

RADIATION & CHEMICAL AIR QUALITY MONITOR

Model ~ FM-9-MABC

FEATURES:

CHOICE OF SENSORS

NUCLEAR

- ALPHA ONLY OR BETA OR GAMMA OR COMBINATION

CHEMICAL

- SEE LIST PAGE 2 – PER REQUEST
- RUGGED SOLID STATE SILICON DETECTOR
- INTERNAL DATA ARCHIVE & RETRIEVAL
- QUICK CHANGE FILTERS
- REAL TIME OPERATION
- REAL TIME ALARM
- LOW AIR FLOW ALARM
- PROVIDES LOCAL OR REMOTE SAMPLING
- USB PORTS (4)
- OPTIONS:
 - REMOTE ALARM
 - REMOTE READOUT
 - CART MOUNTED



FM-9-MABC
ELECTRONICS

APPLICATION:

Technical Associates **FM-9-MABC Air Monitor** assures safety against airborne radioactivity and chemical 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 is a complete system & may be expanded per need with modules of the **FM-9** series.

The **FM-9 Air Monitor** is **sensitive and versatile**.

It may be used to monitor work place air, stack effluent, hoods, glove box or room & environmental air.

DESCRIPTION RADIATION SENSORS:

- The **FM-9-MABC Air Monitor** utilizes 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 user can select the operating modes: gross count, pulse height analyzing (PHA), or PHA with background subtract (PHA-SUB).
- The system typically 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



TECHNICAL ASSOCIATES

Divisions of



US NUCLEAR CORP

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RADIATION & CHEMICAL AIR QUALITY MONITOR

Model ~ FM-9-MABC

DESCRIPTION CHEMICAL SENSORS:

MIX & MATCH AT TIME OF ORDER

Chemical

Methane

Diesel Fumes & Particulates

CO Carbon Monoxide

CO₂ Carbon Dioxide

NO₂ Nitrogen Dioxide

SO₂ Sulfur Dioxide

O₃ Ozone

VOC

Fine Particulates

DESCRIPTION OTHER SENSORS:

Thermal

Temperature

Relative Humidity

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- 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-MABC-Air Monitor:**

Quiet Green Turtle Air Pump	User's Manual
Six feet plastic tubing	A box of 100 Filters

DESCRIPTION ELECTRONICS:

- The measurement rate is shown on the front panel color monitor display both rate and integrated information.
- 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.

SPECIFICATIONS RADIATION:

Detectors:	Alpha, Beta Particulate (1 Each)
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 x 10 ⁻¹ – 10 ⁵ Bq/cm ³
Sensitivity:	7x10 ⁻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.



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SPECIFICATIONS OF CHEMICAL & OTHER SENSORS WILL BE PROVIDED UPON USER REQUEST OF SPECIFIC SENSOR

SPECIFICATIONS ELECTRONICS:

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

- **Concentration of all Selected Hazards**
- **Total Activity on Filter**
User Settable Units: Radiation: cps, Bq, μCi , Bq/m^3 , $\mu\text{Ci/l}$, DAC, DAC-hr,
Chemical: ppm, ppb, LEL, etc.
- **Air Flow Status**
- **Air Flow Rate**
- **Alarms – Audio & Visual - User Settable.**
- **System Status; System Error**
- **Alert Change Filter Due to High Activity Build Up - User Settable.**
- **Torn Paper Filter Error Alert**

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 120 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.)

Finish: Baked enamel, easily cleaned.



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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
Cart Mounted

Remote Readout

Oil-Less Green Turtle Pump



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