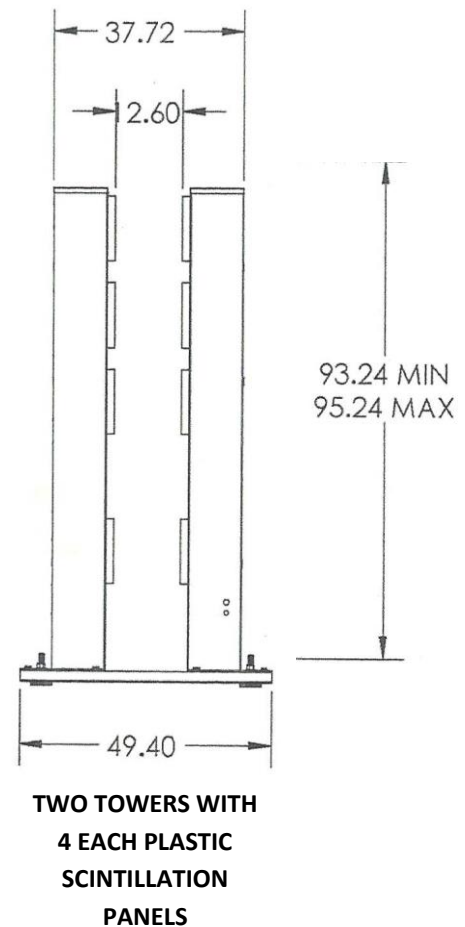


OVERHEAD LAUNDRY MONITOR CEILING MOUNTED CONVEYOR

Model ~ LIM-OH-8

FEATURES:

- AUTOMATIC OVERHEAD CONVEYOR FOR LAUNDRY OR HAZMAT SUITS ON HANGERS
- AUTOMATICALLY SEPARATES 'CLEAN' FROM 'CONTAMINATED' GARMENTS ONCE SCANNED
- BETA / GAMMA HIGH SENSITIVITY DETECTORS
- COUNTS BOTH SIDES OF GARMENT SIMULTANEOUSLY VIA TWO SHIELDED DETECTOR TOWERS
- FOUR DETECTORS IN EACH TOWER, TOTAL (8)
- CONTAMINATION TRIGGER POINT IS ADJUSTABLE
- COUNT TIME PER GARMENT IS ADJUSTABLE
- MANUAL OVERRIDE
- BUILT-IN COMPUTER WITH DATA ARCHIVE AND RETRIEVAL
- EASY INTEGRATION INTO FACILITY INFRASTRUCTURE
- FULL ETHERNET FUNCTION
- AC OPERATION
- **OPTIONAL:** PERSONALIZED RFID IDENTIFICATION FOR EACH GARMENT



APPLICATION:

The LIM-OH-8 is suited for use in Nuclear Power Plants, research labs using radioactive materials, or in designated laundry facilities accepting garments from industries utilizing radioactive materials.

[Please see the LIM \(Laundry Monitor\) Comparison Chart](#)

DESCRIPTION:

Model LIM-OH-8 is a high sensitivity Beta/Gamma Monitoring system for determining possible radiation contamination in garments or hazmat (PPE) garments.

- The conveyor brings garments on hangers forward and then turns each vertically hanging garment into a perpendicular position.
- Garments move between the two towers for simultaneous detection on both sides of the garment for contamination.
- As the conveyor progresses the garments are sorted onto either the 'contaminated' conveyor or the 'clean' conveyor.

The eight detectors are large area flat plastic scintillation panels that have very high sensitivity due to the large surface area of the detectors and the garment positioning between the two detector towers.

The LIM-OH-8 is a dependable, long, life mechanical system with advanced computer and data processing.



Real - Time
Air & Water
Specialists



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DETAILED DESCRIPTION:

- **LIM-OH-8** includes the electronic control/alarm feature with (8) flat plastic scintillation panels, in two towers with (4 panels) in each tower.
- Each sheet has 792 in³ volume and a sensitive area of 528 in² in each detector. Total sensitivity area of 2210² in each tower.
- Garments are stored on hangers and the ceiling mounted conveyor moves them forward.
- Garments are reoriented by the conveyor to 'pass through' the two detector towers.
- Count time during the 'pass through' is user settable; 10 seconds to 10 minutes.
- The conveyor physically sorts the garments 'contaminated' from 'clean' channeling them onto different conveyors.
- Numerical measurement results are archived internally and available for ethernet access.
- **OPTIONAL:** RFID capture of 'pass through' triggered by alarm.

