

ALPHA & BETA PARTICULATE AIR MONITOR

Model ~ FM-9-MA2 ~ Alpha ~ Model ~ FM-9-MAB2 ~ Alpha & Beta
Model ~ FM-9-MAB2-M ~ Alpha & Beta (MOBILE)

FEATURES:

- TABLE TOP OR TRANSPORTABLE OPTIONS:
- **FM-9-MA2** ~ ALPHA ONLY
- **FM-9-MAB2** ~ ALPHA & BETA
- **FM-9-MAB2-M** ~ MOBILE OPTION
- RUGGED SOLID STATE SILICON DETECTOR
- INTERNAL DATA ARCHIVE & USB RETRIEVAL
- QUICK CHANGE FILTER
- REAL TIME OPERATION
- REAL TIME ALARM - AUDIO / VISUAL
- LOW FLOW ALARM
- PROVIDES LOCAL OR REMOTE SAMPLING
- **FM-9-MAB2-M**
 - MOVING FILTER HEAD – 1 YEAR UNATTENDED
 - CART
- USB PORTS (4)
- **OPTIONS:**
 - REMOTE ALARM – CELL PHONE ALERT
 - REMOTE READOUT



**ELECTRONICS
FM9-M SERIES**



**CART Mounted
2 Wheeled Vertical or
4 Wheeled Horizontal
FM9-MAB2-M ONLY**



**MFH-AB MOVING FILTER HEAD
FM9-MAB2-M ONLY**

APPLICATION:

Technical Associates **FM-9 Air Monitor Series** assures safety against airborne radioactivity contamination by means of constant check with alarm and record capability. It provides integrated exposure information with an optional hard copy via external computer.

This Air Monitor Series is a complete system and may be expanded per need with modules of the **FM-9** series. The **FM-9 Air Monitor Series** is **sensitive and versatile**.

It may be used to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air.



TECHNICAL ASSOCIATES

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DESCRIPTION:

- The **FM-9-MA2** and **FM-9-MAB2 Air Monitors** utilize a solid state detector and two coordinated single channel analyzer windows.
- Utilizing two coordinated single channel analyzers the electronics will reject Radon pulses.
- The sample window (PHA allows the user to preset specific energy level for sample (eg. The "Radium A" peak), measuring Pu-239 or other Alpha emitters in the presence of significant or changing **Radon-Thoron background**.
- The count rate is shown on the front panel color monitor display both rate and integrated information.
- The user can select the operating modes: gross count, pulse height analyzing (PHA), or PHA with background subtract (PHA-SUB).
- The high level alarm trip point is settable over the entire range.
 - ✓ When activated, the system provides an on screen red alert and an audible alarm warning.
 - ✓ An adjustable alarm delay prevents short term transient alarms.
- The system uses a quick change 47mm filter.
- The unit comes with an AP-3V air pump or may be plumbed to hood exhaust or in-house air system.
- Included with the **FM-9-Air Monitor Series:**
 - Quiet Green Turtle Air Pump
 - Six feet plastic tubing
 - User's Manual
 - A box of 100 Filters

SPECIFICATIONS:

Detectors:	Alpha, Beta Particulate (1 Each) OPTIONAL: Tritium.
Detection:	1% of MPC of Pu-239 can be detected with average Radon-Thoron background.
Range:	Alpha: $10^{-2} - 10^5$ Bq/cm ³ OR $10^{-1} - 10^6$ Bq/cm ³ Beta: $3 \times 10^{-1} - 10^5$ Bq/cm ³
Sensitivity:	0.2 Bq/m ³ at 180 liter/min air flow with hour reading.
Energy Response:	Alpha: 2.7-10MeV Beta: 80 KeV – 2.5 MeV
Counting Efficiency:	24% of 2 pi with wide window setting for Pu-239 source in the filter holder.
Detector:	Solid state detector, cleanable silicon with a 490 sq. mm area and a typical Alpha resolution of 60 KeV maximum.
Response time:	1 sec. to 40 hours.
Readout:	7" Color LCD monitor built-in user data display. <ul style="list-style-type: none">• Concentration• Total Activity on Filter User Settable Units: (cps, Bq, µCi, Bq/m³, µCi/l, DAC, DAC-hr etc.)• Raw Counts• Flow Status• Alarms – Audio & Visual - User Settable.• System Status; System Error• Alert Change Filter Due to High Activity Build Up – Range Typically Set at 500 kBq or 13.5µCi User Settable.• Torn Paper Filter Error Alert• 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 and
 Onboard computer for highest concentration accuracy eliminating need
 for manual adjustment of High and Low Flow Rates.
- Ports:** Sample In & Sample Out (1 each)
 Purge Air Inlet (1)
 Calibration (2)
- Filters:** Pack of 100 47mm filters included.
- Temperature Range:** 20 to 130 degrees F. (-7 to 54 degrees C.)
 Total change in system gain is less than $\pm 5\%$
- Finish:** Baked enamel, easily cleaned.

