CARBON-14 AIR & STACK MONITOR

Model Series ~ CARB-F-9
CARB-F-9A ~ CARB-F-9B ~ CARB-F-9C

CONTINUOUS MULTIPLE READOUTS – CARB-F-9C: Net Organic C-14, Inorganic C-14, Iodine & Particulates

FEATURES:

- AIRBORNE CONCENTRATION CARBON-14
- INTEGRATED EXPOSURE
- HIGH SENSITIVITY
- REAL TIME ALARM
- LINE OPERATED
- SEMI-PORTABLE
- STANDARD FM-9 MODULES
- CAN DRAW AIR FROM HOOD, DUCT, ETC.
- QUICK CHANGE FILTER
- REGULATED AIR FLOW
- COMPUTER PORTS – USB OR ETHERNET
- DATA LOGGER - BUILT-IN
- DATA ANALYSIS BUILT-IN

APPLICATION:

The **CARB-F-9 Series 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 but may be expanded per need with modules of the **FM-9** series.

The **CARB-F-9 Series Air Monitors are more sensitive and versatile versions** of TA's long time standard broadly used air monitors.

Use to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air.

DESCRIPTION:

The **CARB-F-9 Series Air Monitors** uses a combination of charcoal, Ascarite or Soda-Lime filters in TA's unique quick change, no leak holder to trap Carbon-14 in CO_2 (inorganic) and Organic C-14, particulate and aerosol forms.

The filters are under constant surveillance via a variety of detectors.

Air is drawn by a regulated pump through the inlet hose and exhausted via a flow meter through the exhaust hose. These hoses may be extended to allow monitoring of hoods, glove boxes, stacks, etc.

The unit is completely self-contained and semi-portable. Replacement filter cartridges (10) are provided.

TECHNICAL ASSOCIATES
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ELECTRONICS MODULES INCLUDE:

Power Supply:	MV-5.12.24
Air Control Timer; Low Flow Alarm Flowmeter:	MAC-59
Amplifier & Bias Voltage:	MGA-5202
On Board Computer & Color Monitor:	FM-9

SPECIFICATIONS:

Sensitivity: Limit of sensitivity organic and inorganic (C-14) at 120 liters/minute air flow rate is 4 x 10^{-9} µCi/cc integrated over an 8 hour period, or 8 x 10^{-10} µCi/cc for a 40 hour period.

(This corresponds 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}.)

Data Analyzer and Display:	Imbedded processor
Pump:	Ultra quiet pump 115V 60Hz 2A. (230 V 50-60 Hz optional).
Shielding:	1" lead equivalent shielding encloses sample and detector.
Standard Ranges:	1 x 10^{-5} to 1.0 µCi/l (370 to 3.7 x 10^{6} Bq/M^3).
Optional Ranges:	Other ranges, higher, lower are available
Alarm:	Settable. 2000 Hz beeper and screen display.
Engineering Units:	User can specify measurement units Bq/ M^3, µCi/l or any other units.
Response Time:	Settable 1 second to 40 hours.
Readout:	7" Color LCD monitor built-in for digital and graphic user data display.
Power:	115V, 50-60 Hz (230 V optional).
Flow Rate:	Regulated. Normally set at 50 liters/min.
Filters:	Includes package of 10 replacement filters.
Case	Electronics housed in enameled aluminum case; carrying handles optional.

WEIGHT & DIMENSIONS:

Dimensions:	Excluding pump and detector assembly:	20"W x 13"H x 18" D.
	Detector assembly	6"W x 12"H x 6" D.
	Green Turtle Pump assembly:	7"W x 8"H x 15"D.
•Shipping Weight:	84 lbs.	

