

PORTABLE TRITIUM AIR MONITOR

Model ~ PTG-9

FEATURES:

- HIGH SENSITIVITY TRITIUM AIR MONITOR
- USER SETTABLE UNITS - uCi/l or Bq/m³ etc.
- WIDE RANGE - DIGITAL ACCURACY
- PROGRAMMABLE DIGITAL READOUT
- SENSITIVE FOR OCCUPATIONAL EXPOSURE
- DYNAMIC BACKGROUND COMPENSATION
- BATTERY OPERATION OR AC OPERATION
- BUILT-IN HIGH LEVEL ALARM
- BUILT-IN LOW FLOW ALARM
- BUILT-IN RS-232 COMPUTER INTERFACE
- PORTABLE



DESCRIPTION:

Technical Associates **PTG-9** is a Tritium Air monitor; a highly sensitive, rugged, and portable instrument.

- A subtractive balanced chamber electrometer circuit decreases background effects to negligible levels and its deionized and filtered intake reduces spurious effects from smoke dust and existing ionization in the air.
- It is line operated with nominal 20 hour battery back-up.
- Optional inlet and outlet hoses allow monitoring interiors of fume hoods, exhaust stacks, etc.
- The PTG-9 will measure airborne Tritium as free hydrogen or as volatile chemicals in concentrations as low as 1×10^{-3} uCi/l of air. (37KBq/m³)
- All instruments are calibrated at the factory. Calibration check may be performed in the field with a microCurie level Beta or Gamma source.
- Background chamber may be disconnected to check linearity of response on a gamma calibration range.
- User friendly calibration controls are provided.



TECHNICAL ASSOCIATES

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A Division of



US NUCLEAR CORP

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MEASURING TRITIUM IN WATER & OIL MIXTURES: Strategies

Tritium is radioactive hydrogen and hydrogen atoms regularly jump or exchange between different adjacent oil and water molecules.

In a mixture of normal water mixed with tritiated oil, both components will, over time, share the Tritium equally.

In **GASEOUS** Samples, the same principals apply.

1. A vapor separation system is recommended.
2. Use a PTG-9 Tritium Ion Chamber to make the measurements.

SPECIFICATIONS:

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| Ranges: | Compact, easy to read digital LCD readout. 1 x 10 ⁻³ to 10 uCi/l (37 KBq/m ³ to 3.7 x 10 ⁸ Bq/m ³) |
| Background: | Essentially eliminated by subtractive balanced chambers. |
| Smoke, Dust & Ion Elimination: | Filter and deionizer reduce effects to negligible level. |
| Circuit: | Electrometer circuit amplifies net difference between 0.7 liter Tritium internal chamber and a sealed background chamber of similar configuration. |
| Alarms: | Low Air Flow, Alarm High Level Alarm: Red Lamp and Audio Alarm. |
| Controls: | Power, Pump On/Off, Battery Check, Set (calibration aid), Zero Adjust, Meter Programming (Two buttons). |
| Calibration: | Can calibrate internally with Tritium gas, or on a calibration course, or (at a single point) with optional Beta or Gamma source. |
| Computer Port: | RS-232 serial port is built in (fully addressable). |
| Portability: | PTG-9 is provided with carrying handle. |
| Case: | Deep drawn aluminum case, with handle and gasket lid, easily cleanable anodized finish. |
| Battery: | 9V rechargeable sealed. Battery Life: 20 hours between charges. Battery charger is built-in. |

WEIGHT & DIMENSIONS:

| | |
|-------------------------|--|
| Dimensions: | Instrument Case (Including handle): 9.25"W x 13.5"L x 10" Tall. |
| | Front Panel: 9" Long x13" Wide. |
| Weight: | 18 lbs. |
| Shipping Weight: | 24 lbs (excluding pre-filter) |

Options:

Higher Range

Different Readout Units



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