

The Model 26-1 Frisker with integrated GM Pancake, is an ergonomically designed, rugged Geiger-Mueller (GM). It incorporates electronics and a time-tested GM. This product is very user-friendly because the design is simple. The device only has three buttons, which are placed so the user can operate them with one hand.

Ludlum designed this frisker in order to check for alpha, beta and gamma contamination at either objects or people.

FRISKER WITH GEIGER MUELLER BENEFITS & FEATURES

- Integrated, lightweight, ergonomic design
- Water-resistant
- Employs standard 15.51 cm^2 GM pancake detector
- Can display in:
  - mR/hr
  - µSv/h
  - dpm
  - Bq
  - cpm
  - cps
- Dead-time correction (DTC) allows gamma measurements up to 500 mR/hr
- Simple three-button operation
- Automatic display backlight
- Bright red flashing alarming LED

If you want to read more

The model 26-1 frisker has three different modes of operation: rate, max and count.

RATE

The device will display current radiation levels in terms of Rate.

MAX

The device captures the highest rate detected, so it’s possible to determine a peak rate during frisking operations, also when the display is not visible.

COUNT

The device allows the user to perform a survey for a predetermined time.

The user-selected units can display results in a measurement of: scaler counts, activity, time-averaged rates or even accumulated dose.

Model 26-1 Overview https://youtu.be/ijaxIBZjdbE&t=345s

All Model 26-1 options and features

SCAN TO VIEW VIDEO

Frisker with Geiger Mueller Pancake Model 26 – Ludlum

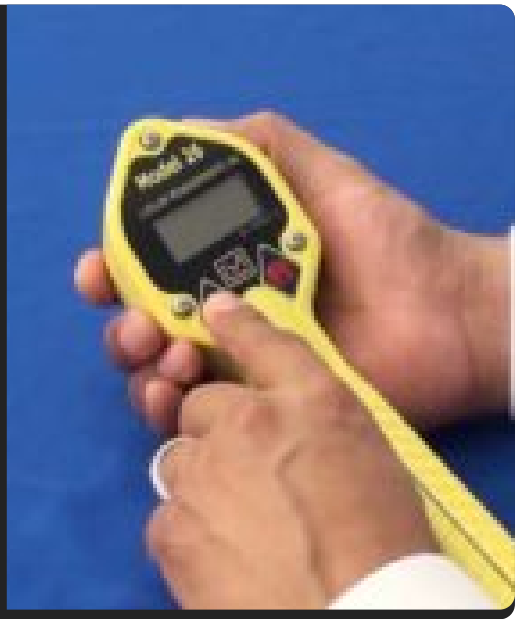
This Frisker with Geiger Mueller (GM) 26 is the simpler version of Ludlum's model 26-1.

Ludlum designed this device especially for frisking people and objects for alpha, beta and gamma contamination. This cable-less device consolidates the electronics and the detector into one ergonomic device. The frisker has a standard 15,51 cm^2 GM pancake detector and a large LCD display.

FRISKER WITH GEIGER MUELLER 26 FEATURES & BENEFITS

- Integrated and lightweight design
- Water resistant
- Ratemeter, peak and scaler operating modes
- Simple two-button operation
- Count rate and scaler alarms
- Automatic LCD backlight activation
- Single-hand use

Another useful feature is the MAX-mode. This mode captures the highest or peak count rate. This feature is especially useful when the display is not visible for the user.



Model 26 Overview https://youtu.be/ybLKYksin6s

SCAN TO VIEW VIDEO

All model 26 options and features

Model 26 Tutorial https://youtu.be/uj7aT7ozA50

SCAN TO VIEW VIDEO

For more information from our partner, visit this page.

NEUTRON DETECTORS

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Model 3007 Series

- Digital Meter
- ^{3}He Proportional Detector
- Moderator: 19.5 cm (7.7 in.) dia.
- Sensitivity (^{241}AmBe): 4.5 cpm per µSv/h (45 cpm per mrem/hr) or 10 cpm per µSv/h (100 cpm per mrem/hr)
- Range: 0 to 100 mSv/h (0 to 10,000 rem/hr)
- Internal Detector Option for Exposure/Dose Measurements

DETECTORS & MISCELLANEOUS

peo MEDICAL

Probes (Ludlum)

For any application Ludlum offers a wide range of probes. The probes can be used with all Ludlum models which require an external detector.

Ludlum models with external detector a.o.:

- Model 3000 Digital Survey Meter
- Model 3001 Multi-Detector Survey Meter
- Model 375 Area Monitor Controller
- Model 375/9 Digital Area Monitor
- Model 30 Digital Survey Meter

Model 133-6 GM Detector – Ludlum

The Model 133-6 GM Detector (Ludlum) is a gamma survey detector (GM) that can be used with any scaler instrument, ratemeter or area monitor that delivers the appropriate amount of voltage (see datasheet below) with an input sensitivity of 30 ±10mV.

Model 133-6 GM Detector features:

- waterproof (optional)
- halogen quenched
- stainless steel tube
- range: 40 µSv/h to 10 Sv/h
- energy compensated GM

Read more about the Model 133-6 GM Detector on the Ludlum Website

Model 133-4 GM Detector – Ludlum

The Model 133-4 GM Detector (Ludlum) is a gamma survey detector (GM) that can be used with any scaler instrument, portable ratemeter or area monitor that delivers the appropriate amount of voltage (see datasheet below) with an input sensitivity of 30 ±10mV.

Model 133-4 GM Detector features:

- waterproof (optional)
- halogen quenched
- stainless steel tube
- range: 0.01 mSv/h to 100 mSv/h
- energy compensated GM

Read more about the Model 133-4 GM Detector on the Ludlum Website

Model 133-2 GM Detector – Ludlum

The Model 133-2 GM Detector (Ludlum) is a gamma survey detector (GM) that can be used with any scaler instrument, portable ratemeter or area monitor that delivers the appropriate amount of voltage (see datasheet below) with an input sensitivity of 30 ±10mV.

Model 133-2 GM Detector features:

- stainless steel tube
- energy compensated GM
- waterproof (optional)
- halogen quenched
- range: 1 µSv/h–10 mSv/h

Read more about the Model 133-2 GM Detector on the Ludlum Website

Model 44-3 NAL Low Energy Gamma Scintillator – Ludlum

The Model 44-3 NAL Low Energy Gamma Scintillator (Ludlum) is a detector for 125I and low energy gamma radiation survey.

Model 44-3 NAL Low Energy Gamma Scintillator features:

- entry window: 18.4 mg/cm²
- weight: 0.5 kg
- sensitivity: 675 cpm/µR/hr (125I)
- window area: 5 cm² open and avtive
- efficiency (4π): 33.5%–125I (based on 129I efficiency of 18%)
- detector: scintillator, 2.5 cm diameter x 1 mm thick NaI(TI) crystal
- photomultiplier tube: 3.8 cm diameter

Read more about the Model 44-3 NAL Low Energy Gamma Scintillator on the Ludlum website

Model 44-2 NAL Gamma Scintillator – Ludlum

The Model 44-2 NAL Gamma Scintillator (Ludlum) is a detector for low-level, wide-energy gamma radiation survey.

Model 44-2 NAL Gamma Scintillator features:

- detector: scintillator, 2.5 x 2.5 cm (1 x 1 in.) (Dia x L) thick Nal
- efficiency: 125I for 7%; 57Co for 10%; 137Cs for 3%; 60Co for 3%
- sensitivity: 175 cpm/µR/hr (137Cs gamma)
- background: 1800 cpm
- photomultiplier tube: 2.86 cm (1.125 in.) diameter, magnetically shielded

Read more about the Model 44-2 NAL Gamma Scintillator on the Ludlum website

Model 44-1 Beta Scintillator – Ludlum

The Model 44-1 Beta Scintillator (Ludlum) is a detector for beta radiation survey.

Model 44-1 Beta Scintillator features:

- window area: 9.7 cm² active and open
- efficientcy (4π): 7% for 14C
- background (10 µR/hr): 100 cpm
- weight: 0.3 kg
- detector type: 4.3 x 0.03 cm (1.7 x 0.01 in.) (Dia x L) plastic scintillator

Read more about the Model 44-1 Beta Scintillator on the Ludlum website

Model 44-38 Energy Compensated GM Detector – Ludlum

The Model 44-38 Energy Compensated GM Detector (Ludlum) is a device for beta and gamma radiation survey.

