

IODINE-125 & XENON-125 RATEMETER

碘-125&氙-125剂量率测量仪

Model - FM-9-IXE

FEATURES: 特点

- REAL-TIME AIRBORNE CONCENTRATION (In Any Units – User Settable)
- 实时测量气溶胶浓度（用户设定任何单位）
- HIGH SENSITIVITY
- 高灵敏度
- REAL TIME ALARM (User Settable)
- 实时报警（用户设定）
- LINE OPERATED
- AC线电源
- STANDARD FM-9 MODULES
- 标准FM-9模块
- CAN DRAW AIR FROM HOOD, DUCT, ETC.
- 可从风罩，管道等抽取气样
- QUICK CHANGE IODINE FILTER CARTRIDGE – PGS-3I
- 快速更换碘过滤芯– PGS-3I
- QUICK CONNECT IODINE DETECTOR – PGS-3I
- 快速连接碘探测器– PGS-3I
- QUICK CONNECT XENON DETECTOR – PGS-3X
- 快速连接氙探测器– PGS-3I
- BUILT-IN DATA ARCHIVE & RETRIEVAL
- 内置数据录入与检索
- DATA UPDATES EVERY FEW SECONDS – OPERATOR SETTABLE
- 数据每几秒更新-操作者设定
- COMPUTER INTERFACE – USB OR ETHERNET – QUICK CONNECT
- 电脑接口-USB或以太网-快速连接

FM-9 ELECTRONICS & DISPLAY



I-125 Detector PGS-3I
WITH SHIELDING



Xe-125 Detector PGS-3X



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

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

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of  US NUCLEAR CORP

IODINE-125 & XENON-125 RATEMETER

碘-125&氙-125剂量率测量仪

Model - FM-9-IXE

APPLICATION: 应用

The **FM-9- IXE ratemeter system** assures safety against airborne radioactivity contamination by means of constant check with alarm and record capability. It provides airborne concentration information for I-125 & Xe-125. A quick connect provides retransmit capability for data retrieval and hard copy via external computer and printer.

FM-9-IXE剂量率测量系统通过连续监测报警记录功能，针对气溶胶污染物，确保安全；其提供I-125 & Xe-125浓度信息。

It is a complete system and may be expanded per need with modules of the **FM-9** series. The **FM-9-IXE** may be used to monitor stack effluent down to EPA levels as well as hoods, glove box or workplace air. 此系统一体，根据需求可用FM-9系列模块拓展功能，FM-9-IXE可以监测烟道、风罩、手套箱、工作间流出物低到EPA规定限值。

DESCRIPTION: 描述

FLOW PATH: 流路

- Air is drawn in through an inlet hose.
- 气样通过进气口抽进
- Incoming air stream passes first through a particulate pre-filter to remove Cs-137 and other confounding particulates.
- 进气首先通过前置过滤器过滤掉Cs-137和其它混杂粒子
- The **FM-9-IXE** uses the PGS-3I with a standard charcoal filter in TA's unique quick change, no leak holder to trap any airborne I-125 and other Radioiodine isotopes. The charcoal filter is under constant surveillance via a thin window scintillation detector.
- **FM-9-IXE**使用TA公司快速更换的标准炭过滤器PGS-3I和密封过滤器托，可捕获任何气溶胶I-125和其它辐射碘核素；通过薄窗闪烁探测器持续监测炭过滤器。
- Air is then drawn into the Xenon measurement cavity observed by the PGS-3X detector.
- 然后，气样被抽进样品腔由PGS-3X进行氙测量
- Air enters Mass Flow Meter.
- 气样进入质量流量计
- Air enters the pump.
- 气样进入泵系统
- Air is then exhausted via another hose.
- 然后气样通过另一根管道排放掉
- Utilizing two individual detectors provides superior I-125 sensitivity. Although the filter concentrates activity from a large volume of air, the FM-9-IXE software individually records the increase in activity every 2 seconds to provide accurate real-time I-125 concentration levels.