Two Modes of Operation:

- 1) **BATCH MODE:** Authorized user sets: alarm level, count time, motor speed, location where clothing was used, work group who wore them, etc.; current number of garments to be processed with specific parameters.
 - Batch size can be from one to seventy garments (more if requested).
 - Each garment in turn is automatically moved by the computer-controlled stepper motor, from the INPUT RAIL into the shielded DETECTOR ASSEMBLY, where it is examined for the preset time (1 to 20 sec.) by all detectors simultaneously.
 - If contamination is detected above the alarm setting, the garment is automatically placed onto the output rail/track for CONTAMINATED clothing.
 - The batch measurement report prints out showing count rate and clean/contaminated status of each garment in the batch.
 - Then the identifying information is typed in on the computer keyboard for the next batch.
 - **OPTIONAL:** date, time, parameters and the location where clothing was used, work group that wore them, etc...
 -

At this time, the test parameters can be changed by an authorized technician, if appropriate. Click on "START" and the next batch of garments will be automatically processed, and report printed.

- 2) **AUTOMATIC / CONTINUOUS MODE:** This mode is very similar to the batch mode, but in automatic mode the garments are checked automatically, all day, or until there are no more garments on the in-put rack.

The test parameters can be changed in automatic mode, at the beginning of the day, or by activating the manual override.

OPTIONAL ACCESSORIES: One set of calibration sources is supplied with the LIM-OH-8 Monitor.

This consists of one each: Ba133, Cs¹³⁷ and Co⁶⁰ calibration source standards.

Each source comes with:

- NIST Traceable calibration certificate
- Test data



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- Calibration Factors

SPECIFICATIONS:

Detectors - Plastic Scintillators:	8 ea. 13" W x 1.6" Thick x 30" L
Sensitivity Range:	1 μ R/hr to 1 mR/hr.
Shielding:	1" Steel
Count Time:	10 seconds to 10 minutes (User settable)
Background:	Automatically subtracted
Electronics:	Each plastic scintillator has its own PM tube, PMT base (dynode string circuit), Independent Modular, high voltage pre-amp and discriminator. This provides improved sensitivity and easier maintenance if a PM tube is replaced.
Pulse Height:	Adjustable by user
Alarm Set:	Internal factory set at .007 mR/hr rise per second. (May be reset by user.) Internal factory set at 50% above ambient background. (May be reset by user.)
Environment:	32° to 104°F, (0° to 40°C). 10% to 95% relative humidity, non-condensing.
Detector Related Electronics:	Photomultiplier tube and base Detector HV Amplifier with adjustable energy threshold
Computer Functions:	Data archive and download through Ethernet Data Analysis Alarm Trigger Conveyor Control Ethernet
Monitor Display:	Color LCD Monitor Vertical color bar graph for each of 8 detector channels displaying radiation intensity. Status/Step display lights of operation, user selectable Count Time Count Time Remaining Mode Selection – Batch or Automatic/Continuous Conveyor Status Indicators Alarm Indicators
	Operational Steps: <ul style="list-style-type: none">▪ Manual Override▪ Ready To Count▪ Conveyor Control▪ New Garment Moving Into Position▪ Count in Progress



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- Count of 'Clean', Count of 'Contaminated'

Archive data includes date, time and results of each garment in the batch with OPTIONAL corresponding RIFD number.

Power Requirements:	110/220 Volts AC, 50/60 Hz.
Power Connection:	Conduit or cable 6 ft. cable standard (Longer is available). Three Prong grounded connector.
High Level Alarm:	Flashing red light and intermittent 2900 Hz tone. (90 dB)
Signal Cable:	12 ft Standard (User Specified Length)

CEILING MOUNTED CONVEYOR SYSTEM:

(3) each 12 foot conveyor rack operated by computer controlled stepper motor." Batches of up to 70 garments are hung on conveyor hangers (more with Optional extensions). Each garment is transferred from rack to detection system, kept for preset time and advanced and guided to 'CLEAN' conveyor or 'CONTAMINATED' conveyor.

WEIGHT & DIMENSIONS:

Dimensions:	Control Box / Computer: 16" x 20" x 10" typical plus alarm Beacon.
Detector Towers:	70" H x 15.5" W x 7" D.
Weight:	1900 lbs each tower, (2) towers Total 3800 lbs
Optional:	Shielding Lead or user specified

OPTIONS:

- Conveyor Extensions
- Outlet Annunciator Panel. Spare Detector.
- Inlet Annunciator Panel. Calibration Jig.
- Accessory Control Panel.
- Uninterruptable "UPS" Battery back- up.
- Statistical Reports.