Model 44-38 Energy Compensated GM Detector features:

- weight: 0.5 kg
- detector: 30–45 mg/cm2 stainless steel wall halogen quenched GM
- sensitivity: 1200 cpm per mR/hr (137Cs gamma) with window closed
- range: ± 10% up to 50 mR/hr without DTC and up to 500 mR/hr with DTC
- background: 25 cpm open, 20 cpm closed
- gamma energy response (window closed): within 20% of 137Cs (662 keV) from 60 keV to 1.3 MeV

Read more about the Model 44-38 Energy Compensated GM Detector on the Ludlum website

Model 44-9 Ambient Dose Equivalent Filter – Ludlum

The Model 44-9 Ambient Dose Equivalent Filter (Ludlum) is an expansion on the Model 44-9 Pancake GM Detector. It is an energy compensation filter that flattens the energy response to facilitate measuring Ambient Equivalent Dose.

Model 44-9 Ambient Dose Equivalent Filter features:

- can be purchased separately or together with a Model 44-9 Pancake GM Detector
- flattens the response to within ± 20% referenced to 137Cs (662 keV) over an energy range of 20 keV to 1.2 MeV
- easy to mount and remove

Dose Equivalent Filter Response (green line):

Read more about the Model 44-9 Ambient Dose Equivalent Filter on the Ludlum website

Model 44-9 Exposure Filter Kit – Ludlum

The Model 44-9 Exposure Filter Kit (Ludlum) is an expansion on the Model 44-9 Pancake GM Detector. It is an energy compensation filter that flattens the energy response to facilitate measuring exposure.

Model 44-9 Exposure Filter Kit features:

- flattens the response to within ±20% referenced to ^{137}Cs (662 keV) over an energy range of 33 keV to 1.2 MeV
- easy to mount and remove
- filter can be purchased separately or together with a Model 44-9 Pancake GM Detector

Exposure Filter Response (blue line):

Read more about the Model 44-9 Exposure Filter Kit on the Ludlum website

Model 44-9 Pancake GM Detector – Ludlum

The Model 44-9 Pancake GM Detector (Ludlum) is proven to be the most popular radiation detector used throughout the world. This detector is sensitive to alpha, beta and gamma radiation. The Model 44-9 Pancake GM Detector is enclosed within a rough metal cage but sized and shaped very convenient. It is ideal for checking contamination on people and objects.

Model 44-9 Pancake GM Detector features:

- window area: 15.51 cm² (2.4 in²) active, 12.26 cm² (1.9 in²) open
- pancake-type, halogen-quenched GM detector
- efficiency (4π): 5% for 14C; 22% for 90Sr/90Y; 19% for 99Tc; 32% for 32P; 15% for 239Pu, ≤ 1% for 99mTc; 0.2% for 125I
- sensitivity (137Cs gamma): 3300 cpm/mR/hr
- weight: 0,5 kg

Read more about the Model 44-9 Pancake GM Detector on the Ludlum website

Model 44-7 Alpha Beta Gamma Detector – Ludlum

The Model 44-7 Alpha Beta Gamma Detector (Ludlum) is a device for alpha, beta and gamma survey (sample counting).

Model 44-7 Alpha Beta Gamma Detector features:

- end window, halogen-quenched GM detector
- 6 cm^2 (0.93 in^2) active; 5 cm^2 (0.78 in^2) open window area
- 1.7 ± 0.3 mg/cm^2 mica window
- 2% for 14C; 10% for 90Sr/90Y; 7% for 99Tc; 7% for 239Pu; 0.1% for 125I efficiency (4π)
- 2100 cpm/mR/hr sensitivity (137Cs gamma)
- anodized aluminum housing
- 0.5 kg weight

Read more about the Model 44-7 Alpha Beta Gamma Detector on the Ludlum website

Model 43-92 Alpha Scintillator – Ludlum

The Model 43-92 Alpha Scintillator (Ludlum) is a device for alpha contamination survey.

Model 43-92 Alpha Scintillator features:

- window area: active: 100 cm² (15.5 in²) open: 88 cm² (13.6 in²)
- weight: 0.5 kg
- window: 0.8 mg/cm² metalized polyester (1.2 mg/cm² recommended for outdoor use)
- scintillator: ZnS(Ag)
- efficiency (4π): typically 20% for ^{239}Pu
- removable protective screen
- background radiation: 3 cpm or less
- photomultiplier tube: 2.9 cm (1.13 in.) diameter

Read more about the Model 43-92 Alpha Scintillator on the Ludlum website

Model 43-65 Alpha Scintillator – Ludlum

The Model 43-65 Alpha Scintillator (Ludlum) is a detector designed for alpha radiation survey when used in combination with a general purpose survey meter, ratemeter or scaler instrument.

Model 43-65 Alpha Scintillator features:

- 63 cm^2 active; 50 cm^2 open (window area)
- ZnS(Ag) scintillator
- 0.8 mg/cm^2 metalized polyester window
- 3.8 cm (1.5 in.) diameter photomultiplier tube
- efficiency (4π): 17% for ^{239}Pu; 17% for ^{230}Th

Read more about the Model 43-65 Alpha Scintillator on the Ludlum website

DIAGNOSTIC IMAGING

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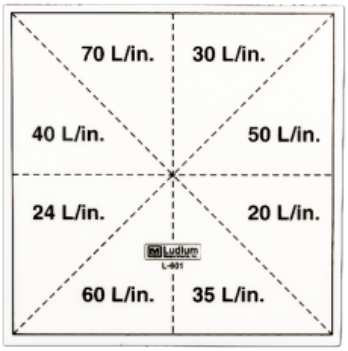
Model L-601, L-618, L-619 Fluoroscopic Resolution Test Tools

The Fluoroscopic Resolution Test Tools provide a quick general check on image intensifier or digital video system resolution. The test tool is an acrylic plate containing eight groups of copper and brass mesh screening. Three models are offered (see table below), each with different resolutions for standard, medium, and high-resolution ranges covering from 20 up to 150 lines per inch (LPI). Clearly marked sections of the tool identify the number of lines of wire mesh per inch in that segment. The mesh screens are purposely arranged in a non-sequential rotation pattern to permit better visualization of the sometimes subtle changes in mesh thickness.

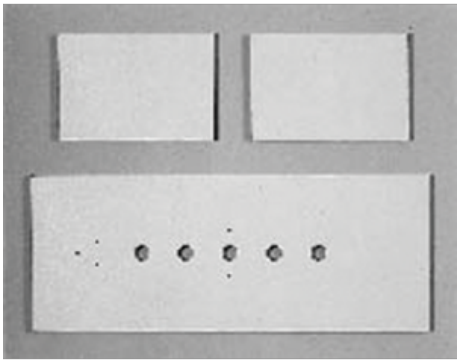


Model	Resolution	Part Number
L-601	20 - 70 LPI	99-9407
L-618	30 - 100 LPI	99-9408
L-619	60 - 150 LPI	99-9409

Diagnostic Imaging

Model L-644 Grid Alignment Test Kit

The Ludlum Model L-644 Grid Alignment Test Kit is designed to confirm that the proper centering and height uniformity of a standard or focused grid is correctly aligned with the central axis of the X-ray beam.



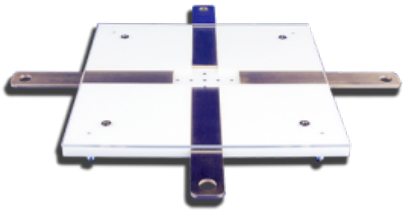
The test procedure is simple and requires that the holed test plate is centered to the X-ray table and positioned such that the length of the tool is perpendicular to the direction of the grid lines. One exposure is then made centered over each hole in the test plate. After processing, the film (image) is examined for potential changes in optical density. A properly centered and level grid should provide five equal densities on the test film (image).

The test kit includes one plate, 22.9 x 8.9 cm (9 x 3.5 in.), with five test holes. There are also two blocking plates, which measure 8.9 x 6.0 cm (3.5 x 2.4 in.). All three plates are made of 0.16 cm (0.06 in.) thick lead encased in acrylic material for ease of handling.

