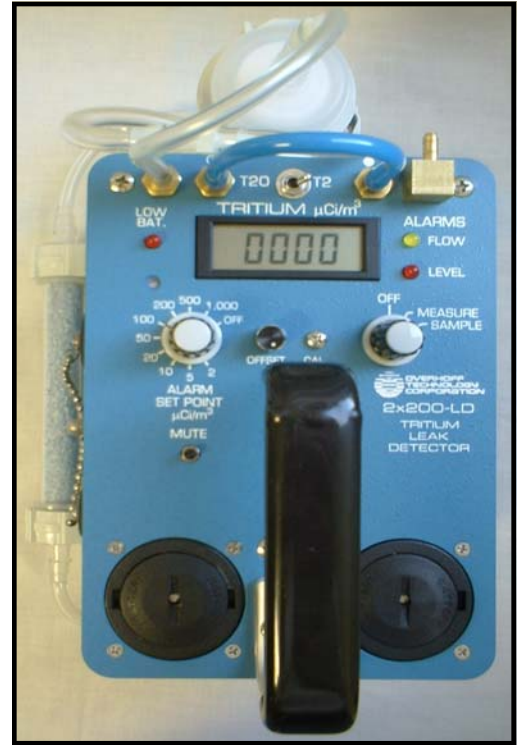


# MODEL 2x200-LD PORTABLE TRITIUM IN AIR LEAK DETECTOR

## 型号 2x200-LD 便携式气氚泄漏探测器

The Overhoff Model 2x200-LD Tritium Leak Detector has the unique ability to monitor for tritium compounds and elemental tritium in real time while providing gamma compensation. The two measurement channels, T2 and T2O/HTO, are selected with a front panel toggle switch and appear on a single digital display. Overhoff 生产的型号 2x200-LD 氚泄漏探测器可以在提供伽马补偿的同时实时监测氚化合物和元素氚。两个通道，T2 和 T2O/HTO，用位于前板上的拨动开关进行选择，在同一个数字显示屏上显示。

The required radiological protection for tritium compounds is much higher than that for elemental tritium. Elemental tritium will combine readily with oxygen to form tritium oxide and also will replace hydrogen atoms in compounds. Therefore the presence of elemental tritium in the working environment is an indication of a current leak in the system or container. Knowing this, the user of the Model 2x200-LD can rapidly locate the point of release and more efficiently secure the source of leakage. 放射性氚化合物所需的放射性保护是远远高于氚元素，元素氚很容易和氧结合形成氧化氚，而且将取代的化合物中的氢原子，因此工作环境中元素氚的出现表明系统或容器在泄漏。了解这一点，型号 2x200-LD 用户可快速锁定泄漏点，更有效地保护泄漏源。



### SENSITIVITY

灵敏度

The sensitivity of the 2x200-LD is better than 5  $\mu\text{Ci}/\text{m}^3$  (0.5 DAC) for T2O. The sensitivity to T2 is better than 0.05% of the T2 DAC stated in 10CFR835. 2x200-LD 对于 T2O 的灵敏度优于 5  $\mu\text{Ci}/\text{m}^3$  (0.5 DAC)，对于 T2 的灵敏度优于 10CFR835(核管局)规定的 T2 最小检出活度的 0.05%

### RADON INTERFERENCE, NOISE RESPONSE

氡干扰，噪音响应

Unambiguous measurement of very low tritium levels requires a monitor that can ignore ambient radon. The Model 2x200-LD incorporates a radon suppression circuit and therefore produces accurate and drift-free readings. 低值氚清晰测量要求仪器能够忽略环境氡。型号 2x200-LD 配有氡抑制电路，因此读数精确，无漂移。

### GAMMA COMPENSATION

伽马补偿

The instrument has active gamma compensation with 2x2 ionization chamber geometry. 此仪器带 2x2 电离室，具有积极伽马补偿功能

### FAST RESPONSE

快速响应

Exceptionally rapid response is due to its unique ability to ignore radon. The instrument has an electronic time constant of only 10 seconds, a pneumatic time constant of about 12 seconds, for an overall time constant of only 15 seconds. Meter readings will reach 90 % of final value within 30 seconds to a step response of aspirated tritium.

T2 and T2O Modes	two channel measurement, switch selectable
High Sensitivity	to 5 $\mu\text{Ci}/\text{m}^3$ (0.5 DAC)
Fast Response	15 second time constant
Gamma Compensated	no offset in 5 mR/h field
Response To Radon	suppression circuit ..... operation
No Zero Drift	better than 1 $\mu\text{Ci}/\text{m}^3$
Rapid Warm Up	less than 30 seconds

The Model 2x200-LD can be configured as a "sniffer" to provide real-time indication of the T2 and T2O concentrations which allow the user to quickly identify the source of leakage of tritium from containers.



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极其快速响应归功于独特排除氡干扰功能。仪器电子时间常数 10 秒，气动时间常数大约 12 秒，整体大约 15 秒左右。仪器可在 30 秒内表读数达到最终测量值 90%。

### FAST WARM UP, NO ZERO DRIFT

快速预热，无零点漂移

After applying power, the initial transient “warm -up” drift effects take less than a minute. Long term drifts have been eliminated and manual zero adjustments are no longer required.

