



# PET or Iodine MCA Air Monitor

## Gas and Particulate

### Model – FM-9-MCA

### Description

The **FM-9-MCA** Air Monitor incorporates a Multi-Channel analyzer (MCA) to enhance and to help analyze which nuclides are present in the room air or stack gases. It assures safety against airborne radioactivity contamination by means of constant check with alarm and record capability. Integrated exposure information can also be obtained via hard copy with an external printer or computer.

The **FM-9-MCA** uses a standard charcoal filter in TA's unique quick change, no leak holder to trap any airborne 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.
  - Air is exhausted via a flow meter through another three-foot hose.
  - Hoses 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 charcoal filter cartridges.

### Features

- Airborne Concentration
- Integrated Exposure
- High Sensitivity
- Real Time Alarm
- Multi-Channel Analyzer
- Portable
- Standard FM-7/9 Modules
- Can Draw Air from Hood, Duct, etc.
- Quick Change Filter Cartridge
- Regulated Air Flow
- Data Archive and Display - Built-in
- Computer Interface – USB or Ethernet

### Application

The **FM-9-MCA** may be used to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air. It is a complete system but may be expanded per need with modules of the FM-9 series. The **FM-9-MCA** is **highly sensitive and versatile**.



## TECHNICAL ASSOCIATES OVERHOFF TECHNOLOGY

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## Model – FM-9-MCA

### Specifications

**Sensitivity:** Limit of sensitivity and (as Iodine 131 or positron emitter) at 120 liters/minute air flow rate  
- is  $4 \times 10^{-13}$   $\mu\text{Ci/cc}$  integrated over an 8 hour period,  
- or  $8 \times 10^{-14}$   $\mu\text{Ci/cc}$  for a 40 hour period.

This corresponds to  $2 \times 10^{-10}$   $\mu\text{Ci/ml}$  minute exposure and 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 emitters in absence of Ac 227.

**Detector:** 2" diameter probe with thin window, thin crystal, scintillation detector, (Model PGS-3L) for sensitivity to ALL Iodines and Positron emitters.

### Electronic Modules Include

- **MV-5.12.24:** Power Supply
- **MAC-9:** Air Control Timer; Low Flow Alarm, Electronic Mass Flowmeter
- **MCA-9:** Multi Channel Analyzer
- **MCT:** On Board computer with color monitor
- **M $\mu$ P:** Imbedded processor

**Pump:** Muffler and trap included. 115V 60Hz 2A. (230 V 50-60 Hz optional).

**Shielding:** 1" lead about sample and detector.

**Range:**  $1 \times 10^{-13}$  to  $1 \times 10^{-7}$   $\mu\text{Ci/cc}$  or (Ci/m<sup>3</sup>) Depends on count timer and flow rate.

**Alarm:** Settable. 2000 Hz beeper and red flasher.

**Response Time:** Settable 1 second to 40 hours.

**Readout:** Color 7" LCD Monitor shows status, alarms, concentration and total radiation values.

**Power:** 115V, 50-60 Hz (230 V optional).

**Flow Rate:** Regulated. Normally set at 70 liters/min.

**Filters:** Includes package of 10 silver activated charcoal filter cartridges Model CF-1.  
- Can also use membrane, paper or glass fiber filters for particulates only.

**Case:** Electronics housed in enameled aluminum case; carrying handles optional.

### Weight and Dimensions Excluding pump and detector assembly:

**Case:** 20" W x 13" H x 18" D.

**Detector Assembly:** 5" W x 10" H x 6" D.

**Pump Assembly:** 8" W x 8" H x 14" D.

**Shipping Weight:** 84 lbs.

**Accessories:** **Filter:** Additional free flowing silver activated charcoal disposable cartridge.




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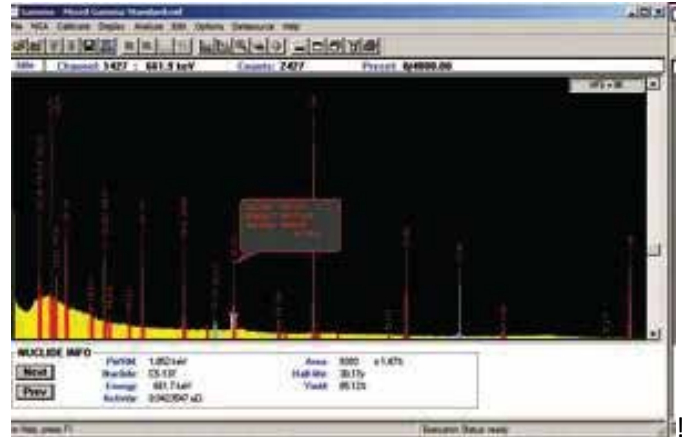
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**Model – FM-9-MCA**

DESCRIPTION	FM-9-MCA
Read-Out Units (Typical)	Bq/m <sup>3</sup> μCi/cc
Measures	Airborne Concentration
Upgraded Hardware	Calculations by Imbedded Processor On Board Data Archive & Display Electronic Mass Flowmeter
Available Option	Additional free flowing silver activated charcoal disposable cartridges



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