

ALPHA & BETA PARTICULATE AIR MONITOR

Model FM-9-MA2 ~ Alpha ~~~ Model FM-9-MAB2 ~ Alpha & Beta

FEATURES:

- TWO OPTIONS ~ ALPHA ONLY OR ALPHA & BETA
- RUGGED SOLID STATE SILICON DETECTOR
- QUICK CHANGE FILTER
- REAL TIME OPERATION
- REAL TIME ALARM
- LOW FLOW ALARM
- PROVIDES LOCAL OR REMOTE SAMPLING
- USB PORTS (4)
- OPTIONS:
 - REMOTE ALARM
 - REMOTE READOUT
 - CART MOUNTED



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.

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	User's Manual
Six feet plastic tubing	A box of 100 Filters



TECHNICAL ASSOCIATES

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SPECIFICATIONS:

Detection:	1% of MPC of Pu-239 can be detected with average Radon-Thoron background.
Sensitivity:	Alpha: $10^{-2} - 10^5$ Bq/cm ³ Beta: $3 \times 10^{-1} - 10^5$ Bq/cm ³
Sensitivity:	7×10^{-7} Bq/m ³ at 70 liter/min air flow with 1 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
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:	25 – 135 l/m (Normally set at 55 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.
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.)



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WEIGHT & DIMENSIONS:

Weight: 35 lbs.
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
- Cart Mounted

Oil-Less Green Turtle Pump

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



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



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