

Portable Tritium-in-Air Monitor Model 209L

The Sartrex Model 209L is one of the world's premiere Tritium-In-Air monitors. Users worldwide appreciate its functionality, portability and reliability. The rugged aluminum housing ensures reliable operation in the most demanding of environments. The clear digital readout allows the operator to take error-free readings at a glance.

The Model 209L series has proven to be invaluable in detecting tritium hazards in heavy water reactors, tritium production plants, tritium upgrading plants and fusion research facilities. This unit has an excellent reputation for functionality and reliability in normal health physics applications wherever there is a distinct need for a portable instrument that will monitor tritium-in-air within a reasonably wide range of concentration.

This unit is one of the most inexpensive in the world, comparing favourable to much more costly instruments

This handheld, lightweight instrument is capable of measuring down to $10\mu\text{Ci}/\text{m}^3$ [1(MPC)a]. Its single range allows readings of concentrations up to $20,000\mu\text{Ci}/\text{m}^3$ [1999 (MPC)a].

The detector is nominally an 80cm^3 ionization chamber. Gamma radiation cancellation is provided by an adjacent sealed 80cm^3 ionization chamber. The main power source is a rechargeable sealed lead-acid battery package.

Features

Rugged, Portable Design

Model 209L is less than 3kg in weight ensuring full portability. It also features an environmentally sealed housing.

Dual Ion Chamber

The dual ion chamber permits efficient gamma compensation.



Model	Part No.	Range	Power Source
209L	901042	10 to 20K $\mu\text{Ci}/\text{m}^3$	5 C size batteries

Performance

Range

10 to 20,000 $\mu\text{Ci}/\text{m}^3$

Display Range

1-1999 x 10 $\mu\text{Ci}/\text{m}^3$

Resolution

10 $\mu\text{Ci}/\text{m}^3$ [1(MPC)a]

Time Constant

<1 minute

Gamma Compensation

For a Co-60 point source placed equidistant on the center line between the chambers, the readings will not exceed 2(MCP)a/mR/hr \pm 1 digit at room temperature (20°C \pm 3°C)

Front Panel Controls

A. Function Switch (4 positions)

1. Instrument OFF:
2. LCD display ON
3. Pump and Display ON: Blinking decimal points on the display indicate a low battery condition. If the battery voltage falls below a preset minimum level, the entire display will go blank.
4. BATT./ALARM CHECK: Pump and display is activated to read normalized battery voltage and the sound alarm is activated.

B. Zero Push-Button Switch:

When pushed and released, permits Zero Control Potentiometer to set zero on display.

C. Zero Control Potentiometer:

his multi-turn lockable potentiometer permits setting of zero the on display while the Zero button is depressed.

Note: Ion Chamber and electrometer power is always ON regardless of Function Switch position.

Air Sampling System

Connection: Male hose adapter for 0.6cm gum-rubber hose
 Sample Rate: 0.5 l/min.
 Filtration: 25mm diameter glass-fibre filter disk on air input

Power Supply

Main: 5 "C" batteries
 Electrometer: Two 22.5 Volts batteries [Eveready no. 505 or equivalent]

Size

Width: 13.2cm (5.2")
 Length: 20.8cm (8.2")
 Depth: 10.7cm (4.2")
 Weight: approx. 2.4kg (5.3lbs)

Construction

- ✍ All metal case and front panel construction
- ✍ Suspended type configuration
- ✍ All entry points gasketed or O-ring sealed
- ✍ Instrument box is painted with hard-wearing two-component urethane

Additional Features

- ✍ **Sound alarm.** Panel mounted with detachable resonator (for decontamination)
- ✍ **Internal control.** For pre-settable alarm at 100,500 or 1000 Ci/m^3 (set at factory)
- ✍ **Splashproof.** Except for sample inlet and outlet pipes.
- ✍ **Shockproof.** Instrument will work after 4' floor drop on a hardwood surface, without any damage to the housing.

Optional Accessories

1. Carrying strap
2. Carrying case: aluminum construction with foam insert

