

PORTABLE IODINE MONITOR

Model ~ FR-PIB – Total Airborne Activity

Model ~ FR-P11 & FR-P11-PB

FEATURES:

- DETECTS 5×10^{-11} $\mu\text{Ci/cc}$ IN 30 MINUTES
- BUILT-IN TIMER
- LINE OPERATED
- USER SETTABLE READ-OUT
- INTEGRATED EXPOSURE
- CAN DRAW AIR FROM HOOD OR ROOM
- QUICK CHANGE FILTER
- OPTIONAL: RS-232 COMPUTER &/OR DATA LOGGER INTERFACE

APPLICATION:

The **FR** Series Air Monitor assures Safety against airborne radioactivity contamination by means of constant check and optional record capability. It provides integrated exposure information.

The **FR** Series is sensitive and versatile. Although designed as an industrial workplace and hospital breathing air measurement system, it may be used to monitor fume hoods and stack effluent down to EPA levels.

DESCRIPTION:

- The **FR-P** Series uses standard charcoal filters in TA's unique quick change, no leak holders to trap any airborne radio-iodine.
- The filter is under constant surveillance via a GM (**FR-PIB**) or scintillation (**FR-P11**) detector.
- Air is drawn by a high volume pump through a flow meter and exhausted through a short three-foot hose.
- An Inlet and outlet hose may be attached to allow monitoring of hoods, glove boxes, stacks, etc.
- Time is controlled by a timer wired into the pump circuit.
- The unit is completely self-contained and portable.
- Complete with 10 filters



FR-PIB



FR-P11-PB



LAM-SCA ELECTRONICS



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Divisions of  US NUCLEAR CORP

PORTABLE IODINE MONITOR

Model ~ FR-PIB – Total Airborne Activity

Model ~ FR-PII & FR-PII-PB

SPECIFICATIONS:

ELECTRONICS:

Electronics:	LAM-SCA; AC & Rechargeable Batteries
Digital Readout:	6 digit LCD Rate, 8 digit integrate.
Time Base:	Crystal controlled 1-10,000 seconds, user settable.
Display Modes:	Rate, Integrate.
Range:	1×10^{-13} to 1×10^{-7} μ Ci/cc (or Ci/m ³) (Depends on count time)
Audio Alarm:	Piezo electric sounder with mute switch.
Single Channel:	
3 Switch Selectable Windows:	2 preset (resettable) window positions plus one "variable".
Analyzer/Discriminator:	10-turn, 1000 division pot for each threshold. 10-turn, 1000 division pot for window width.

SYSTEM:

Air Pump:	High Flow Pump and Filter holder.
Air Flow Rate:	227 liters/min
Filters:	10 pack charcoal filter papers 10 pack silver activated charcoal filter cartridges for Model FR-PII-PB only. (Can also use membrane, paper or glass fiber filters for particulates only.)
System Power:	115 V 50-60 Hz 2A (Optional: 230 V 50-60 Hz).
Case:	Electronics housed in enameled aluminum housing; handle included.

WEIGHT & DIMENSIONS:

Dimensions:	17"W x 13"H x 13 1/2"D Excluding pump and detector assembly.
Detector Assembly:	5"W x 10"H x 6"D.
Pump Assembly:	11"W x 13"H x 11"D.
Weight:	See Following Chart

OPTIONAL:

Shielding:	Detector shielding.
Alarm:	Settable 2000 Hz beeper and red flasher. Interface - RS-232 (Model MCC-23).
Serial Printer:	



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Easy Procedure for Use:

Flow-rate and air sample time have been preset (USER can change those if desired).

1. Turn on instrument.
2. Put in clean filter.
3. Make Test Count (pump Off).
4. Turn on Pump and start counter.
5. Come back in 30 minutes. (pump and counter have automatic timer SHUT-OFF)
6. Digital display reads out the airborne I-131 deposited on the filter

NOTE:

- A. Filter must be clean at start of each new air sample.
- B. User can change sample time and/or flow-rate but must enter new scale factor.
- C. User can change readout units.

Model:	FR-PIB	FR-P11	FR-P11-PB
Portability	Portable	Portable	Portable
DETECTOR	T-1190 GM Tube	PGS-3I	PGS-3
Size/Material	2" dia. Pancake	1" x 0.8" NaI(Tl)	1" x 1" NaI(Tl)
Window	Mica 1.5 - 2.0 mg/cm ²	Aluminum 5mil	Aluminum 10-20mil
Detects	Beta, Gamma Removal of Alpha Shield allows detection of Radon	Low + Middle Gamma.	Gamma
Iodine	I-131	I-125, I-129, I-131	I-131
Detects Particulates	Yes	Optional	Optional
Detects Aerosol & Reactive Gases	Yes	Yes	Yes
Filter	Charcoal Filter Paper 2" dia.	Charcoal Cartridge 2.5" dia.	Charcoal Filter Paper 2.5" dia.
Iodine Sensitivity: (30 min)	5×10^{-11} μ Ci/cc	1×10^{-10} μ Ci/cc	5×10^{-12} μ Ci/cc
Public Release: (1×10^{-10} μCi/cc)	1/2 x Public Release	Public Release	1/20 x Public Release
WEIGHTS:			
Electronics	5 lbs with Batteries	5 lbs with Batteries	5 lbs with Batteries
Detector + Filter	2 lbs	4 lbs	15 lbs
Pump	20 lbs	20 lbs	20 lbs
Shielding	None	None	1/2" lead - Pb
Electronics	LAM-SCA	LAM-SCA	LAM-SCA



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