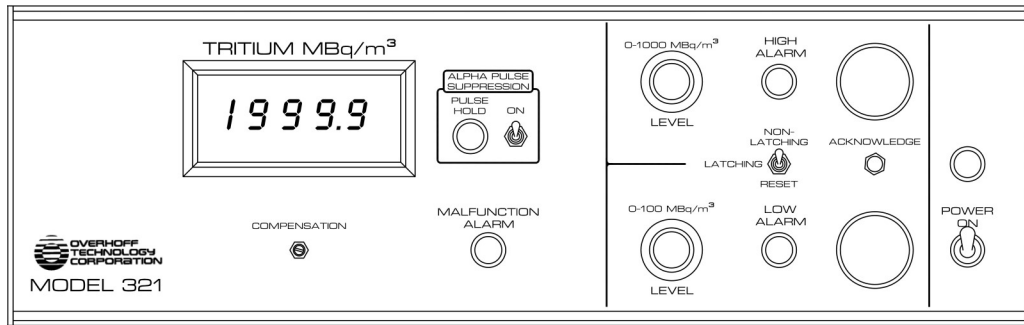




# Model 321

## Tritium in Air Monitor, Single Range, Dual or Quad Chamber



### MODULAR TRITIUM IN MONITOR WITH A SINGLE RANGE AND DUAL OR QUAD IONIZATION CHAMBERS FOR GAMMA COMPENSATION

The **Model 321** features a single measurement range of up to 4.5 decades and either dual 2L or quad 2L ionization chamber assemblies. Useful for measuring low levels of tritium and where gamma compensation is required. Quad 2L chamber assembly arranged in a cruciform geometry provides the best sensitivity, stability, and omnidirectional gamma compensation.

#### SELECT IONIZATION CHAMBER SIZE AND RANGE

The Model 321 typically supports two different chamber sizes and ranges:

1. Dual 2 Liter: 1 to 19,999  $\mu\text{Ci}/\text{m}^3$  or 0.1 to 1,999.9  $\text{MBq}/\text{m}^3$
2. Quad 2 Liter: 0.1 to 1,999.9  $\mu\text{Ci}/\text{m}^3$  or 0.01 to 199.99  $\text{MBq}/\text{m}^3$

#### SELECT DISPLAY TYPE

The Model 321 is available in two different display types:  
SDD, Standard Digital Display (1-19,999 range)  
PDD, Programmable Digital Display (1-99,999 range)

Optional alarm indicators include: low flow alarm and malfunction alarm (low/high voltage failure and electrometer failure).

Unless otherwise requested, the ionization chamber is remotely mounted (25 ft cable standard) from the 321 electronics. An external pump system can be added that consists of a pump, filter, and flowmeter assembly.

#### Applications:

- ◇ Room air
- ◇ Stacks, Hoods, or other effluents
- ◇ Process piping
- ◇ Glove boxes
- ◇ Gamma Compensation
- ◇ Remotely Mounted Detector
- ◇ Modular customization of detectors, range, alarms, outputs, pump system

#### AVAILABLE OPTIONS:

- ◇ Pump, Filter, and Flowmeter Assembly
- ◇ Remote Alarm and Display Units
- ◇ RS232, USB, Ethernet Output
- ◇ Gold Plated Wire Grid Electrodes
- ◇ Logarithmic/4-20mA Output
- ◇ Helium Leak Test
- ◇ Tritium Gas Calibrator and Calibration Resistor
- ◇ Alpha Pulse Suppression
- ◇ HTO only, gas ports added for noble gas compensation

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# Model 321

## Tritium in Air Monitor, Single Range, Dual or Quad Chamber

### TECHNICAL SPECIFICATIONS

#### RANGES

Available in the following ranges:

	Ci	Bq
Dual 2 Liter:	*1 to 19,999 $\mu\text{Ci}/\text{m}^3$	*0.1 to 1,999.9 $\text{MBq}/\text{m}^3$
Quad 2 Liter:	0.1 to 1,999.9 $\mu\text{Ci}/\text{m}^3$	0.01 to 199.99 $\text{MBq}/\text{m}^3$

\*Can also be configured for extra sensitivity down to 0.1 to 1,999.9  $\mu\text{Ci}/\text{m}^3$  or 0.01 to 199.99  $\text{MBq}/\text{m}^3$

#### DISPLAY

4 ½ digit panel meter (standard digital display)

#### ACCURACY

±10 % of reading

#### ALARM SYSTEM

-two independent level alarms, with adjustable set point via 3-digit thumb-switch  
*mode*: three position toggle switch selector for latching or non-latching modes and reset  
*indicators*: alarm condition activates a visual red LED flashing indicator, acoustic indicator, and failsafe relay closure  
*mute*: acknowledge push button to silence acoustic indicator after alarm is tripped

OPTIONAL alarms include: low flow alarm and system failure alarm (high and low voltage failure, electrometer failure)

#### OFFSET COMPENSATION

compensation control provided to offset the effects of gamma and/or tritium buildup

#### ENVIRONMENTAL

storage: -40° C to +60° C  
operating: 0° C to +50° C  
0 to 95 % R.H. non-condensing

#### ENCLOSURE

5.25" H x 17" W x 13" D, 15 lbs.  
115-220VAC, 50/60 Hz

#### SELECT ADDITIONAL OPTIONS:

##### Pump, Filter, and Flowmeter Assembly (ordering code: PFA)

Externally mounted pump, filter, and flowmeter assembly.

##### USB, Ethernet, or RS-232 Data Output

##### 4-20mA Output and Log Converter Board (ordering code: 4-20mA)

##### Remote Display Unit with digital display and audible alarm (ordering code: RDU)

##### Alpha Pulse Suppression (ordering code: APS)

Eliminates instrument response to unwanted radon.

##### Low Flow Alarm (ordering code: LFA)

##### System Failure Alarm Monitor (ordering code: SFM)

Detects and signals failure of low/high voltage power supplies and electrometer failure.

##### Gold Plated Chamber (ordering code: GP)

Reduces effects from tritium plate out contamination

##### Wire-Grid Electrode (ordering code: WG)

Special wire-grid chamber reduces tritium plate out contamination by up to 1000x

##### Helium Leak Testing (ordering code: HLT)

##### HTO only measurement (ordering code: HTO)

Gas ports are added to the compensation chamber for HTO specific measurement (noble gas compensation)



Wire-Grid Chamber Design, reduces tritium contamination by up to 1000x

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