Diagnostic Imaging

Model L-600 Fluoroscopic Beam Alignment Tool

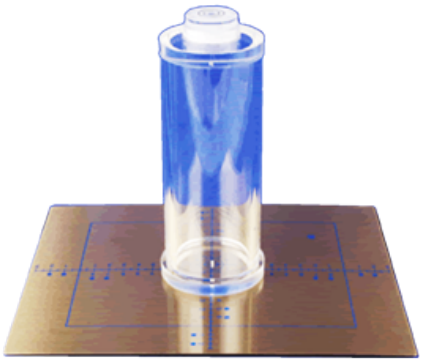
The Ludlum Fluoroscopic Beam Alignment device consists of an aluminum plate with four sliding brass strips set in recessed channels. The strips define the border or visible area of the image receptor. A plastic overlay prevents any vertical displacement of the brass strips. Holes drilled in half-inch intervals are filled with higher density material for visibility through the brass strips. The device, when placed in the center of the image receptor, is designed to correct or optimize fluoroscopic collimation.



Any portion of the fluoroscopic field that falls outside the image receptor does not contribute to a useful image and can lead to unnecessary exposure to the patient. This very simple but critical measurement will identify a misaligned fluoroscopic system.

Model L-661-662 Collimator/Beam Alignment Test Tool

The Ludlum Model L-661-662 Collimator/ Beam Alignment test tool provides the necessary verification of the proper congruence of the collimator light field and the X-ray beam. Misalignment of the collimator may cause key portions of the image to be missing from the radiographic image.



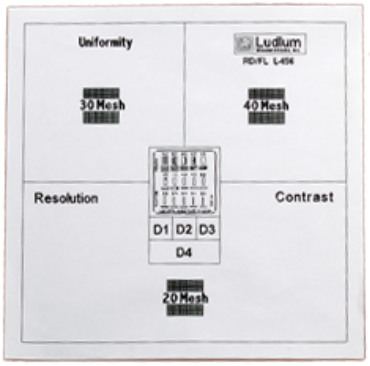
The beam alignment (cylinder) portion of the test tool confirms that the central ray is perpendicular to the image receptor. Improper beam alignment will cause a distorted radiographic image.

The test tool is easy to use and readily identifies misalignments and improper angulation of the X-ray tube.

Diagnostic Imaging

Model L-656 RD/FL Contrast/Resolution Test Tool

The RD/FL Test Tools are used to quickly assess the image quality and performance of diagnostic radiographic and fluoroscopic imaging systems. The ability to measure contrast and resolution in one exposure allows the operator to quickly determine whether or not the system is working correctly.

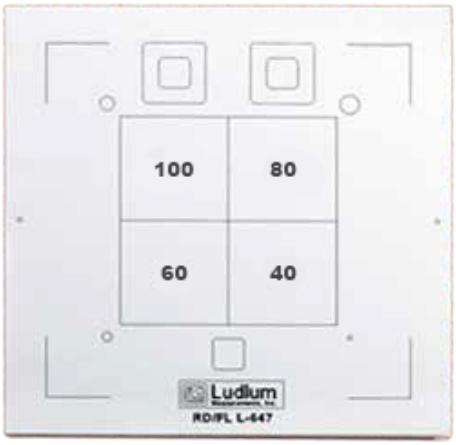


The Model L-656 has three mesh patterns: 20, 30, and 40 lines per inch. At the center of the test tool is a line pair resolution pattern and a short contrast scale that allows simultaneous evaluation of the resolution, contrast, and density uniformity of the imaging chain.

Diagnostic Imaging

Model L-647 RD/FL Contrast/Resolution Test Tool

The RD/FL Test Tools are used to quickly assess the image quality and performance of diagnostic radiographic and fluoroscopic imaging systems. The ability to measure contrast and resolution in one exposure allows the operator to quickly determine whether or not the system is working correctly.

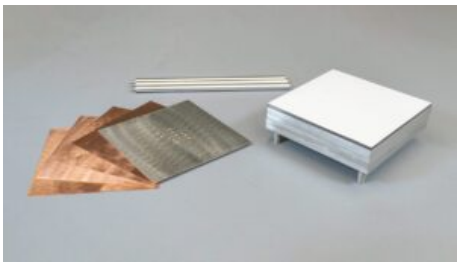


The Model L-647 has center quadrants numbered to correspond to the lines of wire mesh per inch (40, 60, 80, and 100). The tool also has four low-contrast targets of varying diameters (2, 4, 6, and 8 mm), a contrast square, two monitor adjustment squares, and a copper attenuator to simulate the attenuation of a small adult.

Model L-706 Patient Penetrometer Kit

Features

- Three High-Purity Aluminum Plates
- One Laminated Lead Stop Plate
- Four Copper Plates
- One Resolution Plate
- Two Sets of Spacing Rods



The Ludlum Model L-706 Patient Penetrometer Kit provides the necessary patient phantom attenuation material to test the exposure rate output of any standard or digital fluoroscopic system. This kit is designed to work with almost all X-ray exposure or multimeter measurement devices.

The three high-purity aluminum plates are used in combinations to simulate the different masses of an adult abdomen, a child abdomen, or an adult chest. Using all three plates represents 26 cm (10.2 in.) of water for a large adult abdomen at 90 kVp. A child abdomen or adult chest is simulated by using one or two of the plates depending on the age of the child and one for the small adult chest. Automatic brightness control at maximum output is evaluated using the lead “stop” plate, which is laminated to ensure the safety of the user.

The resolution plate has four columns of five holes each with hole diameters of the following sizes:

- Two columns with 6.4 mm, 4.5 mm, 3.2 mm, 2.2 mm, 1.6 mm (0.25 in., 0.176 in., 0.125 in., 0.088 in., 0.0625 in.) holes
- Two columns with 4.7 mm, 3.2 mm, 1.6 mm, 0.8 mm, 0.4 mm (0.187 in., 0.125 in., 0.0625 in., 0.032 in., 0.016 in.) holes

Typically two of the aluminum plates (one above and one below) are used to measure the contrast gradient of the image systems. Two sets of spacing rods in two different lengths are provided to act as spacers from the X-ray source.

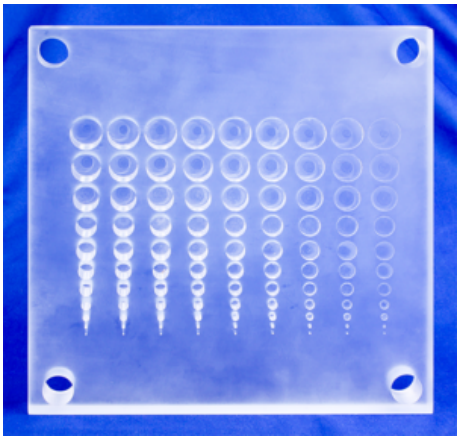
IMPORTANT NOTICE

Recommendations from a revision of FDA-CFR-21 [CITE: 21CFR1020.30] indicate that the long-used Patient Penetrometer Plates should be larger by about 3.8 cm (1.5 in.) than the current 17.8 x 17.8 cm (7 x 7 in.) plates, in order to cover the entire X-ray beam during the testing of the X-ray and fluoroscopic systems. Ludlum also offers the **Model L-706-21** with a plate size of 21 x 21 cm (8.3 x 8.3 in.).

Diagnostic Imaging

Model L-760-LC1 Low Contrast Resolution Plate

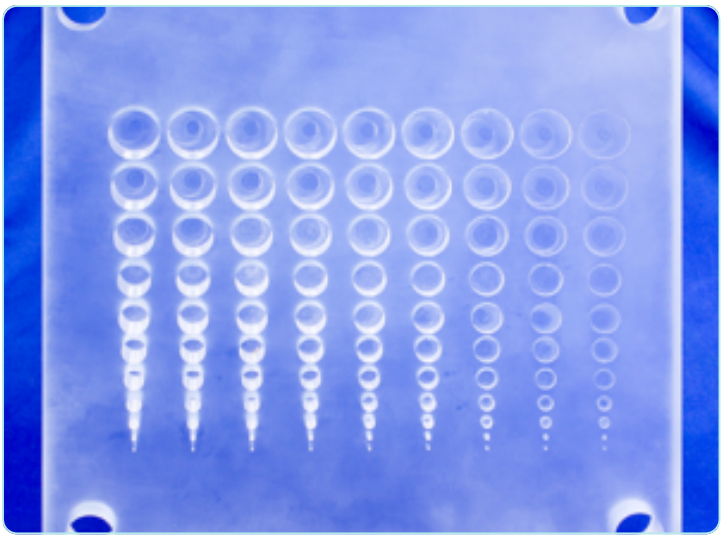
The Low Contrast Resolution Plate is a test tool designed to evaluate the resolution of digital radiography systems. A key concern of digital radiography is the visibility of low-contrast anatomy due to the potential loss of detail associated with film digitizers, imaging plates, printers, and digital display monitors. This plate offers a simple method to examine the digital system's ability to detect the smallest and shallowest low contrast targets on the plate. A weekly comparison of these images enables the user to maintain the standard of quality (benchmark) for the digital images being produced by the system.

