MODEL 357

LOW COST MONITOR FOR DETECTION AND MEASUREMENT OF AIRBORNE TRITIUM

The model 357 tritium monitor is stable to 1 µCi/m³. (1 S.D.)

Only OTC tritium monitors are designed and built to distinguish tritium against natural radon background. Instruments that do not have this feature will exhibit a noisy zero response even if the electronics is claimed to be stable.

With radon rejection, the Model 357 ignores radon and is, therefore, fast, sensitive and accurate. Once adjusted, it is long-term zero stable and, due to special electrometer design, its span calibration is permanently stable.

These monitors are simplified versions of OTC 300 series monitors which have been in continuous service for twenty years. They come in rack mount configuration and are also suited for table top use.

The only maintenance required for Model 357 is periodic service of the pump and replacement of the dust filter.

The sensitivity and noise level of Model 357 is superior to current competitive instrumentation by an order of magnitude.

OPTIONAL EQUIPMENT AVAILABLE

Remote Alarm Units
Remote Meter Displays
Tritium Gas Calibrator
Calibration Resistor
RS232 Output
Logarithmic Output
4-20mA Output
Plate-Out proof wire grid chamber
## TECHNICAL SPECIFICATIONS

**MEASUREMENT**
- Tritium in Air Concentration 1 - 19,999 uCi/m³

**RANGE DISPLAY**
- Meter, 4 1/4" digit LED ±10 % of reading, ±1 uCi/m³

**ACCURACY**
- whichever is greater ±1 uCi/m³, ambient temperature

**STABILITY AND DRIFT**
- LONG TERM: ±1 uCi/m³, 2 sigma, with 20 second time constant

**NOISE**
- second ionization chamber of equal volume, coaxially mounted, serves to cancel effects of external gamma fields

**GAMMA COMPENSATION**
- two linear time constants 20 seconds for measurements below approximately 80 uCi/m³

**RESPONSE RATE**
- ELECTRONICS: 3 seconds for measurements above 80 uCi/m³

**ALARM SYSTEM**
- single alarm, with set point adjustable from 1 to 1,000 uCi/m³

**INDICATORS**
- acoustic signaler, red LED

**IONIZATION CHAMBER**
- VOLUME: measuring: 1,600 cm³, total wetted: 2,000 cm³

**ION TRAP**
- Kanne Type, coaxial integral hose barb fittings for 3/16" I.D. vinyl tubing

**PORTS**
- FLOWMETER: 0-10 LPM adjustable rotameter

**DUST FILTER AND PUMP**
- High efficiency respirator type cartridge. Long life continuous duty oscillating piston positive displacement pump

**ENVIRONMENTAL**
- Storage Temperature: -40 °C to +60 °C
- Operating Temperature: 0 °C to +50 °C
- Humidity: 0 to 95 % RH non-condensing

**POWER**
- 115 VAC or 240VAC, 50/60 Hz

**PHYSICAL CABINET**
- 19" rack mount, frame constructed of aluminum extrusions, front and rear panel are 1/8" thick aluminum. Covers are aluminum sheet.

**DIMENSIONS**
- 8.8" [223mm] H x 19.0" [483mm] W x 16.0" [406mm] D

**WEIGHT**
- lbs. [18.2Kg]

**OPTIONS**
- Plate-out proof chamber design
- Choice of one additional output: RS232 Serial Data, 4-20mA or logarithmic Output

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**OVERHOF TECHNOLOGY CORPORATION**

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WEB www.OVERHOFF.com
### PARTS LIST FOR MODEL 357 TRITIUM MONITOR

<table>
<thead>
<tr>
<th>Qty Req'd</th>
<th>Part No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>VCO-201-E1</td>
<td>120VAC Pump</td>
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<td>or VCO301-P2</td>
<td>or 240VAC Pump</td>
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<td>803562</td>
<td>HEPA Filter Cartridge (pack of three)</td>
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<td>2-231-S604-70</td>
<td>O-Ring for Filter Cover (pack of ten)</td>
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<td>2-036-S613-60</td>
<td>O-Ring for Filter Housing (pack of ten)</td>
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<td>VFA-24-SSV</td>
<td>Flow Meter</td>
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<td>AP-141-12-1</td>
<td>Digital Panel Meter, 120VAC or Digital Panel Meter, 240VAC</td>
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<td>Mains Transformer Transformer</td>
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<td>for High Voltage Power Supply</td>
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<td>100251-ASSY</td>
<td>Main PCB Assembly for Model 357 4-20mA Output &amp; Logarithmic Converter Board</td>
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<td>100511-Model 357</td>
<td>20mA Output &amp; Logarithmic Converter Board</td>
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<td>RS-232 Output Board</td>
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<td>MS91528-1N2B</td>
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<td>1020934</td>
<td>Ionization Chamber Assembly for Model 357 Dual Solid Wall Electrodes</td>
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<td>or 1020974</td>
<td>Ionization Chamber Assembly for Model 357 Wire Grid Measure Side and Solid Wall Compensation Side</td>
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<td>or 1021101</td>
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