

PET, IODINE, or Tc-99m DTPA AIR MONITOR GAS & PARTICULATE

Model - FM-9-ABNI

FEATURES:

- DETECTS ALPHA, BETA, POSITRON, IODINE, Tc-99m DTPA
- AIRBORNE CONCENTRATION
- INTEGRATED EXPOSURE
- HIGH SENSITIVITY
- REAL TIME ALARM
- LINE OPERATED
- STANDARD FM-9 MODULES
- CAN DRAW AIR FROM HOOD, DUCT, ETC.
- QUICK CHANGE FILTER CARTRIDGE
- REGULATED AIR FLOW
- BUILT-IN DATA ARCHIVE & RETRIEVAL
- DATA UPDATES EVERY FEW SECONDS – OPERATOR SETTABLE
- COMPUTER INTERFACE – USB OR ETHERNET
- TRANSPORTABLE / CART MOUNTED UNIT

FM-9-ABNI



Detector PGS-31

USERS:

- Hospitals / Research
- Power Plants
- National Labs

APPLICATION:

The **FM-9- ABNI** Air Monitors assure safety against airborne radioactivity contamination by means of constant check with alarm and record capability.

It provides integrated exposure information and can provide hard copy via external printer or computer.

It is a complete system and may be expanded per need with modules of the **FM-9** series.

The **FM-9- ABNI** may be used to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air.

HOSPITALS: Protect workers, patients & the public.

- Use as Iodine Monitor for thyroid assessment & treatment areas
- Use as a Positron Monitor for all PET scan facilities.
- Use as a Tc-99m DTPA Air Monitor for areas where bone scans and DTPA lung function studies take place.

POWER PLANTS: Protect Workers & the community

- Use in radiation building.
- Use in containment.
- Use in the chemistry lab.
- For detection of Iodine & other radio chemicals.

NATIONAL LABORATORIES: Protect workers & the public

- Sees airborne particulates.
- Sees airborne radio chemicals of all types except Noble Gases



TECHNICAL ASSOCIATES OVERHOFF TECHNOLOGY

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Divisions of  US NUCLEAR CORP

TICKER UCLE

PET, IODINE, or Tc-99m DTPA AIR MONITOR GAS & PARTICULATE

Model - FM-9-ABNI

DESCRIPTION:

The **FM-9- ABNI** uses a standard charcoal filter in TA's unique quick change, no leak holder to trap any airborne Radio Iodine. The filter is under constant surveillance via a thin window scintillation detector. Air is drawn by a regulated pump through a three-foot inlet hose and exhausted via a flow meter through another three-foot hose.

These may be extended to allow monitoring of hoods, glove boxes, stacks, etc. Time is recorded by an odometer type timer wired into the pump circuit.

The unit is completely self-contained and portable. Complete with 10 filter cartridges.

PUMP: 56 liter/minute		PUMP: 120 liter/minute	
Time	Sensitivity	Time	Sensitivity
10 sec	$5 \times 10^{-3} \mu\text{Ci/l}$	10 sec	$2 \times 10^{-3} \mu\text{Ci/l}$
2 min	$1 \times 10^{-4} \mu\text{Ci/l}$	2 min	$0.5 \times 10^{-5} \mu\text{Ci/l}$
60 min	$8 \times 10^{-7} \mu\text{Ci/l}$	60 min	$3 \times 10^{-7} \mu\text{Ci/l}$
8 hr	$8 \times 10^{-8} \mu\text{Ci/l}$	8 hr	$4 \times 10^{-8} \mu\text{Ci/l}$
1 Week	$8 \times 10^{-13} \mu\text{Ci/l}$	1 Week	$8 \times 10^{-11} \mu\text{Ci/l}$

This corresponds to $2 \times 10^{-10} \mu\text{Ci/ml}$ minute exposure which is equal to 0.6% of the California Safety Code Title 17 and USNRC Title 10 limit for 40 hour weekly exposure to most hazardous Beta and/or Gamma emitter in absence of Ac 227.

DETECTOR:

Model **PGS-3** for sensitivity to **ALL** Iodines and Positron emitters.

2" diameter probe with thin window, 1" x 1" thick crystal, scintillation detector.

ELECTRONIC MODULES INCLUDE:

Power Supply and MV-5.12.24.

MAC-9: Air Control Timer; Low Flow Alarm Flowmeter

MGA-5: Single Channel Analyzer

FM-9: On-Board computer with color monitor

Readout: 7" Color LCD monitor built-in user data display.

- **Concentration**
- **Total Activity on Filter**
User Settable Units: (cps, Bq, μCi , Bq/m^3 , $\mu\text{Ci/l}$, DAC, DAC-hr etc.)
- **Raw Counts**
- **Flow Status**
- **Alarms – Audio & Visual On screen red light alert - User Settable.**
- **System Status; System Error**
- **Alert Change Filter Due to High Activity Build Up – Range Typically Set at 500 kBq or 13.5 μCi User Settable.**
- **Air Flow Rate Accessible via Display**



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Alarm:	On screen red light alert; audible alarm
Pump:	Quiet Green Turtle Pump – AP-3V included. 115V 60Hz 2Amps. Optional: 220 V 50-60 Hz.
Flow Rate:	35 – 200 l/m (Normally set at 180 liters/min.)
Mass Flow Meter:	Real-Time air flow rate-data feeds directly into data analyzer software. Onboard computer for highest concentration accuracy eliminating need for manual adjustment of High and Low Flow Rates.
Temperature Range:	20 to 130 degrees F. (-7 to 54 degrees C.) RH 90% Total change in system gain is less than $\pm 5\%$
Finish:	Baked enamel, easily cleaned.

WEIGHT AND DIMENSIONS:

ITEM	WEIGHT	DIMENSION
Electronics	20 lbs	21W x 16D x 11H
Pump	8 lbs	6W x 6D x 8H
Detector Shield with Detector	30 lbs	13L x 6W x 6H
Shipping Weight	65 lbs	



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