

Iodine-125 and Xenon-125 Ratemeter

Model – FM-9-IXE

Description

Flow Path:

- Air is drawn in through an inlet hose.
- Incoming air stream passes first through a particulate pre-filter to remove Cs-137 and other confounding particulates.
- 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.
- Air is then drawn into the Xenon measurement cavity observed by the PGS-3X detector.
- Air enters Mass Flow Meter.
- Air enters the pump.
- Air is then exhausted via another hose.

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.

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.

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

Specifications

Range:

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:

Temperature:

Ambient: 0° to 40° C

Upset: 0° to 40° C

Temperature Effects:

$\pm 5\%$

Humidity:

Ambient: 20% to 85% RH Non-Condensing

Upset: 20% to 85% RH Non-Condensing

Pressure:

Ambient: Atmospheric

Background Radiation:

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

Accuracy:

$\pm 20\%$ or Better

Precision:

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

Alarms:

Alarm Function:

High and Fail Latching



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