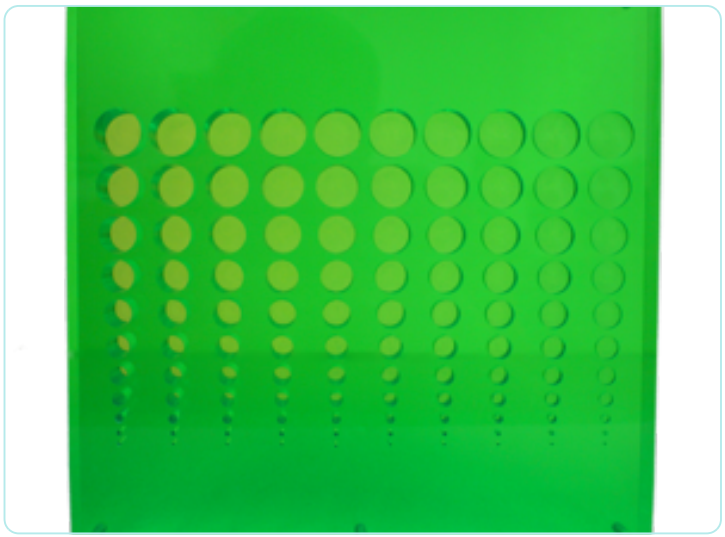


This plate is intentionally made to the same overall size of the Model L-760 Acrylic Modular X-ray Phantom Kit plates. It may be used by itself or with the Model L-760. Using the resolution plate with the Model L-760 allows the user to add more attenuation.

The Model L-760-LC1 is available colorless, with green tint, or with blue tint.

The Model L-760-LC1 has holes that change incrementally by 2 mm in diameter from the top to bottom and by 2 mm in depth from right to left.

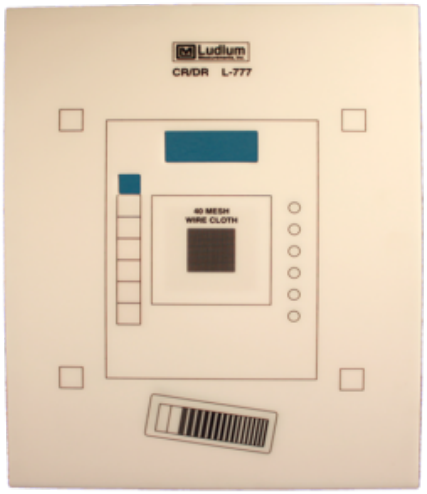




Diagnostic Imaging

Model L-777 CR/DR Digital Phantom Test Tool

The Ludlum CR/DR Test Tool is designed for the evaluation of the newer filmless digital CR (Computed Radiography) and DR (Digital Radiography) imaging systems.

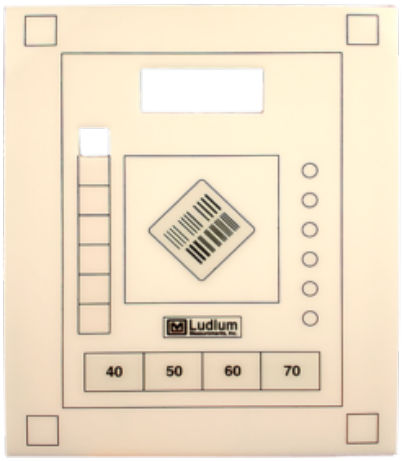


The CR/DR Test Tool incorporates a variety of testing parameters that, when used daily, tracks geometry (region of interest) symmetry, line pair resolution, as well as low and high contrast performance. Measurements of the various targets allow for evaluation of both the monitor and printed film image. The CR/DR tool will become a valuable asset to the QA technologist and the medical physicist trying to determine the source of an image quality problem or complaint.

The large size, 43.2 x 35.6 cm (17 x 14 in.) (H x W), makes it ideal for quick checks on automated chest systems.

Model L-777-Mini CR/DR Mini Test Tool

The L-777-Mini CR/DR Test Tool utilizes a variety of testing parameters that track the uniformity, contrast, and resolution of the imaging system. This is done by the imaging of a variety of targets within the tool that provide subjective and precise values that are used to monitor the High Contrast, Low Contrast, Gross Resolution, and Fine Resolution, as well as general uniformity and general edge sharpness of the imaging system.

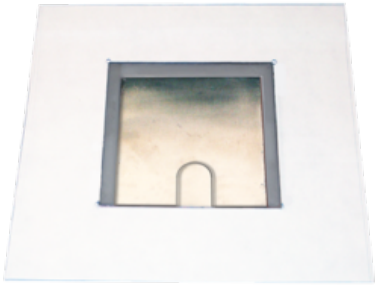


The L-777-Mini is used to make a sample image of the approved system. This image is saved and used as a benchmark for future evaluation of the system. Frequency of the future evaluations of the image system are determined by the QA manager. Testing can be performed daily, weekly, or as directed by the medical physicist or quality assurance manager. The more frequent the testing the less likely a negative trend will develop.

When degradation of the imaging system is suspected or following any service to the system, an image of L-777-Mini is done and compared to the original benchmark image. When degradation of the image is suspected, the benchmark image becomes proof of the potential quality of the system and a guide for the service technician as to the quality expectations required of the system.

Model L-435 HVL Filter Holder

The new Ludlum L-435 HVL Filter Holder is designed to simplify the routine HVL measurement process. For years the method of attaching the HVL filters to the X-ray collimator involved using quantities of medical/surgical tape. While tape does the job, it also tends to destroy the thinner aluminum filters, particularly the high purity mammography filters.



The Model L-435 HVL Filter Holder eliminates the need to use tape to attach the HVL filters to the collimator housing.

The filter holder consists of a polycarbonate base 24.1 x 24.1 cm (9.5 x 9.5 in.). Permanently bonded to the center of the base plate is an acrylic pocket, open on one side and designed to hold a standard or high purity Al filter set. The polycarbonate material is easily cut with a standard utility knife or sheers to accommodate the two most common collimator track sizes in a given department. The base may also be attached with the hook-and-loop type fastener strips supplied for odd sized collimators. In either case, the filters themselves are protected from damage associated with the application and removal of heavy medical/surgical tape.

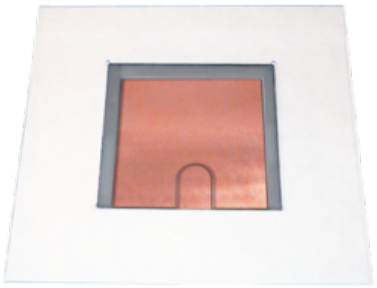
Model L-051 TG-51 Linac Filter

The primary purpose of the AAPM TG-51 dosimetry protocol is to provide a uniform methodology for a clinical reference dosimetry measurement. Both the photon and electron beams from accelerators need to be within the recommended nominal energies (Beam Quality). The methodology includes the application of a 1 mm thick lead foil that is placed just below the accelerator head to reduce the electron contamination, and therefore, help to specify the beam quality. The lead foil is typically attached to the accelerator head or to the blocking tray using surgical tape, wires, or whatever material is available.

The Ludlum Model L-051 TG-51 Linac Filter has been designed to simplify the task of making the prescribed Beam Quality Measurements, by providing a true 1 mm thick lead foil (± 0.2 mm) that has been specially bonded to a 30.5 x 30.5 cm (12 x 12 in.) polycarbonate (Lexan®) plate. The plate has an opening cut into the center, exposing a 10 x 10 cm (3.9 x 3.9 in.) area of the bonded 11 x 11 cm (4.3 x 4.3 in.) lead foil. This plate can be customized by the user to fit the tracks of most blocking trays. The polycarbonate material is easily cut with a standard utility knife or shears. The combination lead foil and polycarbonate plate helps to maintain the integrity of the lead foil and also makes it easier to handle and store the filter.

