

PORTABLE IODINE MONITOR

Model # FR-PIB Total Airborne Activity

Model# FR-P11-PB Iodine Only

FEATURES:

- DETECTS $6 \times 10^{-11} \mu\text{Ci/cc}$ in 30 minutes
- BUILT-IN TIMER
- PORTABLE REAL TIME ALARM
- LINE OPERATED
- INTEGRATED EXPOSURE
- READS DIRECTLY IN $\mu\text{Ci/cc}$
- CAN DRAW AIR FROM HOOD or ROOM
- QUICK CHANGE FILTER
- OPTIONAL: RS-232 COMPUTER AND/OR DATALOGGER INTERFACE

APPLICATION: The FR Series Air Monitor assures Safety against airborne radioactivity contamination by means of constant check with alarm 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.



Figure 1: FR-PIB



Figure 2: FR-P11

SPECIFICATIONS:

- Electronics:** PRS-5 Scaler/Timer with Energy Analyzer (See PRS-5 Spec Sheet or FIL-7 Programmable Scaler/Timer Spec Sheet).
- Pump:** High Flow Pump and Filter holder.

TA **TECHNICAL ASSOCIATES**
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§Revision: 1.4 §

PORTABLE IODINE MONITOR

Model # FR-PIB Total Airborne Activity

Model# FR-P1I-PB Iodine Only

SPECIFICATIONS (Continued):

Power: 115 V 50-60 Hz 2A (**Optional:** 230 V 50-60 Hz).

Range: 1×10^{-13} to 1×10^{-7} $\mu\text{Ci/cc}$ (or Ci/m^3) (Depends on count time)

Readout: 6 Digit LCD - PRS-5, or 6 digit LED - FIL-7D.

Flow Rate: 227 liters/min

Filters: Includes package of 10 charcoal filter papers or 10 silver activated charcoal filter cartridges for Model **FR-P1I-PB** only. (Can also use membrane, paper or glass fiber filters for particulates only.)

Model:	FR-PIB	FR-P1I	FR-P1I-PB
Portability:	Portable	Portable	Semi-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
Detector:	Beta, Gamma Removal of Alpha Shield allows detection of Radon Alphas.	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 Cartridge 2.5" dia.
Iodine Sensitivity: (30 min)	5×10^{-11} $\mu\text{Ci/cc}$	1×10^{-10} $\mu\text{Ci/cc}$	5×10^{-12} $\mu\text{Ci/cc}$
Public Release: (1×10^{-10} $\mu\text{Ci/cc}$)	1/2 x Public Release	Public Release	1/20 x Public Release
Weights:			
Electronics:	4 lbs	4 lbs	4 lbs
Detector+Filter:	2 lbs	4 lbs	15 lbs
Pump:	20 lbs	20 lbs	20 lbs
Shielding:	None	None	1/2" lead - Pb
<i>*Detects all airborne activity except Noble Gases, H-3, C-14, S-35, Fe-55.</i>			
Electronics:	PRS-5	PRS-5	FIL-7D

Case: Electronics housed in enameled aluminum housing; handle included.

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

Shipping Weight: 84 lbs.

Options: 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 directly in $\mu\text{Ci/cc}$ of airborne I-131
 - 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.

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