

ULTRA LOW LEVEL MONITOR

极低值监测器

PURPOSE

目的

This wide range tritium monitoring station is designed to meet monitoring requirements established by NESHAP and EPA 40CFR or for DOE establishments for the determination of ultra low levels of airborne tritium. 宽量程氚监测站设计满足由 NESHAP 和 EPA 40CFR 设定的要求或能源部对气氛极低值的测定要求。

SENSITIVITY AND RANGE

灵敏度和量程

Limits of resolution attained by this instrument is 10^{-9} Ci/m³ or even lower. Using linear as well as proportional chamber technology, the upper limit of useful measurement can be extended to 10 Ci/m³ or higher. 此仪器达到的分辨值 10^{-9} Ci/m³ 甚至更低，使用线性和正比计数器探测，有效测量较高值可达 10 Ci/m³ 或更高。

DISCRIMINATION

识别力

Separate measurements for the elemental as well as the oxide forms of tritium are provided. The instrument discriminates against all other airborne radioactive materials.

分别测量氚和其氧化物。此仪器识别所有其它气溶胶辐射物质。

COMPUTER DATA ACQUISITION AND DISPLAY

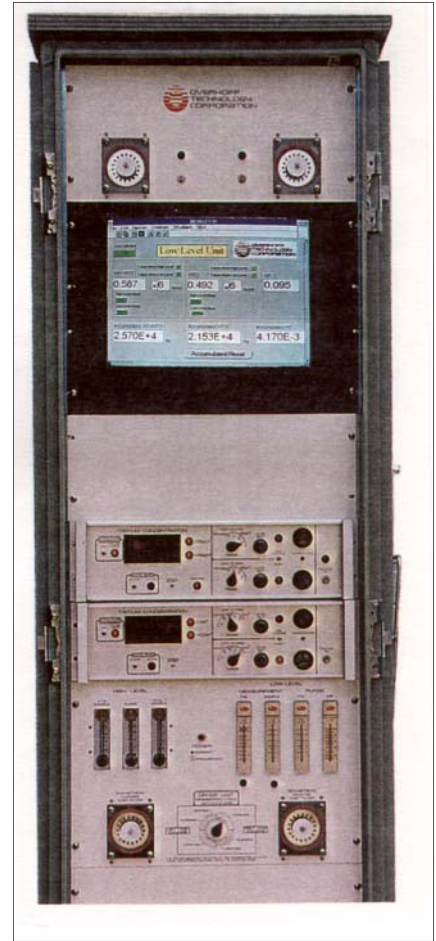
计算机数据获取和显示

A user friendly icon based P.C. system is used for the retention and display of all measurement, supervisory and alarm status information. 兼容 PC 系统用户友好图标，用于存储和显示所有测量，监督和报警情况信息。

METHOD

方法

Two high level linear ionization chambers and two low level proportional counters are used to span the total range of measurement. One pair of high and low level chambers are used to measure total tritium concentration and the other pair is used to measure the elemental form only. An automatically regenerating drying systems is used for separation of the chemical forms. 使用两个高线性电离室和两个低值正比计数器来测量整个量程，一对测量上限和下限电离室测量总氚浓度，另一对只测量元素形式。一个自动再生干燥系统用来分离这些化学形态。



MODEL 93 - WR - T - HTO

SEPARATE SAMPLE LINES FOR ELEMENTAL AND OXIDE FORMS, ULTRA HIGH SENSITIVITY TO 10^{-9} Ci/m³, WIDE RANGE TO 10 Ci/m³ STATION BY USING BOTH PROPORTIONAL COUNTERS AND LINEAR IONIZATION CHAMBERS

独立样品线测量元素形式和氧化形式，极高灵敏度到 10^{-9} Ci/m³，通过使用正比计数器和线性电离室宽量程到 10 Ci/m³。



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TECHNICAL SPECIFICATIONS SHORT FORM
技术规格表

Range 量程	0 - 10 Ci/m ³
Sensitivity 灵敏度	1 x 10 ⁻⁹ Ci/m ³
Display 显示	19" color video terminal showing all current and trend data for measurements, and supervisory information. 19"彩屏可视终端显示所有测量及监控信息的数据流和趋势
Accuracy 精度	+10 %, and/or 10 ⁻⁹ Ci/m ³ +10 %, 和/或 10 ⁻⁹ Ci/m ³
Response Rate 响应率	Varies with measurement level, up to 30 minutes at very low levels to 1 second at the upper end of the range 随测量浓度变化, 30分钟对下限响应, 1秒对上限响应
Alarms 报警	Set point alarms for each channel, supervisory alarms for sample flow counter for flow failure 每通道设定点报警, 样品流故障监控报警
High/Low Change Over 高/低变化	Automatic changeover to prevent contamination of the low level measurement system 自动转换阻止下限测量系统被污染
Volumes of Chambers 室容积	Linear: 2 liters nominal Proportional: 4 liters nominal 线性: 2L 正比: 4L
Counter Gas Flow 计数气流	Adjustable from 0.1 lpm to 1 lpm 可调整0.1 lpm - 1 lpm
Enclosure 外壳	Standard 19" relay rack NEMA 12 enclosure, 72" high 标准19" 安装架, NEMA-12外箱, 72"高



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