Model L-116 CR/DR TG-116 Filter Holder Set

One of the key benefits of Digital Radiography (DR) is the ability to make image quality corrections after the exposure has been made. Image contrast, density, and brightness values are easily controlled at workstation display screens. Initial exposure settings are greatly simplified with DR. The technologist has significantly wider exposure latitude when setting up techniques for imaging various parts of the anatomy. However, this wide exposure latitude can also lead to potentially excessive patient exposure and subtle reductions in quality due to increased noise levels in the image.

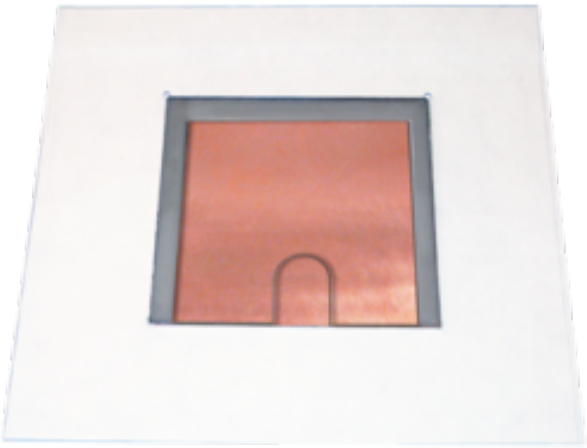


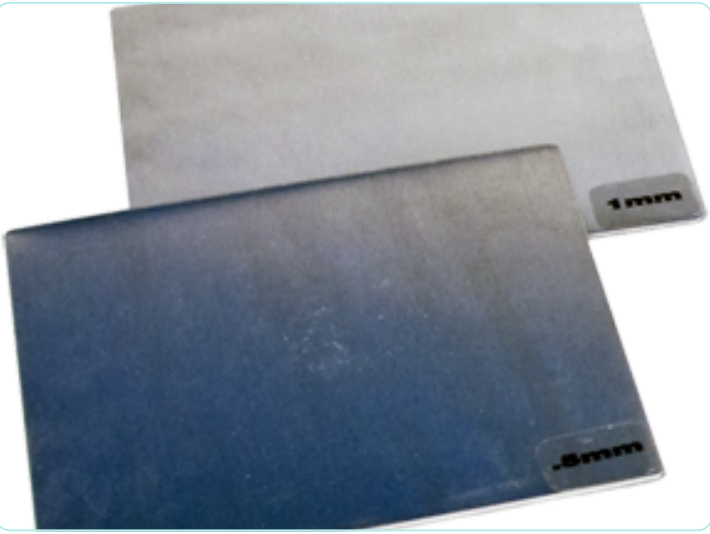
A recent report by the AAPM (Task Group 116) has suggested a mechanism to monitor the radiation exposure and noise level of the typical digital detector. The process involves using a standard range of exposure techniques, and by adding or subtracting specific layers of beam hardening filters to simulate the filtration associated with various body tissues. The information obtained from the filtered beam spectrum would provide an exposure deviation index (DI) that could be used to determine the appropriate exposure needed to produce a quality (and dose appropriate) image of a given body part.

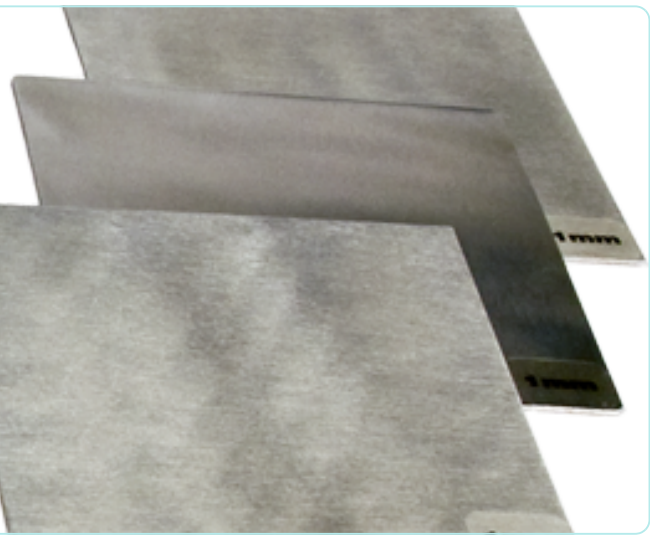
The new Ludlum CR/DR TG-116 Filter Holder Set is designed to simplify the filtration requirements needed to achieve the needed beam hardening conditions necessary to reach the desired Exposure DI for the various anatomical views being established.

The copper filter is permanently bonded to the polycarbonate base material. The copper filter is covered with an acrylic pocket. The pocket, open on one side, will hold all of the provided filters*. The polycarbonate material is easily cut with a standard utility knife or shears to accommodate the two most common collimator track sizes in a given department. The base may also be attached with the provided hook-and-loop strips for odd sized collimators.

**The TG-116 Filter Holder comes with four 1 mm Al filters and one 0.5 mm Al filter.*



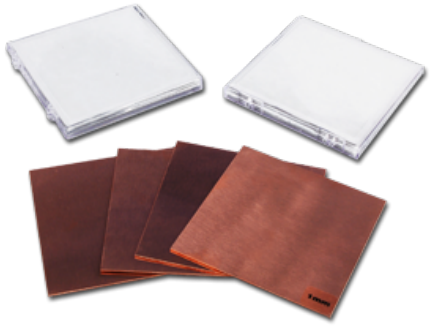

1 mm
.5mm



Model L-430, L-431, L-434 HVL Filter Plates

Standard and High Purity HVL Filter Plates are used to determine if there is sufficient inherent filtration in the X-ray beam to remove the damaging lower energy radiation being emitted from the X-ray tube.

Custom sizes and quantities are available upon request.



Standard and High Purity HVL Filter Plates are used to determine if there is sufficient inherent filtration in the X-ray beam to remove the damaging lower energy radiation being emitted from the X-ray tube.

Custom sizes and quantities are available upon request.

	Specifications
Filter Set	Set of eleven 10 cm x 10 cm plates Total Weight: 0.5 kg (1 lb)
Plates ations)	Set of ten 10 cm x 10 cm plates Total Weight: 0.5 kg (1 lb)
Plates ations)	Set of twenty 10 cm x 10 cm plates Total Weight: 0.9 kg (2 lb)
Plates ations)	Set of thirty 10 cm x 10 cm plates Total Weight: 1.4 kg (3 lb)
ter Set ations)	Set of six 10 cm x 10 cm plates Total Weight: 0.5 kg (1 lb)

QA SOURCES

peo MEDICAL

Simulated 60Co Source

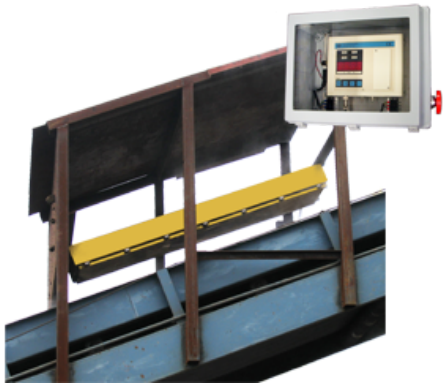
Calibrated 0.1 Bq/g (10 Bq) simulated ^{60}Co radiation source for use with Model 2100 Sample Counter.

DOORWAY & ENVIRONMENTAL MONITORING

peo MEDICAL

Model 375P-3500 Conveyor Monitor – Ludlum

The Model 375P-3500 Conveyor Monitor (Ludlum) is a radiation detector system to inspect materials at contamination on a conveyor.



Model 375P-3500 Conveyor Monitor features:

- detector delivers superior sensitivity
- controller can operate totally independently or connected to an ethernet network or wired for remote annunciation
- 57.4 L (3500 in^2) plastic detector with 15.2 m cable
- 24-Hour battery backup
- check source (10 µCi)
- electronics housed in a NEMA 4X enclosure with external reset button
- see-through viewing window
- weathertight, lead-shielded enclosure

Read more about the Model 375P-3500 Conveyor Monitor on the Ludlum website

Model 375P-1000 Outdoor Radiation Contamination Monitor – Ludlum

The Model 375P-1000 Outdoor Radiation Contamination Monitor (Ludlum) is a Digital Model 375 controller coupled to 2 shielded 7866 cm² plastic scintillator detectors. The detectors are covered in weathertight enclosures applicable for the outside environment. The Model 375P-1000 Outdoor Radiation Contamination Monitor is perfect for examine outgoing trash and/or medical waste for possible low-level radioisotope contamination.