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

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

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of  US NUCLEAR CORP

IODINE-125 & XENON-125 RATEMETER

碘-125&氙-125剂量率测量仪

Model - FM-9-IXE

使用两个独立探测器测量I-125灵敏度。尽管过滤器浓缩了大量空气浓度，但是FM-9-IXE软件每两秒钟分别记录增加的活度以提供精确的实时I-125浓度值

Simultaneous total 4 hour moving average readings gives accurate readings at the very lowest concentrations.

Better Xe-125 sensitivity is also achieved because the I-125 has been removed and does not mask the Xe-125 signal.

同时记录的总计4小时平均读数在最低浓度情况下提供了精确读数；因为I-125被移除，对Xe-125信号无遮盖，所以Xe-125测量精度高。

A real-time mass flow meter provides the built in computer with instantaneous flow rate and count rate providing greater accuracy than traditional flow rate calculations.

The unit comes with 10 filter cartridges.

实时质量流量计带内置电脑，同时提供流量和计数率，比传统流量计算大大提高了精度。仪器带10个过滤器芯。

SPECIFICATIONS:

规格

RANGE:

量程

Xe-125

2×10^{-7} to 2×10^{-3} $\mu\text{Ci/ml}$ to a 2σ confidence level within a 4 hour period.

I-125

8×10^{-10} to 8×10^{-6} $\mu\text{Ci/ml}$ to a 2σ confidence level within a 4 hour period.

ENVIRONMENTAL OPERATING CONDITIONS: 操作环境要求

Temperature:

Ambient: 0° to 40° C

Upset: 0° to 40° C

温度:

Temperature Effects:

$\pm 5\%$

环境影响:

Humidity:

Ambient: 20% to 85% RH Non-Condensing

Upset : 20% to 85% RH Non-Condensing

湿度:

Pressure:

Ambient: Atmospheric

压力:

环境压力: 标准大气压

Background Radiation:

Reads Correctly: Cs-137 $\leq 15\text{mR/h}$

本底辐射:

Accuracy:

$\pm 20\%$ or Better

精度:

优于 $\pm 20\%$

Precision:

$\pm 10\%$ deviation from a mid-scale reading with a 2σ confidence reading.

精度:

中量程读数内 $\pm 10\%$ 置信度 2σ

ALARMS:

报警



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

Divisions of  US NUCLEAR CORP

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

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

IODINE-125 & XENON-125 RATEMETER

碘-125&氙-125剂量率测量仪

Model - FM-9-IXE

Alarm Function:	High & Fail Latching
报警功能:	高限&故障
Visual Alarm:	High & Fail on Instrument Panel Face
视觉报警:	仪器前板高限&故障
Audio Alarm:	High & Fail on Instrument Panel Face Acknowledge/Silence Switch on Instrument Panel Face Integral Alarm Reset Switch on Instrument Panel Face
声音报警:	仪器前板配有高限&故障报警; 确认/静音开关; 报警重设
ELECTRICAL:	配电
Power:	120 V AC, 60 Hz; $\pm 10\%$
电源:	
Power Cord:	5 meters long with Quick Connect. (OPTIONAL: Longer Cord)
电源线:	5米长线带快速接头 (选项: 更长电源线)
Power Indicator:	LED on Instrument Panel Face
电源指示:	仪表前板LED
Electrical & Frequency Variations:	$\pm 5\%$ or Better at Minimum Detectable Levels.
电&电压频率变化:	最小探测限时变化在 $\pm 5\%$ 或以上
Electrical Enclosure Class:	IP-20
电气外壳等级:	

RETRANSMIT INFORMATION:

Retransmit Output:	Linear – 0 – 5V
重传输出:	线性– 0 – 5V
Retransmit Signal:	User Specified
转发信号:	用户设定
Retransmit Connection:	Quick Connect
重传连接:	快速连接

ELECTRONIC MODULES INCLUDE: 电子学模块包括:

Power Supply and MV-5.12.24.

