

# TRITIUM MONITOR

氚监测器

Model # PTG - 9

## FEATURES: 特点

- USER SETTABLE UNITS - uCi/l or Bq/m<sup>3</sup> etc.  
可用户设定单位-- uCi/l 或 Bq/m<sup>3</sup>等
- WIDE RANGE - DIGITAL ACCURACY  
宽量程-数字精确
- PROGRAMMABLE DIGITAL READOUT  
可编程数字读数
- SENSITIVE FOR OCCUPATIONAL EXPOSURE  
对职业辐射暴露敏感
- DYNAMIC BACKGROUND COMPENSATION  
动态本底补偿
- BATTERY OPERATION OR AC OPERATION  
电池或AC供电
- BUILT-IN HIGH LEVEL ALARM  
内置高值报警
- BUILT-IN LOW FLOW ALARM  
内置低值报警
- BUILT-IN RS-232 COMPUTER INTERFACE  
内置RS-232计算机接口



## DESCRIPTION: 描述

Technical Associates **PTG - 9** is a Tritium Air monitor. It is a sensitive, rugged, and portable instrument for detection and measurement of airborne Tritium. Its' 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  $1 \times 10^{-3}$  uCi/l of air. (37KBq/m<sup>3</sup>)

TA公司PTG-9是一款氚空气监测器。它是一款灵敏耐用便携仪器，用来测量气氛，它的减平衡室静电电路将本底影响到可忽略的程度，去离子并过滤的进气方式减少了来自烟尘和空气中现存的离子虚假影响。电源供电带正常20小时备用电源。可选购进气管和出气管以监测通风橱内、排烟道等内部。PTG-9将把气氛作为自由氢或挥发化学物测量，测量空气中浓度低到 $1 \times 10^{-3}$  uCi/l (37KBq/m<sup>3</sup>)

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.

所有仪器工厂校正，如有微居标准的 $\beta$ 或 $\gamma$ 源也可现场校正检查。选择 $\gamma$ 源校正过程本底室可以被断开以检查线性响应，提供用户友好的校准控制。



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## MEASURING TRITIUM IN WATER AND OIL MIXTURES:

测量水和油混合物中的氚

Strategies方法

Tritium is radioactive hydrogen, and hydrogen atoms regularly jump or exchange between different adjacent Molecules. In a mixture of normal water mixed with tritiated oil, both components will, over time, share the tritium equally.

氚是放射性氢，氢原子在两个相邻的分子间规律跳动，交换。在含氚油和正常水的混合物中，随着时间推移两种成分中氚含量会均衡。

In GASEOUS Samples, the same principals apply.

在气体样品中，相同的原理适用

1. We employ a vapor separation system

我们采用了蒸汽分离系统

2. Use a PTG-9 tritium measurement Ion Chamber to make the measurements.

使用 PTG-9 氚测量电离室进行测量

## SPECIFICATIONS: 规格

•Ranges:量程

Compact, easy to read digital LCD readout.  $1 \times 10^{-3}$  to 10 uCi/l (37 KBq/m<sup>3</sup> to  $3.7 \times 10^8$ Bq/m<sup>3</sup>)

紧致，容易读数的数字LCD， $1 \times 10^{-3}$  to 10 uCi/l (37 KBq/m<sup>3</sup> to  $3.7 \times 10^8$ Bq/m<sup>3</sup>)

•Background: Essentially eliminated by subtractive balanced chambers.

本底：基本由消减平衡室消除

•Smoke, Dust and Ion Elimination: Filter and deionizer reduce effects to negligible level.

烟、尘、离子消除：滤网和去离子器把影响减低到可以忽略的程度

•Circuit: Electrometer circuit amplifies net difference between 0.7 liter tritium internal chamber and a sealed background chamber of similar configuration.

电路：静电电路放大了0.7升氚内室和具有相似结构的密封本底室间的净差。

•Alarms: Low Air Flow, Alarm High Level Alarm: Red Lamp and Audio Alarm.

报警：低气流，高值报警：红灯和声音报警

•Controls: Power, Pump On/Off, Battery Check, Set (calibration aid), Zero Adjust, Meter Programming (Two buttons).

控制：电源，泵开关，电池检查，设定（校正帮助），零点调整，率表程序（两个钮）

•Calibration: Can calibrate internally with tritium gas, or on a calibration course, or (at a single point) with optional beta or gamma source. .

校正：可内部氚气校正或过程校正，或可选β或γ源校正（单点）



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•Computer Port: RS-232 serial port is built in (fully addressable).

计算机接口：内置RS-232串行端口（全寻址）

•Portability: PTG-9 is provided with carrying handle.

便携：PTG-9带提手

•Case: Deep drawn aluminum case, with handle and gasketed lid, easily cleanable anodized finish.

外箱：深拉铝箱，带把手和密封盖，易清理阳极化抛光面

•Dimensions 尺寸

Instrument Case (Including handle): 9.25"W x 13.5"L x 10" Tall.

仪器箱（包括把手）9.25"宽 x 13.5"长 x 10"高。

Front Panel: 9" Long x13" Wide.

前板：9"长 x13"宽

•Battery: 电池

9V rechargeable sealed. Battery Life: 20 hours between charges. Battery charger is built-in.

9V可充电密封电池，电池寿命：每充一次电工作20小时，充电器内置

•Weight: 18 lbs. Shipping weight 24 lbs (excluding pre-filter)

重量：18磅，装船重量24磅（不含前置过滤器）

Options: 选购

Higher Range 更高量程

Different Readout Units 不同读数单位



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