Model 375P-1000 Outdoor Radiation Contamination Monitor features:

- indicates status, sum alarm, sigma alarm, low battery, det fail and overrange
- 4-digit LED display with 2 cm (0.8 in.) digits
- range: 0.0 to 9999 kcps
- battery backup
- programmable alarms
- network cable
- data output: 9-pin connector providing RS-232 output, signal ground connection, FAIL and ALARM signals and direct connection to battery and ground
- relay output: mains (120 or 240 Vac) output on alarm

Read more about the Model 375P-1000 Outdoor Radiation Contamination Monitor on the Ludlum website

Model 375P-336 Surface Contamination Monitor – Ludlum

The Model 375P-336 is a Digital Model 375 Controller coupled to two 2753 cm plastic scintillation detectors. These components are indoor units that are typically wall-mounted. This simple and cost-effective solution offers a simple system that is easy to operate and maintain.

Model 375P-336 Surface Contamination Monitor features:

- displays µR/hr, mR/hr, R/hr, µSv/h, mSv/h, Sv/h, cpm, cps, and others
- programmable alarms
- battery backup
- network cable
- range: 0.0 to 9999 kcps
- indicates status, sigma alarm, det fail, sum alarm, low battery and overrange

Read more about the Model 375P-336 Surface Contamination Monitor on the Ludlum website

Model 375-Dual Digital Area Monitor – Ludlum

The Model 375-Dual Digital Area Monitor (Ludlum) is a dual-channel digital device to monitor radiation in the surrounding area. The monitor is based on the legacy of the Model 375.

Model 375-Dual Digital Area Monitor features:

- battery backup
- data output/RS-232
- dual LED digital display
- programmable alarm indicators
- low and high alarm
- optional remote

Read more about the Model 375-Dual Digital Area Monitor on the Ludlum website

Model 375/4 Gamma Area Monitor – Ludlum

The Model 375/4 Gamma Area Monitor (Ludlum) is a radiation monitor with an energy compensated GM detector (internally housed) with a range from 0.01 mSv/h to 100 mSv/h.

Model 375/4 Gamma Area Monitor features:

- wall-mount chassis and a four-digit LED display
- networkable
- audio and visual alarms
- budgetfriendly
- weight: 2.1 kg

Read more about the Model 375/4 Gamma Area Monitor on the Ludlum website

Model 375/2 Digital Area Monitor – Ludlum

The Model 375/2 Digital Area Monitor (Ludlum) is a radiation monitor with an internally-housed energy compensated GM detector with a range from 1 µSv/h to 10 mS/h. It has a wall-mount chassis and a 4-digit display (LED) that is readable from a distance of nine meters.

Model 375/2 Digital Area Monitor features:

- visual and audio alarms
- budget friendly
- integrated design
- battery backup
- displays µrem/hr, mrem/hr, µR/hr, mR/hr, R/hr, µSv/h, mSv/h, Sv/h, rem/hr, cpm, cps and others
- readings within 10% of true value with detector connected
- indicates overrange, overload, low-battery, high alarm, low alarm, detector fail and status

Read more about the Model 375/2 Digital Area Monitor on the Ludlum website

Model 375/1 Digital Area Monitor – Ludlum

The model 375/1 digital area monitor is designed for visibility and ease of use. The monitor has an internally housed 18 mm CsI scintillator with a sensitivity of approximately 120 cpm/R/hr.

The monitor has a wall-mount chassis and a four-digit LED display that you can read from 9 meters (20 feet) away.

The indicators warns with an alarm when it detects low radiation (with yellow), high radiation (with red), instrument failure (also red) or when it has a low battery (with yellow).

FEATURES

- Low background sensitivity
- 4-digit LED display, readable from 9 meters away
- Audio and light alarm
- Can withstand temperatures rangin from -20°C to 50°C (-4°F to 122°F)
- Alarm of 68 dB to 100 dB (audio)

If you want to know more about this monitor, read our article!

Model 375 Area Monitor Controller – Ludlum

The Model 375 is a versatile, compact, and very affordable digital electronic controller designed for monitoring radiation in areas. Its simple design accommodates many different detectors suiting a wide variety of applications, and is equipped with a local readout and alarms. These versatile units may also be connected to an optional auxiliary indicator/annunciators for alerting personnel at remote locations.

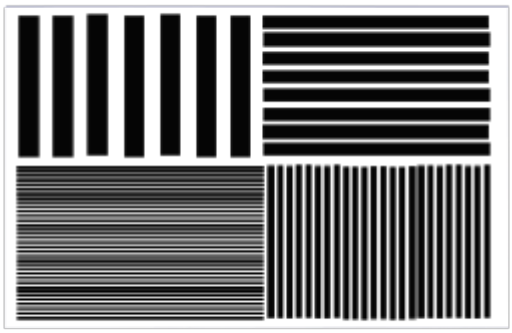
Choose from a wide range of probes for any application: Ludlum probes

Model 375 Area Monitor Controller features:

- programmable units of measure and alarms
- budget friendly product of good quality
- battery backup
- four-digit LED display with two cm digits
- suggested detectors: neutron, proportional, GM, scintillation
- displays µR/hr, mR/hr, R/hr, µSv/h, mSv/h, Sv/h, µrem/hr, mrem/hr, rem/hr, cpm, cps, and others
- threshold: 2 to 100 mV (adjustable)

Read more about Model 375 Area Monitor Controller on the Ludlum website

QA PHANTOMS



peo MEDICAL

Model L-840 Dual Source Scatter Phantom

The Model L-840 simulates in-vivo scatter conditions required to measure gamma camera deadtime.

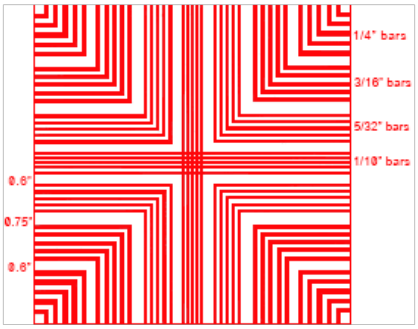
Deadtime is the interval in which a gamma camera while processing incident radiation is insensitive to additional radiation. Measurement of these phenomena is important because during higher count rates, losses of data during the ‘deadtime’ degrade the quantitative data. Accurate measurement allows for the mathematical correction of the deadtime losses.

During standard clinical conditions, the deadtime is a function of the scatter within the radiation source and its immediate surroundings. The phantom provides the simulated characteristics of forward and back scatter of the ^{99m}Tc gamma rays and allow the measurement* of the camera’s deadtime.

**The deadtime measurement can typically be acquired in less than 15 minutes. The phantom is made of acrylic and has two holes, spaced 5 cm apart (and 5 cm from the face of the phantom) to accommodate the radioactive sources (not included) to measure the count rates and associated deadtime.*

Model L-890 Gamma Camera Bar Phantom

The Model L-820 and L-890 are ideal for daily/weekly QA checks of scintillation camera performance. The Bar and Test Pattern Phantoms measure intrinsic and collimator spatial resolution (ability to see small objects) and spatial linearity (ability to correctly position image data), confirming the gamma camera's overall ability to identify and properly display small anatomic objects.

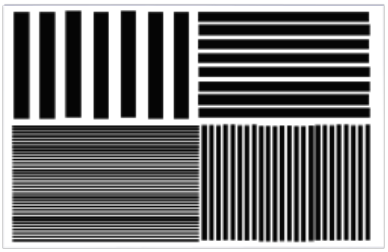


Each of the sets of parallel lines is precisely machined onto a plastic sheet. The lines are filled (cast) with Cerrobend® high-density metal alloy. This causes the gamma radiation to be attenuated, thereby providing the QA image.

The phantom is easy to use and satisfies most regulatory quality control requirements for intrinsic resolution. By checking the gamma camera's resolution on a routine basis with this phantom, it will be possible to make quick adjustments to ensure the consistent quality of the images being taken from the data that is collected.

Model L-820 Extra Large Gamma Camera Bar Phantom

The Model L-820 is ideal for daily/weekly QA checks of scintillation camera performance. The Bar and Test Pattern Phantoms measure intrinsic and collimator spatial resolution (ability to see small objects), and spatial linearity (ability to correctly position image data) confirming the gamma camera's overall ability to identify and properly display small anatomic objects.