MAC-5:	Air Control Timer; Low Flow Alarm Flowmeter 控制定时器, 低流报警流量计
MGA-5:	Single Channel Analyzer 单道分析仪



TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY

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

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of  US NUCLEAR CORP

IODINE-125 & XENON-125 RATEMETER

碘-125&氙-125剂量率测量仪

Model - FM-9-IXE

MCT: On-Board computer with color monitor

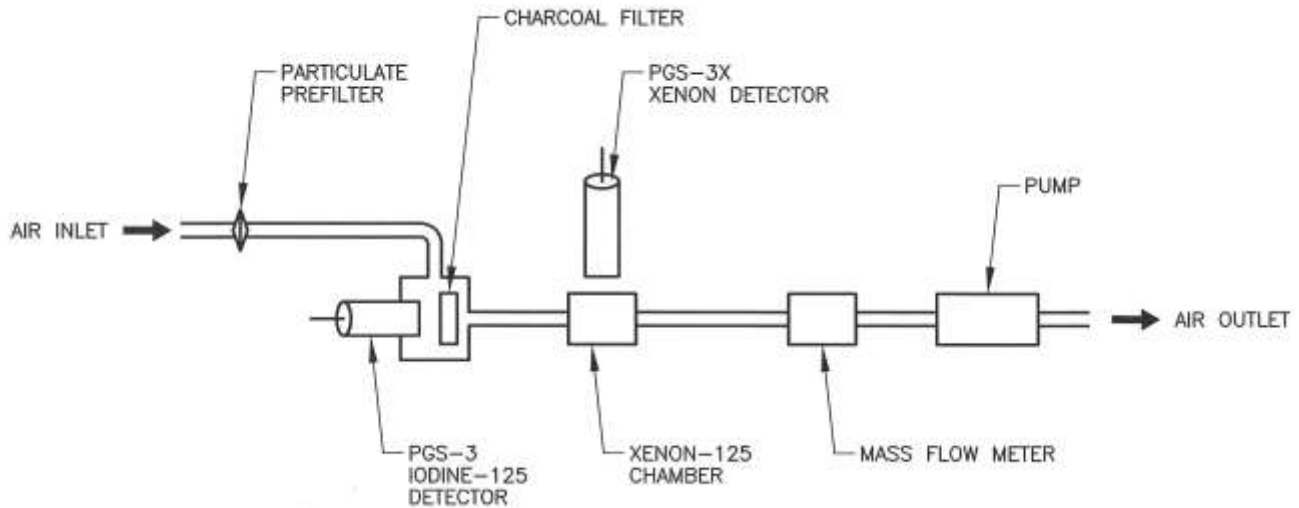
机载电脑带彩屏

Display: $\mu\text{Ci}/\text{cm}^3$, cpm, cps (User Settable)

显示: 可用户设定或 $\mu\text{Ci}/\text{cm}^3$, cpm, cps

WEIGHT AND DIMENSIONS: 重量和尺寸

ITEM 名称	WEIGHT 重量	DIMENSION 尺寸
ELECTRONICS	12 lbs (5Kg)	11"W x 11"D x 11"H (28 cm x 28 cm x 28 cm)
XENON DETECTOR – PGS-3X	1 lb (0.453 Kg)	2"W x 2"D x 9"H (5cm x 5cm x 23cm)
I-125 DETECTOR WITH SHIELD– PGS-3I	22 lbs (10 Kg)	12L x 7W x 7H (30 cm x 18 cm x 18 cm)
DETECTOR CORD		3 Meters Standard with Quick Connect (OPTIONAL – Longer Cord User Specified)



FM-9IXE FLOW PATH



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

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

tagold@nwc.net

WWW.TECH-ASSOCIATES.COM

Divisions of US NUCLEAR CORP