

AUTOMATED LOW LEVEL TRITIUM IN WATER MONITOR REAL TIME CONTINUOUS

自动低辐射水氚监测器

实时连续

Model ~ Nex-Tritium

FEATURES: 特点

- REAL TIME – AUTOMATIC
- 实时-自动
- EXCELLENT LONG TERM STABILITY
- 卓越长期稳定性
- CONTINUOUS MONITORING
- 连续监测
- NOT INFLUENCED BY OTHER NUCLIDES
- 不受其它核素影响
- NO LIQUID SCINTILLANT REQUIRED
- 无需液体闪烁液
- EASY CALIBRATION
- 容易校准
- SENSITIVE TO 200,000 pCurie/l Tritium
- 对200,000 pCurie/l氚灵敏
- NEW STATISTICAL SIGNIFICANCE DISPLAY
- 新统计学意义显示
- RUGGED, CASTER MOUNTED
- 坚固，带轮子



Nex-Tritium Electronics



Two Pairs of Matched
Photo Multiplier
Tubes



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

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Divisions of  US NUCLEAR CORP

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APPLICATION: 应用

- MEETS EPA DRINKING WATER LEVELS 符合 EPA 应用水标准
- MONITOR LEAKS IN CANDU TYPE REACTORS MONITOR TRITIUM 监测坎杜堆泄露氚监测器
- CONTAMINATION IN GROUND WATER. 地表水污染
- MONITOR LABORATORY OR PLANT LIQUID WASTE STREAM. 监测实验室或电站液体流出物

DESCRIPTION: 说明

This system consists of a light tight detector assembly which is interfaced with the sample via male 1/8' pipe fittings with the readout and processor assembly via two BNC connectors.

系统密光探头组件通过1/8' 管件与样品对接，通过BNC连接件与读数显示器和微处理器组件连接。

The sample is passed through a filter and thence to the detector assembly, where it is viewed by two pairs of matched photo multiplier tubes.

样品通过过滤器然后到达探头组件，由一组匹配的光电倍增管观测。

The table top or rack mounted processor and display portion of this system conditions and analyzes the output from the photo multiplier tubes by pulse height and validated by a coincidence circuit, thereby permitting the system to eliminate counting most background (noise) counts.

此系统的桌面或架装处理器和显示部分通过脉冲高度和耦合事件修正并分析光电倍增管输出，因此允许系统排除大部分本底噪音。

Nex-Tritium includes unique statistical Significance Display.

NEX-氚包括独特的统计学意义显示

- This function rates strength of the data preventing most false positives or negatives:
- 此功能避免了大多数的虚报
 - Significance : **HIGH, LOW, or NOT SIGNIFICANT.**
 - 显著性：高，低，或不显著



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UNIQUE NEX-TRITIUM DETECTOR CHARACTERISTICS

FEATURE 功能	PURPOSE 功能
Ultra High Sensitivity Achieved Through the Following Physical Features: 基于以下功能系统具有极高灵敏度	
Custom Made Anthracene Scintillation Crystals in Technical Associates' Laboratories TA 公司实验室客户定制蒽闪烁晶体	High Beta Sensitivity 高 β 灵敏度
Two (2) 5" Diameter Optical Sensor Arrays (Totaling 200 cm ²) Sensitive Area 2 个直径 5" 光学传感器并列, 总灵敏面积 200 cm ²	High Count Rate 高计数率
Special Data Analysis 专用数据分析	As Described in Sensitivity Chart 见灵敏度表格
Guard Detector 宇宙射线探头	Cosmic Ray Rejection 宇宙射线抑制
Four (4) Photo Sensors 4 个光电探测器	True Tritium Pulse Validation 真正氚脉冲验证
Five (5) Flow Channels 5 个样品通道	Assures Smooth Continuous Flow 确保连续样品流
Temperature Controlled Detector Cooler 探测器温控器控制温度	Long Term Accurate Signal Stability 长期精确信号稳定性
Steel, Bronze, and Lead Shielding 钢、铜、铅屏蔽	Gamma Ray Background Rejection 伽马射线本底抑制
Real-Time Temperature Compensation Sensor 实时温度补偿探测器	Improved Sensitivity & Stability 提高灵敏度和稳定性



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TRITIUM SENSITIVITY 氚灵敏度		
PicoCuries	MicroCuries	Time to Count
2,000,000 pCi/l	2.0 μ Ci/l	2 minutes
500,000 pCi/l	0.5 μ Ci/l	20 minutes
200,000 pCi/l	0.2 μ Ci/l	3 hours
100,000 pCi/l	0.1 μ Ci/l	48 hours
20,000 pCi/l	0.02 μ Ci/l	7 days
Display updates every 2 minutes 每2分钟更新		

FLOW CHART 流量表

1. Chiller 冷却器
2. Refrigerated Detector & Amplifiers to Sustain Constant Low Temperature
冷藏探头&放大器以维持低温
3. Flow Cell – 5" Diameter
样品流室-直径 5"
4. Photo Multiplier Tube
光电倍增管
5. Guard Detector
宇宙射线探测器

FEATURES OF SENSOR SYSTEM 感测器系统功能

- Real-Time Temperature Detection & Correction
- 实时温度检测和更正
- Real-Time Dynamic Gamma Background Detector.
- 实时动态 γ 本底探测器



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SPECIFICATIONS:

Display Update:	Every 2 minutes.
显示更新:	每2分钟
Tritium Sensitivity:	See chart above
氚灵敏度:	见表格
Range:	0-20,000,000 pCi/liter Optional : Other ranges higher or lower.
量程:	可选择更高或更低量程
Flow Rate:	Minimum -1 ml/min
流量:	最小-1 ml/分钟 Maximum-100 ml/min 最大-100 ml/min
Sample Temperature:	Standard < 80°F (liquid); (optional - to 115°F)
样品温度:	标准< 80°F (液体); (可选 - 达 115°F)
Ambient Temperature:	Detector < 80°F (Optional - to 115°F) Readout< 115°F
环境温度:	探头< 80°F (可选- 到 115°F) 读数器< 115°F
Lead Shielding:	1" thick is standard 2" thick is optional
铅屏:	1" 标准厚度, 可选2"
Dimensions:	Electronics: 电子学 23"H x 16"L x 21" W Detector: 探头 12"H x 10"D x 27" W Pump: 泵 10"H x 10"D x 6" W
尺寸:	
Weight (Standard Unit):	Detector Housing: 35 lbs. (Unshielded) Electronics Housing: 40 lbs. Pump: 8 lbs
重量:	
Shipping Weight:	90 lbs.
邮寄重量:	
Optional Shielding:	65 lbs.
可选屏蔽:	
Display:	5" color monitor
显示:	



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OPTIONS 可选项:

- Data logging hardware; records readings for up to 5 years.
- 数据录入硬件，记录保存达5年
- Remote readout via Ethernet
- 通过以太网远程显示读数
- Network reporting and communication via the ORO overdrive network
- 通过ORO网络报告和通信
- "Deionizer and Filter" specification (SSS-33M8/D and SSS-33M8/F).
- 去离子器和过滤器规格 (SSS-33M8/D 和 SSS-33M8/F).



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