Each of the sets of parallel lines is precisely machined onto a plastic sheet. The lines are filled (cast) with Cerrobend® high-density metal alloy. This causes the gamma radiation to be attenuated, thereby providing the QA image.

The phantom is easy to use and satisfies most regulatory quality control requirements for intrinsic resolution. By checking the gamma camera's resolution on a routine basis with this phantom, it will be possible to make quick adjustments to ensure the consistent quality of the images being taken from the data that is collected.

DOSE RATE MONITORING

peo MEDICAL

Model 3019 Digital Background Survey Meter – Ludlum

The Model 3019 Digital Background Survey Meter (Ludlum) is a device with an internal scintillation detector used for gamma radiation survey for background to 500 µSv/hr.

Model 3019 Digital Background Survey Meter features:

- internal CsI, scintillator with 175 cpm/µR/hr sensitivity detector
- count, rate and max
- 4-button intuitive interface for easy operation
- ruggedly built and light weight
- splash-resistant construction
- bright LED and sigma audio simplifies searching
- large backlit LCD for ease of reading
- USB port
- autoranging

Read more about the Model 3019 Digital Background Survey Meter on the Ludlum website

Model 3001 Multi-Detector Survey Meter – Ludlum

The Model 3001 Multi-Detector Survey Meter (Ludlum) is an ergonomically-designed, versatile, lightweight instrument which can support up to 4 external detectors. Each detector with its own user parameters and set of calibration.

Choose from a wide range of probes for any application: Ludlum probes

Model 3001 Multi-Detector Survey Meter features:

- max, rate and count modes of operation
- datalogging and headphone options
- large backlit LCD for ease of reading
- USB port
- ruggedly built and lighter weight
- splash-resistant construction for outdoor use
- Geiger-Mueller (GM), scintillator or proportional detector

Read more about the Model 3001 Multi-Detector Survey Meter on the Ludlum website

Model 9DP Ambient Dose Ion Chamber Survey Meter – Ludlum

The Model 9DP Ion Chamber Survey Meter is a highly sensitive pressurised ion chamber meter. It doesn't only provide a measurement of exposure, but also of exposure rate. The meter measures and displays data conform the ICRU (International Commission on Radiation Units) tissue equivalent.

AMBIENT DOSE EQUIVALENT

Ambient dose equivalent, is the dose equivalent readout that would be measured at a tissue depth of 10 mm. To measure this, the device requires a special ion chamber to provide a conversion of the exposure rate.

This model can simultaneously display the rate, integrated value and highest rate seen by the instrument. If desired, the user can reset the integrated value.

FEATURES

This chamber survey meter has a nice 256K colour, bit-mapped display, which provides an optimised presentation of the data. The screen is also accompanied with icons that inform the user of the active functions and instrument status. The device can write all logged data in csv format.

When the device's alarms go off, the display will flash colours and, if the user wants, it can also make an acknowledgeable sound.

If you want more information about this Ion chamber survey meter, go to our partner's website!

BENEFITS

- Provides ICRU-Based ambient dose measures
- The colour display is also readable in sunlight
- Auto zeroing and ranging
- Rechargeable batteries
- Alarm function
- USB Connectivity
- Data logging
- Chamber volume of 230 cc volume pressurised to 8 atmospheres (117 psi)
- 4-button control

Model 9DP Overview https://youtu.be/UYPJQNVeC_I

Model 9DP* overview

SCAN TO VIEW VIDEO

9DP Control Panel Overview https://youtu.be/HusnR4e90yA

Model 9DP Control Panel Overview

SCAN TO VIEW VIDEO

If you want to know more about this model...

Read our article! **Or contact PEO!**

Model 9DP-1 Ion Chamber Survey Meter – Ludlum

Ludlum designed the Model 9DP-1 Ion Chamber Survey Meter for radiography work where pulsed fields are being measured. This instrument correctly integrates 50 nanosecond pulses (and wider) that other systems typically miss or measure incorrectly.

The detector chamber is only pressurised to 1,36 atm (20 psi). The device has a nice 256-colour, bit mapped display, which provides an optimised presentation of the data. The instrument also has with icons that inform the user of the active functions and instrument status and which make it simple to use.

FEATURES

This chamber survey meter has an alarm that uses colour changes in the screen and an acknowledgeable audio output. It also has a rechargeable battery that delivers up to 30 hours of operation between charges.

The instrument writes the data in csv format for convenient retrieval.

The device measures both exposure and exposure rate, and can simultaneously display the exposure rate, integrated value and highest rate seen by the instrument.

BENEFITS

- Special design for measuring pulsed fields
- Low pressure chamber is non-hazmat
- Range from 0-500 mGy/h
- Sunlight readable colour display
- Auto zeroing & rangin
- Rechargeable batteries
- Alarming capability
- Data logging

If you want to know more, read our article, or take a look at our partner's website!

Model 9DP Overview https://youtu.be/UYPJQNVeC_I

SCAN TO VIEW VIDEO

9DP instrument overview

9DP Control Panel Overview https://youtu.be/HusnR4e90yA

SCAN TO VIEW VIDEO

9DP control panel overview

How To Decompress the Model 9DP https://youtu.be/JzbUaH9kfjU

SCAN TO VIEW VIDEO

Decompressing the Ion Chamber

ALPHA, BETA & GAMMA SPECTROMETRY

peo MEDICAL

Model 30-7 Series

- Digital Meter
- ^{3}He Proportional Detector
- Moderator: 19.5 cm (7.7 in.) dia.
- Sensitivity (^{241}AmBe): 4.5 cpm per µSv/h (45 cpm per mrem/hr) or 10 cpm per µSv/h (100 cpm per mrem/hr)
- Range: 0 to 99.9 mSv/h (0 to 9.99 rem/hr)

Model 334AB Alpha-Beta Air Monitor

Features

- Integrated LCD and Touch Screen Display
- Acute and Chronic Dose, Concentration, and Flow Logging Measurements
- Radon Compensation
- Built-In Gamma Guard Detector

The Model 334AB is a lightweight, battery-powered, alpha-beta air monitor that can be used as a portable workplace monitor or a portable CAM (continuous air monitor) for emergency-response assessments. It is designed to provide workers with an early warning of an airborne release of alpha and beta emitting particulates. The instrument can monitor up to two alpha isotopes of interest, simultaneously with beta monitoring. It also has radon compensation and a built-in gamma guard detector to compensate for changing ambient gamma background levels.

The Model 334AB has an integrated LCD and touchscreen that displays information on instrument status and readings during operation. The estimated dose of the isotope(s) of interest and the instrument status are displayed at all times. An ion-implanted silicon detector and 1024-channel multi-channel analyzer feed data to the embedded processor board. Operations include beta detection and alpha spectral analysis for radon compensation. Acquired data may be saved in the instrument’s internal memory, or alternately may be written to an SD card for later retrieval and review. It is stored in comma-separated-variable (*.csv) format that is recognized by most spreadsheet and database software.

RayMon10 Quant

Perfect for quantitative volumetric analysis

A RayMon10 handheld gamma detector with a radbeaker. This enables users to use it with distributed (soil, building material sample, liquid waste) and point (air sampling filters, calibration sources) source samples.

RayMon10

Rugged CZT-based isotope detector

Rugged handheld easy to grip RayMon10 tablet, with a GR1 gamma-ray detector spectrometer enabling users to detect, measure and accurately identify gamma-ray emitting radionuclides, providing high-resolution isotope identification.

Model 70 Series – Ludlum

Spectroscopic Personal Radiation Detector

The Ludlum Model 70 Series are high resolution CZT-type detectors that deliver unparalleled performance in express radionuclide identification and radiation dose assessment from low to moderate-high levels.

Each instrument is accompanied by GalaxRayWiz software, a powerful tool which communicates with the device, analyzes gamma-spectra and dose-rate time profiles accumulation of 14 hours. Collected data can be easily transferred via USB or Wi-Fi.

Continuous dose rate monitoring and recording enables the user to be instantly informed about radiation exposure and to carefully analyze radiation dose risks by exploring the dose rate recorded charts.