ELECTRONIC MODULES INCLUDE:

- MV-5.12.24:** Electronics Power Supply – Accepts both 120V or 220V
- MFT-5A:** Sample Holder & Detector
- SUB-5:** Three level energy analyzer
- MAC-9:** Air Control; Low Flow Alarm; Flowmeter
- FM-9:** On Board computer with color monitor
- Pump Power:** 115V, 60 Hz (220 Volts, 50 Hz optional.)

WEIGHT & DIMENSIONS:

- Weight:** 35 lbs. excluding pump
- Dimensions:**
 Electronics Assembly &
 Internal Detector: 20"W x 13"H x 18" D.
 Pump assembly: 8"W x 8"H x 14"D.

OPTIONS:

- Remote Alarm Remote Readout Cell Phone Alert
- FM-9-MAB2-M: Cart Mounted – 2 Wheeled Vertical or 4 Wheeled Horizontal**

DESCRIPTION	FM-9-MA2 & FM-9-MAB2
Read-Out Units	User Settable
Measures	Airborne Concentration
Smart System	Calculations by On Board Computer Easy On Board Data Display & Archive Retrieval
Special Feature	Electronic Mass Flowmeter

Oil-Less Green Turtle Pump



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CONTROLS & FUNCTIONS	INDICATORS:
<ul style="list-style-type: none">➤ Master Power Switch For All Electronics.➤ Detector Bias Voltage, 50 Volts.➤ High Level Alarm Set.➤ Operate / Calibrate Modes.➤ Alarm Set, Displays Mode.➤ Alarm Acknowledge Button➤ Percent Subtract Function.➤ Threshold / Discriminator, Ten Turn-pot with 1,000 Division Dial.➤ Sample Window (PHA) Always Constant Above Threshold➤ Ten Turn Pot With 1,000 Division Dial.➤ Mode Switch - Gross Count, PHA, PHA-SUB.	<ul style="list-style-type: none">➤ On Screen High Alarm➤ Audio Alarm Warning➤ Loss of Signal On Screen➤ Detector Fail Rate➤ Running Time Record.➤ Mass Air Flowmeter➤ Low Air Flow Alert➤ ``Power On`` Light for Electronics

Moving Filter Head for Alpha / Beta ~ FM9-MAB2-M ONLY

FEATURES

- MOVING FILTER TAPE
- AUTOMATIC ADVANCE
- REMOTE AIR SAMPLING DETECTOR HEAD
- OPEN FACE BREATHING ZONE OPERATION FOR ROOM AIR
- SEALED PLASTIC CASE WITH CARRYING HANDLE
- CLEAR FRONT PANEL



DESCRIPTION:

FILTER TAPE:

- MATERIAL: 5.0 um TEFLON MEMBRANE FILTER
- SPECLON# BSP-FILT-50BTA
- WIDTH: 1.25"
- LENGTH: 1,200" (other lengths optional)

OPERATION:

- 1 YEAR 1 YEAR UNATTENDED USE – STEP EVERY 8 HRS
- 1 MONTH 1 MONTH UNATTENDED USE – STEP EVERY 1 HR

WEIGHT & DIMENSIONS:

- SIZE : 5" X 10" X 7"
- WEIGHT: 5 LBS

MODES OF OPERATION:(User Specified)



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- REMOTE START: SINGLE SHOT

TIMED OPERATION: -- (PRESET TIME)

- SINGLE SHOT
- AUTO REPEAT

OPTIONS & ACCESSORIES:

- FILTER ROLLS- LONGER, SHORTER
- SNIFFER HOSE HOOD, GLOVE-BOX, STACK OR OTHER LOCATION
- MASS FLOW SENSOR PRECISION HOTWIRE SENSOR OR SIMPLE ROTOMETER
- POWER 115 VAC – 60HZ STANDARD; 230 VAC – 50 HZ
- DC SYSTEM
- MOUNTING WALL MOUNT, HANDHELD, OR TRIPOD



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