

# BETA-GAMMA PARTICULATE-AIR MONITOR

## β - γ 尘粒空气监测器

### MODEL#FM-9-ABGN

#### FEATURES:特点

AIRBORNE CONCENTRATION 气溶胶浓度

- INTEGRATED EXPOSURE 综合一体暴辐
- HIGH SENSITIVE 高灵敏度
- REAL TIME ALARM 实时报警
- LINE OPERATED 电线供电
- PORTABLE 便携
- STANDARD FM-7/9 MODULES 标准 FM-7/9 模块
- CAN DRAW AIR FROM HOOD, DUCT, ETC. 可从排气罩和风管等抽气
- QUICK CHANGE FILTER CARTRIDGE 快速更换滤芯
- REGULATED AIR FLOW 调节流量
- COMPUTER INTERFACE – USB OR ETHERNET 电脑接口-USB 或以太网
- DATA LOGGER - BUILT-IN 内置数据录入器



#### APPLICATION:应用

The FM-9-ABGN 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-9series. The FM-9-ABGN is more sensitive and versatile version of the broadly used long time standard, the FM-5-ABN. They may be used to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air.

FM-9-ABGN 空气监测器通过连续检查报警功能, 针对气溶胶辐射污染, 确保安全。提供综合暴辐信息, 通过外接打印机或电脑提供硬拷贝, 为一套完整系统, 可根据需要用 FM-9-ABGN 系列模块拓展功能。FM-9-ABGN 比用途广泛寿命长的标准版 PM-5-ABGN 更灵敏, 更多功能。可以用来监测烟囱道排放物低至 EPA 标准。还可用于风罩或工作间空气测量。

#### DESCRIPTION:

##### 描述

The FM-9-ABGN uses a standard filter in TA's unique quick change, no leak holder to trap any airborne particulates. The filter is under constant surveillance via a thin window pancake detector. Air is drawn by a regulated pump through a three-foot inlet hose and exhausted via a flow meter through another three-foot hose. These may be extended to allow monitoring of hoods, glove boxes, stacks, etc. Time is recorded by a computer wired into the pump circuit. The unit is completely self-contained and portable. Complete with box of 100 filters.

FM-9-ABGN 使用标准 TA 独特快速更换滤网, 密封托架, 捕获任何气溶胶辐射物。滤器通过扁平管探头薄窗被连续监视。空气由调节泵通过一根 3 英尺长入气管抽进; 流经一块流量表, 通过另一根 3 英尺长软管排出。这些软管可延长以便监测风罩、手套箱、烟囱道等。时间由一个连接到泵电路的里程表式计时器记录。此装置完全一体便携。带 100 片滤纸。



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#### SPECIFICATIONS

规格

#### **Sensitivity: 灵敏度**

Limit of sensitivity 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 which 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 emitter in absence of c 227.

在流量为 120 升/分钟时, 综合时段超过 8 小时, 灵敏限值为  $4 \times 10^{-13} \mu\text{Ci/cc}$ , 或 40 个小时  $8 \times 10^{-14} \mu\text{Ci/cc}$ , 相当于  $2 \times 10^{-10} \mu\text{Ci/cc}$  每分钟暴辐, 这数值等于加州安全准则 17 条和 USNRC 第 10 条对于在没有  $\text{Ac}^{277}$  出现情况下每周 40 小时暴露在最危险的 β γ 发射体下的 0.6%。

•**Detector:** 2" diameter thin window GM detector Model T-1190 for sensitivity to ALL Beta-Gamma positron emitters.

探头: 直径 2" 薄窗 GM 探头型号 T-1190 测量所有 β - γ 正电子发射体

#### •**Electronic Modules Include:**

电子学模块包括:

•**Power Supply and MV-5.12.24.**

电源和 MV-5.12.24.

•**MAC-9:** Air Control Timer; Low Flow Alarm Flow-meter

MAC-9: 空气控制定时器, 低流报警流量表

•**FM-9:** On Board computer with color monitor

FM-9: 机载电脑带彩色显示器

•**MμP:** Imbedded processor

MμP: 内嵌处理器

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

泵: 包括消音器和托架。115V 60Hz 2A. (230 V 50-60 Hz 选购).

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

屏蔽: 样品和探头周围 1" 铅

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

量程:  $1 \times 10^{13}$  -  $1 \times 10^7 \mu\text{Ci/cc}$  或 (Ci/m<sup>3</sup>) 视计数时间和流量而定。

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

报警: 可设定。2000 Hz 蜂鸣音和红色闪灯

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

响应时间: 可设定 1 秒-40 小时

•**Readout:** 7" Color LCD monitor built-in for digital and graphic user data display.

读出: 7" 彩色 LCD 显示器, 内置用于显示用户数字和图谱数据

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

电源: 115V, 50-60 Hz (230 V 选项).

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

流量: 调节, 正常设定 70 升/分钟

•**Filters:** Includes box of 100 glass fiber filters – 2" or 55mm

Can also use membrane, paper or glass fiber filters

滤尘器: 包括一盒 100 片玻璃纤维滤网-2" 或 55mm

也可以使用滤膜, 滤纸或玻璃纤维滤网

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

外箱: 电子学封装在铝箱, 选购提手



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•Dimensions:  
尺寸

Excluding pump and detector assembly: 20"W x 13"Hx 18" D.

不包含泵和探头组件: 20"W x 13"Hx 18" D.

Detector assembly 5"W x 10"H x 6" D.

探头组件: 5"W x 10"H x 6" D.

Pump assembly 8"W x 8"H x 14"D.

泵组件: 8"W x 8"H x 14"D.

•Accessories: Filter: Free flowing glass fiber filters – 2" or 55mm.

配件: 滤尘器: 高效玻璃纤维滤网-2"或 55mm

•Shipping Weight: 84lbs.

装运重量: 84lbs.

DESCRIPTION 描述	FM-9-ABGN
READ-OUT UNITS 读出单位 (Typical)	Bq/m3
Measures 测量	Airborne 气溶胶 Concentration 浓度
Upgraded Hardware 升级软件	Calculations by Imbedded Processor 嵌入式处理器 On Board Data Logger 车载数据记录器
Available options 可供应	Optional Electronic mass flow-meter (选购) 电子流量计

