

# ALPHA - BETA / GAMMA AIR MONITOR

## $\alpha - \beta / \gamma$ 空气监测器

Model ~ FM-9-AB2

### FEATURES: 特点

- INTEGRATED EXPOSURE 综合暴露
- REAL TIME ALARM 实时报警
- LINE OPERATED AC线供电
- PORTABLE 便携
- STANDARD FM-9 MODULES 保准FM-9模块
- CAN DRAW AIR FROM HOOD, DUCT, ETC.  
可以从风罩/管里抽取空气
- QUICK CHANGE FILTER CARTRIDGE  
快速更换滤芯
- REAL TIME AIR FLOW MEASUREMENT DISPLAY  
实时流量显示
- COMPUTER INTERFACE – USB OR  
ETHERNET  
计算机USB接口或以太网
- DATA ARCHIVE & RETRIEVAL  
数据存档&检索



### APPLICATION:应用

The **FM-9-AB2** Air Monitors assure safety against airborne radioactivity contamination by means of constant check with alarm and record capability. Data archive and retrieval is available via USB or Ethernet ports.

It is a complete system but may be expanded per need with modules of the **FM-9** series.

FM-9- ABNI空气监测器有对气溶胶辐射污染物持续检测，报警并记录功能，以确保安全。此仪器提供一体化综合暴露信息，通过打印机或电脑可以硬拷贝，是一套完整系统，可根据需要用FM-9系列模块进行拓展。

The **FM-9-AB2** is **sensitive and versatile**.

FM-AB2灵敏，多功能

It may be used to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air. 可用于监测烟囱道排放物，低到 EPA 标准，也可用于检测排风管，手套箱或工作场所空气

### DESCRIPTION:描述

The **FM-9-AB2** 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 both an Alpha scintillator and a Beta pancake GM tube.

FM-9-AB2 使用标准TA公司专用快速更换、无泄漏过滤器托，捕获任何气溶胶粒子。 $\alpha \beta$  扁平GM管连续监测过滤网。



**TECHNICAL ASSOCIATES**

Divisions of



USNUCLEAR CORP

**OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303  
818-883-7043 (Phone) 818-883-6103 (Fax)

[tagold@nwc.net](mailto:tagold@nwc.net)

[WWW.TECH-ASSOCIATES.COM](http://WWW.TECH-ASSOCIATES.COM)

# ALPHA - BETA / GAMMA AIR MONITOR

## $\alpha - \beta / \gamma$ 空气监测器

### Model ~ FM-9-AB2

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.

气样通过一根3英尺长进气管由调节泵抽气，由另一根3英尺长排气管排出，管子可延长以允许监测排风管，手套箱，烟道等，时间由连接到泵电路计算机记录。

The unit is completely self-contained and portable. Complete with box of 100 filters.

仪器完全一体便携，带一盒100只装过滤网

### SPECIFICATIONS:规格

**Alpha Sensitivity:** 1KBq/m<sup>3</sup> Alpha ( $3 \times 10^{-8}$  Ci/m<sup>3</sup>) = ( $3 \times 10^{-8}$   $\mu$ Ci/cc) is easily measured in one hour at 70 lpm flow rate.

$\alpha$  灵敏度: 70 lpm 流量情况下，一小时后很容易测量1KBq/m<sup>3</sup> Alpha ( $3 \times 10^{-8}$  Ci/m<sup>3</sup>) = ( $3 \times 10^{-8}$   $\mu$ Ci/cc)

**Beta Sensitivity:** Limit of sensitivity (as Cs-137 at 70 liters/minute air flow rate) is  $4 \times 10^{-13}$   $\mu$ Ci/cc integrated over an 8 hour period, or  $8 \times 10^{-14}$   $\mu$  Ci/cc for a 40 hour period.

$\beta$  灵敏度: 8小时灵敏度限值  $4 \times 10^{-13}$   $\mu$ Ci/cc (70L/分钟流量, Cs-137), 或40小时  $8 \times 10^{-14}$   $\mu$  Ci/cc

**NOTE:** This corresponds to  $2 \times 10^{-10}$   $\mu$ Ci/ml minute exposure 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 Ac 227.

**注:** 这相当于每分钟曝辐  $2 \times 10^{-10}$  微居里/毫升，等于加州安全守则第 17 和美国核管会第 10 条的每周 40 小时对最危险  $\beta$  和/或  $\gamma$  发射器的暴露的 0.6%，不含 Ac 227

**Alpha Detector:** 2" dia. probe, thin Zn(S) Alpha scintillation phosphor, Model **PAS-8**.

$\alpha$  探头: 直径2"探头，薄Zn(S)  $\alpha$  闪烁荧光体，型号PAS-8

**Beta Detector:** 2" dia. **T-1190** GM pancake detector with Beta window to eliminate Alpha cross talk, or with 2mg/cm window to allow C<sup>14</sup> and S<sup>35</sup> detection.

