

LOW LEVEL TRITIUM IN AIR MONITOR REAL TIME CONTINUOUS

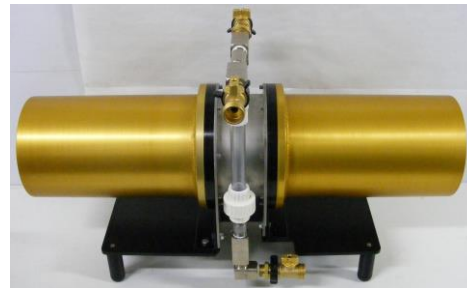
Model ~ Tritium-AIR

FEATURES:

- LOW LEVEL TRITIUM
- REAL TIME – AUTOMATIC
- EXCELLENT LONG TERM STABILITY
- CONTINUOUS MONITORING
- DATA ARCHIVE FOR UP TO FIVE YEARS
- DATA RETRIEVAL
- ALARMS – AUDIO / VISUAL User Settable
- USB PORTS
- NOT INFLUENCED BY OTHER NUCLIDES
- EASY CALIBRATION
- NEW STATISTICAL SIGNIFICANCE DISPLAY
- RUGGED
- TABLE TOP OR
- **OPTIONAL:** CART or RACK MOUNTED
- **IP42**



Tritium-Air Electronics



Two Pairs of Matched
Photo Multiplier
Tubes

APPLICATION:

Airborne Tritium is a hazard wherever Tritium occurs:

- Nuclear Power Plants
- Fusion Research
- Pharmaceutical Labs
- Weapons Maintenance
- Nuclear Navy Ships & Shipyards

DESCRIPTION:

This system consists of an efficient condenser that pulls Tritiated water vapor from the air and 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.

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.

The table top or free standing 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.

Tritium-Air includes unique statistical Significance Display.

- This function rates strength of the data preventing most false positives or negatives:
 - Significance : **HIGH, LOW, or NOT SIGNIFICANT.**



**TECHNICAL ASSOCIATES
OVERHOFF TECHNOLOGY**

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Divisions of  US NUCLEAR CORP

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UNIQUE TRITIUM-AIR DETECTOR CHARACTERISTICS

FEATURE	PURPOSE
Ultra High Sensitivity Achieved Through the Following Physical Features:	
Custom Made Anthracene Scintillation Crystals in Technical Associates' Laboratories	High Beta Sensitivity
Two (2) 5" Diameter Optical Sensor Arrays (Totaling 200 cm ²) Sensitive Area	High Count Rate
Special Data Analysis	As Described in Sensitivity Chart
Guard Detector	Cosmic Ray Rejection
Four (4) Photo Sensors	True Tritium Pulse Validation
Five (5) Flow Channels	Assures Smooth Continuous Flow
Temperature Controlled Detector Cooler	Long Term Accurate Signal Stability
OPTIONAL: Steel, Bronze, and Lead Shielding	Gamma Ray Background Rejection
Real-Time Temperature Compensation Sensor	Improved Sensitivity & Stability



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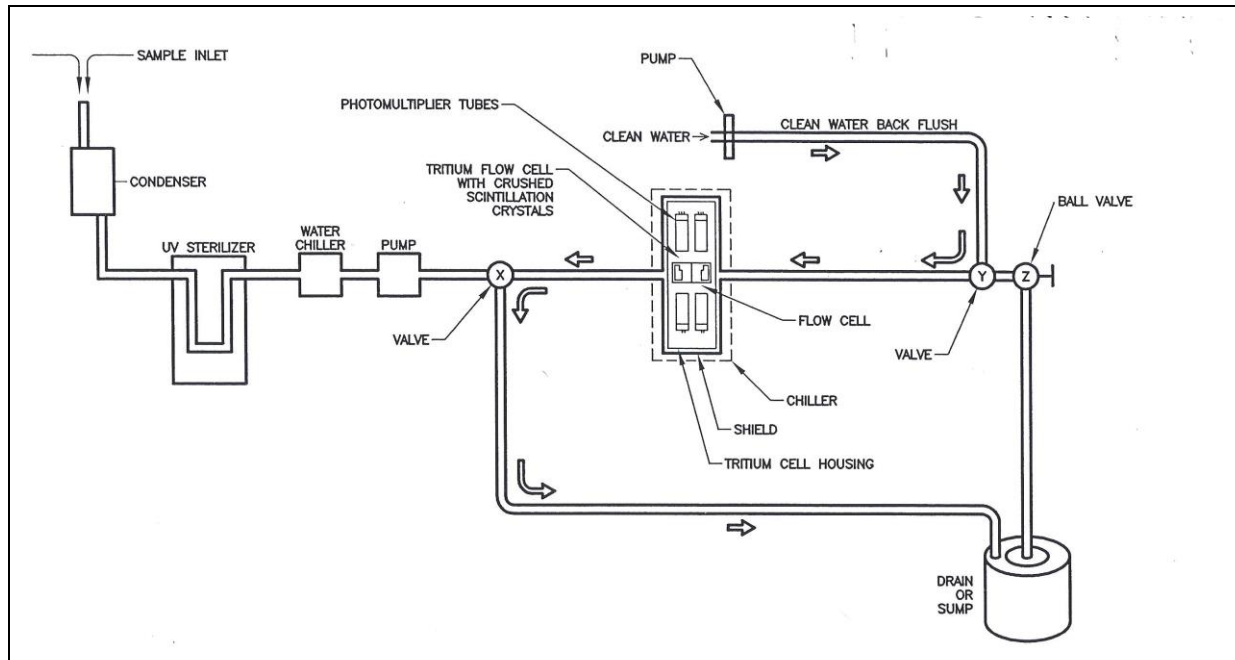
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TRITIUM-AIR FLOW CHART

1. Efficient Condenser Unit Includes Air Pump: Extract Tritiated Water from the Air
2. Chiller
3. Refrigerated Detector & Amplifiers to Sustain Constant Low Temperature
4. Flow Cell – 5" Diameter
5. Photo Multiplier Tube
6. **OPTIONAL:** Guard Detector

FEATURES OF SENSOR SYSTEM

- Real-Time Temperature Detection & Correction
- Real-Time Dynamic Gamma Background Detector.



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SPECIFICATIONS:

ELECTRONICS:

Controls:

Plug In Modules Provide Diversity in Function & Expansion
On / Off Switch
Alarm Reset Switch
Dials: Energy Threshold; High Voltage
(4) USB Ports

Display Update:

Easy to read color LCD readout.
7" Display Window
Updates Every 2 minutes or User Settable.

Ranges:

1×10^{-4} to 1.0 uCi/l (3.7 KBq/m³ to .37 x 107Bq/m³)
OPTIONAL: Other ranges higher or lower.

Alarm:

Audio / Visual – User Settable

Power:

AC 115V **OPTIONAL:** 220 V

Ambient Temperature:

Detector - < 80° F (**Optional** - to 115° F)
Readout-< 115° F

WEIGHT & DIMENSIONS:

Dimensions:

Electronics: 23"H x 16"L x 21" W
Detector: 12"H x 10"D x 27" W
Condenser/Pump: 10"H x 10"D x 6" W

Weight (Standard Unit):

Detector Housing: 35 lbs. (Unshielded)
Electronics Housing: 40 lbs.
Condenser/Pump: 8 lbs

Shipping Weight:

90 lbs.

- **Weight and Dimensions shown above do not include Sample Chiller and Refrigeration Units.**

OPTIONS

- **Lead Shielding:** 1/8", 1/2", 1" thick
- Remote readout via Ethernet
- Network reporting and communication via the ORO overdrive network



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