Features

- Handheld Gamma Spectrometer
- Mobile Phone Sized
- Three Button Operation
- Radiation Dose Assessment
- Dose Rate Time Profile Recording
- Express Nuclide Identification
- One Thousand Gamma-Spectra Storage
- Temperature Stabilized
- Complies with ANSI 42.48-2018

https://youtu.be/_ZSXcECQeho

SCAN TO VIEW VIDEO

Energy Range: 0.03 to 3.0 MeV, 1024 Ch

Energy Resolution: 1.8 to 2.5% at 662 keV

Gamma Dose Rate: within 30% accuracy per ANSI N42-48 from 0.5 µSv/h to 3 mSv/h (5 µR/hr to 300 mR/hr)

Gamma Efficiency: 70/1, 70/2: 0.06 cps per µR/hr 70/3, 70/4: 0.18 cps per µR/hr

Neutron Sensitivity: ≈ 2.4 cps/nv

Nuclide ID Over-Range Dose Rate: 0.5 mSv/hr

Preset Time: 86,400 s

Display: LCD 7.1 cm (2.8 in.), 240 x 320 pixels, backlight

Alarms: Audio (~85 dB), audio jack, vibrator, LED operations, 3-button keyboard

Data Storage: Up to 1000 spectra and up to 24 hours of dose rate time records

Data Transfer: via USB and Wi-Fi

Data Throughput: ≈ 70,000 cps

Power: Lithium-ion rechargeable battery, 3.7 V 5200 mAh

Battery Life: With Wi-Fi on and back-light on: Up to 14 hours with Wi-Fi off and back-light on: Up to 26 hours

Charge Time: 4 – 5 hours, with battery indicator on display

Temperature Range: -10 to 50 °C (-4 to 122 °F). Relative humidity ≤ 95%.

Environmental Rating: IP63 with rubber sleeve

Dimensions: (L x W x H) 100 x 75 x 48 mm (4 x 3 x 1.9 in.)

Weight: 220 g (0.5 lb) with battery

Model 30 Digital Survey Meter – Ludlum

The Ludlum Model 30 is a versatile, lightweight, instrument used with an external detector for alpha, beta, or gamma radiation survey. Three modes of operation – RATE, MAX, and COUNT – are available for the user. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, R/hr, rem, or Sv/h units.

The user can switch between two sets of chosen units by simply pressing the Units button. An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification. Setup is also available via software available from Ludlum Measurements.

This instrument features a large, easily-readable LCD (liquid crystal display), a piercing audio warning tone, and easy, intuitive, user-friendly design. Splash-resistant construction allows the Model 30 to be used outdoors. The unit body is made of lightweight, durable, high-impact plastic.
The Model 30 is shipped ready to use with batteries and calibration certificate.

Model 30 Digital Survey Meter features

- attaches to detector allowing one-handed operation
- large backlit auto-ranging LCD with adjustable viewing angle
- simple green, yellow, and red status indicators
- 3-button intuitive interface for easy operation
- USB port and all-digital calibration
- available in stretch scope configuration

View compatible probes here

Download the datasheets below or contact our product specialist.

Model 3000 Digital Survey Meter – Ludlum

The Model 3000 Digital Survey Meter (Ludlum) is a versatile and lightweight instrument with an ergonomic design. With this meter there are 3 modes of operation possible: MAX, RATE and COUNT.

Choose from a wide range of probes for any application: Ludlum probes

Model 3000 Digital Survey Meter features:

- all-digital calibration
- auto ranging
- splash-resistant construction
- easy operation: 4-button intuitive interface
- port: USB
- Geiger-Mueller (GM), scintillator or proportional detector available
- display range: 0.0 cps to 99.9 kcps; 0.00 cpm to 999 kcpm; 0.00 Bq to 99.9 kBq; 0.00 dpm to 999 kdpm; 0.00 µR/h to 999 R/h; µSv/h to 999 Sv/h
- alarms: count rate, exposure/dose and scaler alarm setpoints adjustable over the display range
- loss of count alarm protection
- response time: auto-response rate fast/slow or user-selectable from 1 to 60 seconds

Read more about Model 3000 Digital Survey Meter on the Ludlum website

PERSONAL DOSIMETRY

peo MEDICAL

Model AT-138S Pencil Dosimeter

Features

- Sensitive to Gamma and X-ray
- 0 to 2 mSv
- Lightweight
- Hermetically Sealed
- Sturdy Pocket Clip
- Meets ANSI N13.5 & N322
- Responds Well to Fast Pulse X-Rays
- Low Leakage, Measures Background

This direct reading dosimeter is a ruggedly-constructed precision instrument for measuring and directly reading accumulated dose of gamma and X-ray radiation up to 2 mSv. Applications include personal and environmental monitoring. The low-energy feature has hospital applications including fluoroscopy, portable radiography, and angiography. A hardened sapphire end window provides clean, scratch-proof viewing of measurements. This pocket sized instrument is lightweight and has a sturdy clip to attach to an individual's pocket for constant use.

To ensure accurate readings, the AT-138S must be zeroed before use with a dosimeter charger, such as the AT-909 or The Charger (see the Options tab below for more information).

Model 23 mrem Electronic Personal Dosimeter

Features

- Low Weight and Slim Design
- X-ray and Gamma Radiation Monitoring
- Audible Alarm
- 600 Record Data Logging Option Available

The Ludlum Model 23 mrem Electronic Personal Dosimeter (EPD) is a compact and lightweight (60 g / 2 oz) pen-type personal dosimeter. It is ideal for the measurement and general monitoring of gamma and X-ray radiation in medical and laboratory environments, as well as any controlled or restricted area where personal radiation monitoring is required or desired. The unit is sensitive to a wide range of energies from 35 keV to 3 MeV. Dose, Dose Equivalent Rate, and alarm values are easily seen on the four-digit LCD screen. An audible alarm is activated if the dose or dose rate exceeds the preset value of the dosimeter. The alarm set points are adjustable from the face of the unit.

The optional Model 23 Series Dosimeter Setting Device and Software Kit (see Options tab below) can be used to configure the dosimeter settings and to quickly take data directly from the dosimeter via infrared communication to a PC. Up to 600 data points can be stored in the dosimeter. Note that all collected data is erased when the dosimeter is turned off, so the data must be transferred before the dosimeter is turned off in order to be recorded.

Warning: This dosimeter may not measure pulsed radiation accurately.

Model 25 Series Personal Radiation Monitor

Features

- Dose Rate Range:
  - **Model 25:** 0.01 mR/hr to 999 R/hr
  - **Model 25-1:** 0.001 mSv/h to 9.99 Sv/hr
- Accumulated Dose Range:
  - **Model 25:** 0 to 999 R
  - **Model 25-1:** 0 to 999 Sv
- Lightweight
- Rugged, Shockproof Construction
- Water Resistant Design
- Easy to Use
- 6000 Hour Battery Life
- Audible and Visual Alerts and Alarms
- Backlit LCD Display

The Model 25 and Model 25-1 Personal Radiation Monitors are small, rugged devices designed to warn emergency response personnel of any dangerous fields that they may encounter. These easy-to-use instruments incorporate a GM detector capable of measuring radiation fields up to 9.99 Sv/h (999 R/hr).

The Model 25 Series backlit LCD readout displays dose rate, accumulated dose, and time remaining to the dose limit. Visual and audible alarms can be set over the entire measurement range. No special equipment is required to either calibrate or set up operational parameters.

The units can be worn on a belt, a lanyard, or an armband. A lanyard and a rubber boot with a built-in belt feed through are included with each instrument. See the Options tab below for other available accessories.

Intrinsically safe versions, the Model 25-IS and Model 25-IS-1, are also available for use in areas where explosion safety is a concern.

NOTE: Model 25 Series instruments are not intended to measure background levels of radiation.

Model 23-1 Electronic Personal Dosimeter – Ludlum

The Model 23-1 Electronic Personal Dosimeter (Ludlum) is a solid and lightweight (55.9 g/2 oz) pen-type personal dosimeter. It can be used for measuring gamma or X-ray radiation in medical and laboratory environments or other areas where personal radiation monitoring is desired or required.

Model 23-1 Electronic Personal Dosimeter features:

- 600 record data logging option available
- low weight and slim design
- audio alarm
- silicon semiconductor detector
- gamma and X-ray (35 keV to 3 MeV)

Read more about the Model 23-1 Electronic Personal Dosimeter on the Ludlum website

STACK & AIR MONITORING

peo MEDICAL

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.