$\beta$  探头: 直径2", T-1190 GM扁平管探头，带 $\beta$ 窗，清除 $\alpha$ 干扰，或带2mg/cm窗以允许探测C<sup>14</sup>和S<sup>35</sup>

### ELECTRONIC MODULES INCLUDE: 电子学模块包括

**MV-5.12.24:** Power Supply 电源

**MAC-9:** Air Control Timer; Low Flow Alarm Flowmeter 气流控制计时器，低流报警流量计

**FM-9:** On Board computer with color monitor 彩屏机载电脑

**M $\mu$ P:** Imbedded processor 嵌入式处理器

**RANGE:** 量程

**Beta Range:**  $1 \times 10^{-13}$  to  $1 \times 10^{-7}$   $\mu$ Ci/cc or (Ci/m<sup>3</sup>).

$\beta$  量程

**Alpha Range:** 1cpm to 100,000cpm,  $3 \times 10$  to  $3 \times 10$  Ci on filter.

$\alpha$  量程



**TECHNICAL ASSOCIATES**

Divisions of



USNUCLEAR CORP

**OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303

818-883-7043 (Phone) 818-883-6103 (Fax)

[tagold@nwc.net](mailto:tagold@nwc.net)

[WWW.TECH-ASSOCIATES.COM](http://WWW.TECH-ASSOCIATES.COM)

# ALPHA - BETA / GAMMA AIR MONITOR

## $\alpha - \beta / \gamma$ 空气监测器

### Model ~ FM-9-AB2

<b>Alarm:</b>	Settable. 2000 Hz beeper and red flasher.
<b>报警:</b>	可设定, 2000Hz蜂鸣音和红色闪灯
<b>Response Time:</b>	Settable 1 second to 40 hours.
<b>响应时间:</b>	可设定1秒-40小时
<b>Readout:</b>	7" Color LCD monitor built-in for digital and graphic user data display.
<b>读数显示:</b>	7英寸彩色LCD或内置数字和图形数据显示
<b>Flow Rate:</b>	Regulated. Normally set at 70 liters/min. (User Settable)
<b>流量:</b>	可调节, 正常设定70L/分钟(用户设定)
<b>Mass Flow Meter:</b>	Real-Time air flow rate data feeds directly into data analyzer software and embedded processor for highest concentration accuracy.
<b>质量流量计:</b>	实时空气流量数据直接反馈到数据分析仪, 软件嵌入式处理器, 得出高精度浓度
<b>Power:</b>	115V, 50-60 Hz ( <b>Optional</b> 230 V).
<b>电源:</b>	
<b>Shielding:</b>	1" lead about sample and detector.
<b>屏蔽:</b>	样品和探头周围1英寸铅
<b>Pump:</b>	Noise Free Pump. 115V 60Hz 2A. ( <b>Optional</b> 230 V 50-60 Hz)
<b>泵:</b>	静音泵, 115V 60Hz 2A. (可选 230 V 50-60 Hz)
<b>Filters:</b>	Includes box of 100 glass fiber filters – 2" or 55mm. Can also use membrane, paper or glass fiber filters.
<b>过滤器:</b>	包括100只装一盒玻璃纤维, 2" 或 55mm, 可使用膜, 纸或玻璃纤维
<b>Case:</b>	Electronics housed in enameled aluminum case; carrying handles optional.
<b>外箱:</b>	电子学外箱烤瓷铝, 可选提手

### WEIGHT & DIMENSIONS: 重量&尺寸

<b>Dimensions:</b>	Excluding pump and detector assembly: 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.
<b>尺寸:</b>	不包括泵和探头组件: 20"W x 13"H x 18" D. 探头组件5"W x 10"H x 6" D 泵组件 20"W x 13"H x 18" D

<b>Shipping Weight:</b>	84lbs.
<b>装运重量:</b>	84磅

<b>OPTION:</b>	<b>FM-9AB2SJ</b> – Substitute a solid state Alpha detector (to replace Alpha scintillator) allows Alpha energy discrimination and Radon rejection.
<b>选购:</b>	FM-9AB2SJ-替代固体 $\alpha$ 探头, 以允许 $\alpha$ 能量识别和氡抑制。



**TECHNICAL ASSOCIATES**

Divisions of



US NUCLEAR CORP

**OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303  
818-883-7043 (Phone) 818-883-6103 (Fax)

[tagold@nwc.net](mailto:tagold@nwc.net)

[WWW.TECH-ASSOCIATES.COM](http://WWW.TECH-ASSOCIATES.COM)

# ALPHA - BETA / GAMMA AIR MONITOR

## $\alpha - \beta / \gamma$ 空气监测器

Model ~ FM-9-AB2

**Accessories:** Filter: Free flowing glass fiber filters – 2” or 55mm.

**配件:** 过滤器: 自由流玻璃钢过滤网-2” 或 55mm

DESCRIPTION 描述	FM-9-AB2
Read-Out Units <b>Optional</b> Read-Out Units 读出单位	$\mu\text{Ci/cc}$  Specify at Time of Order  订购时指定
Measures 测量	Airborne Concentration 气溶胶浓度
Smart System 智能系统	Calculations by Imbedded Processor On Board Data Logger 嵌入式处理器和 机载数据录入器 计算
<b>Special Feature</b> 特殊功能	Electronic Mass Flowmeter 电子质量流量计
	Direct Drive 直接驱动
	Noiseless, quiet pump 无油静音泵



**Oil-Less quiet Green Turtle Pump**  
无油静音绿龟泵



**TECHNICAL ASSOCIATES**

Divisions of



US NUCLEAR CORP

**OVERHOFF TECHNOLOGY**

7051 Eton Ave., Canoga Park, CA 91303

818-883-7043 (Phone) 818-883-6103 (Fax)

[tagold@nwc.net](mailto:tagold@nwc.net)

[WWW.TECH-ASSOCIATES.COM](http://WWW.TECH-ASSOCIATES.COM)