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DESCRIPTION	CARB-F-9 Series
READ OUT UNITS Standard Optional	 µCi/cc Bq/m3
Measures	Airborne Concentration
State of the Art Hardware	Calculations by Imbedded Processor On Board Data Logger
State of the Art Software	TAlert™
Advanced Feature	Electronic Mass flowmeter

FILTER CARTRIDGE	GAS TRAPPING	COMMENTS
Activated Charcoal	All active airborne Chemicals	Including Iodine and Organic C-14

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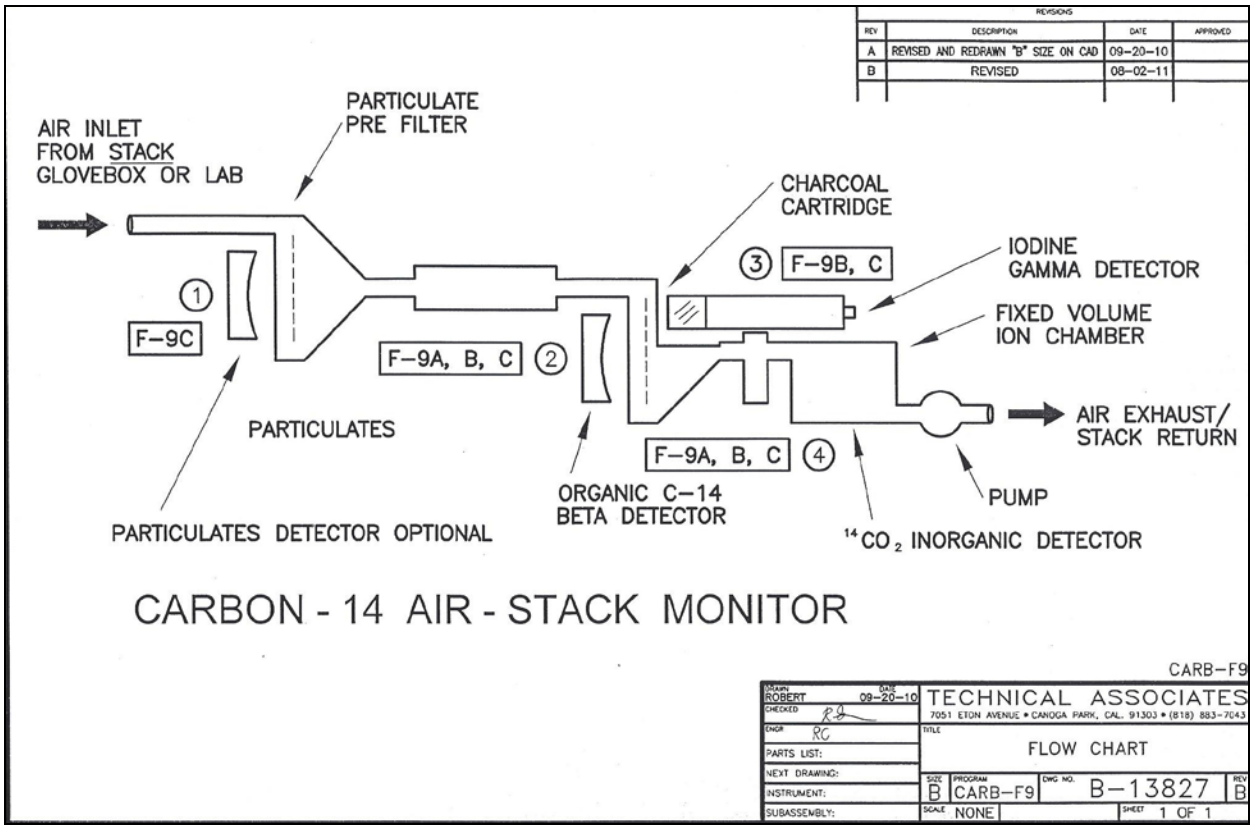

CARB-F-9 Series Models	DIAGRAM DETECTOR NUMBER	VARIOUS PARTICULATES	ORGANIC C-14 & IODINE	IODINE-131	NET ORGANIC C-14	INORGANIC C-14 (CO_2)	TOTAL CARBON-14
CARB-F-9A	2 & 4	NO	YES	NO	NO	YES	NO
CARB-F-9B	2,3,& 4	NO	YES	YES	YES	YES	NO
CARB-F-9C	1, 2, 3, & 4	YES	YES	YES	YES	YES	YES

NET ORGANIC C-14 CALCULATION: DETECTOR **2 LESS** VALUE OF DETECTOR **3** **(2 – 3)**

TOTAL C-14 CALCULATION: DETECTOR **4** VALUE **PLUS 2 LESS** VALUE OF DETECTOR **3** **4 + (2 – 3)**

OPTIONS:

- CART MOUNT
- NOBLE GAS SUBTRACTION

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