Check Source: RAU-BGX, uranium source; license exempt.

User Available Output: 5 amp SPDT Relay to operate other circuits.

Remote Alarm: RAL-3W flasher, siren.

Power: USB Back-up.

Alternate Detector Types & Sizes:

NaI(Tl) Scintillators or BGO crystal.

Additional Detectors: Plutonium or Neutron or Beta.

Shielding: Provision made for adding shielding plates provided



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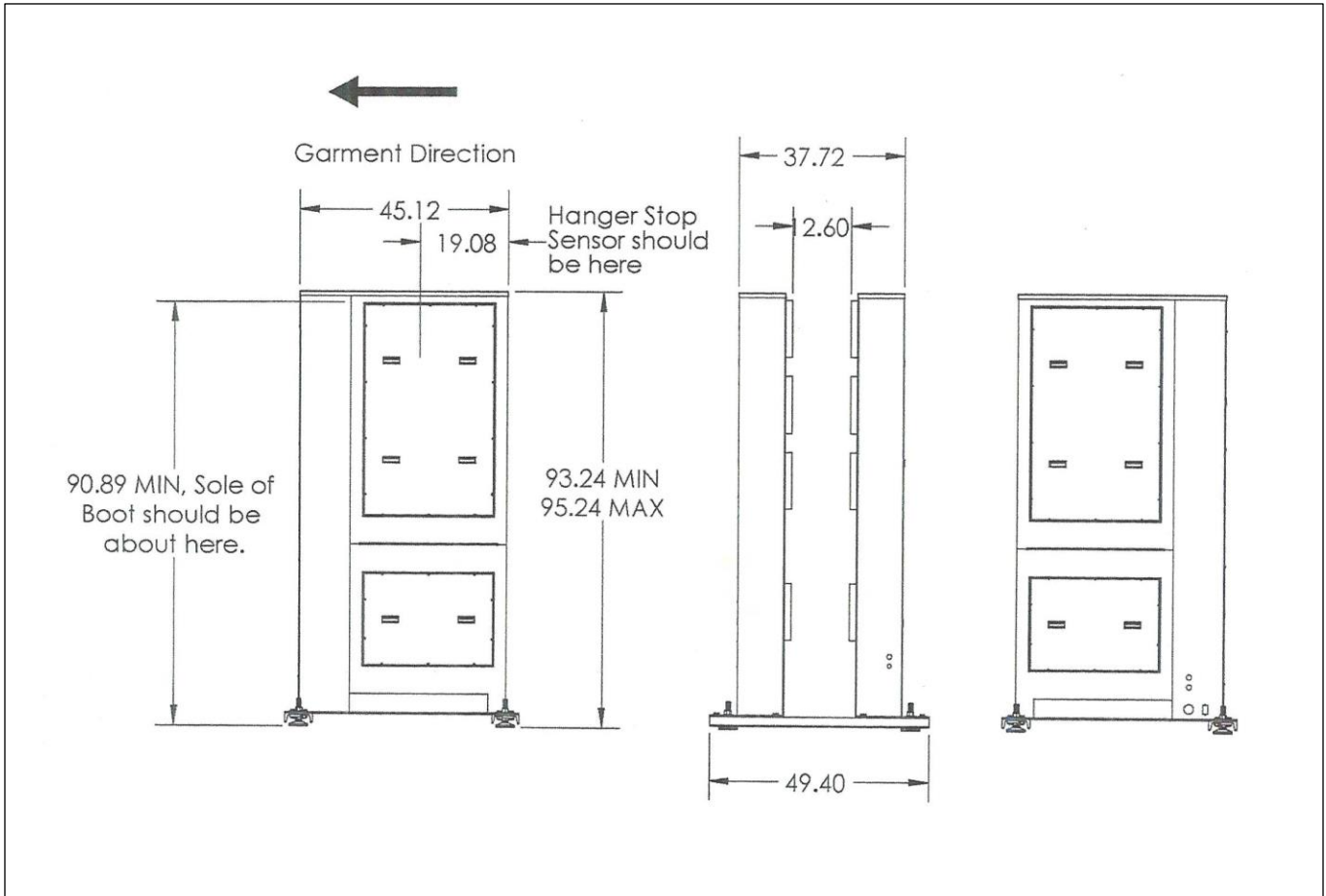


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LIM-OH-8 SET UP



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