启动电源后，初始瞬值“预热”漂移影响不足 1 分钟，长期漂移被消除，不再需要手动零位调整。

### DESICCANT COLUMN

干燥剂柱

A desiccant column traps the tritium oxide in the sample. The indicating type desiccant changes color from blue to pink when it is exhausted. Regeneration will restore the drying capacity.

干燥剂捕捉样品中的氧化氚。指示型干燥剂变化颜色，当消耗尽时由蓝色变为粉色，再生后将恢复干燥功能。



T20 - T2 SWITCH



DESICCANT CARTRIDGE

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MEASUREMENT RANGE 测量范围	1 – 19,999 $\mu\text{Ci}/\text{m}^3$ , basic sensitivity of the order of $5\mu\text{Ci}/\text{m}^3$ 1 – 19,999 $\mu\text{Ci}/\text{m}^3$ ,基本灵敏度为 $5\mu\text{Ci}/\text{m}^3$
DISPLAY 显示	0 – 19,999 digits, LCD panel meter 0 – 19,999 数字, LCD 显示器
T2 AND T20 MODES T2 或 T20 模式	Two channel measurement, switch selectable 双通道, 开关选择
ACCURACY, SPAN 精度, 量程	$\pm 10\%$ of reading, $\pm 2\mu\text{Ci}/\text{m}^3$ , whichever is greater 读数 $\pm 10\%$ , 或 $\pm 2\mu\text{Ci}/\text{m}^3$ , 以数值较大者为准
NOISE LEVEL 噪音值	$\pm 2\mu\text{Ci}/\text{m}^3$ (10 second electronic time constant) $\pm 2\mu\text{Ci}/\text{m}^3$ (10 秒电子时间常数)
ZERO STABILITY 零点稳定	$\pm 2\mu\text{Ci}/\text{m}^3$ long term 长期稳定 $\pm 2\mu\text{Ci}/\text{m}^3$
GAMMA COMPENSATION 伽马补偿	chambers in a side by side pattern reduce errors due to external gamma radiation. 并排模式电离室排放减少因外部伽马辐射产生的误差
ALPHA PULSE SUPPRESSION $\alpha$ 脉冲抑制	a circuit provides recognition and cancellation of undesirable noise spikes attributed to airborne radon



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	电路识别并消掉的由于气氛产生的噪音尖峰
<b>RESPONSE RATE</b> 响应率	30 seconds to reach 90% of final reading 30 秒达到终值 90%
<b>ALARM (ACOUSTIC)</b> 报警 (声音)	1. Ten position stepped attenuator set point for signal alarm 2 - 1,000 $\mu$ Ci/m <sup>3</sup> steady tone. An OFF position is included. 十位阶式衰减器信号报警设定点, 2 - 1,000 $\mu$ Ci/m <sup>3</sup> 稳定音, 包含 OFF 开关 2. Low flow produces an intermittent tone 低流产生间歇音 3. Mute switch silences audible tone 静音开关关闭声音
<b>ALARM (VISUAL)</b> 报警 (视觉)	signal level: red LED 信号值 红色 LED low flow: yellow LED, flashing 低流: 黄色 LED, 闪烁 low battery: red LED 低电: 红色 LED
<b>EXTERNAL CONNECTIONS</b> 外部链接	mini DIN plug for output signal, and for alarms 迷你 DIN 口用于输出信号和报警
<b>IONIZATION CHAMBER VOLUME</b> 电离室容量	effective volume: 200 cm <sup>3</sup> port to port volume: 660 cm <sup>3</sup> 有效容积 200cm <sup>3</sup> , 口对口容积 660cm <sup>3</sup>
<b>DUST FILTER</b> 滤器	HEPA, in-line disposable cartridge, Pall P/N 12082 HEPA, 在线一次性滤芯, Pall P/N 12082
<b>PUMP</b> 泵	internal rotary vane pump 内置 旋叶泵
<b>FLOW RATE</b> 流量	nominally 1.5 - 2 LPM 正常 1.5 - 2 LPM
<b>ENVIRONMENTAL</b> 环境	0°C to +50°C, 0 - 95 % relative humidity 0°C to +50°C, 相对湿度 0 - 95 %
<b>BATTERIES</b> 电池	two "D" size NiMH batteries external jack for supplementary power input and charging 两节 "D" 号 NiMH 电池, 外部接口用于补充电源输入和充电
<b>POWER CONVERTER</b> 电源转换器	100-240 VAC, 50/60 Hz, .25 A to 3.3 Vdc @ 1.2 A 5.5 mm O.D. x 2.1 mm I.D. Plug, center pin is positive 外径 5.5 mm x 内径 2.1 mm 插头, 中间为正极
<b>SIZE AND WEIGHT</b> 尺寸和重量	7.6" [193mm] L x 5.2" [132mm] W x 6.9" [175mm] H excluding handle, 6.5 lbs (3 kg)
<b>DESICCANT COLUMN</b> 干燥柱	Clear polycarbonate cartridge of indicating desiccant 透明的指示型干燥柱聚碳酸酯盒



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