

# Atomlab 300<sup>®</sup> PET Dose Calibrator

*Ideal for pharmacies, chemistry laboratories and clinics.*

The Atomlab 300 PET Dose Calibrator's ultra-fast response time, extended measurement range and computer compatibility provide state-of-the-art performance for pharmacies, chemistry laboratories or clinics. The Atomlab 300 provides fast, accurate radionuclide activity measurements that easily surpass the most stringent regulatory requirements. With a modular design, the Atomlab 300 can be configured to specific requirements and expanded as the facility grows.

The unit is simple to operate. There are 13 isotope selection keys, ten are factory programmed for the most commonly used PET and constancy radionuclides and three are user defined. Any key can be reprogrammed by the user for a desired isotope.

Activity is displayed on a LED readout in either Curie or Becquerel units. Background correction and zero adjustment are performed at the touch of a button. Range selection is automatic.

Activity measurements are performed by a microprocessor controlled electrometer located within the detector assembly of the ionization chamber. The chamber is shielded with .25" (.64 cm) lead. Up to six remote chambers and a printer may be connected to a single display unit. Utilizing the Multi-Chamber Switch Box, the chambers may be placed as far as 40 feet away

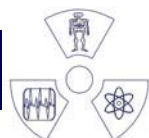


from the display unit. Chamber bias is generated within the display unit by an electronic high voltage supply, eliminating the need for expensive battery changes.

The RS-232 port enables the Atomlab 300 Dose Calibrator to communicate with most commercially available nuclear medicine management systems.

## Features :

- All functions microprocessor controlled
- Ultra-fast response time
- Automatic range selection ranges up to 9.999 curies of F-18
- Factory programmed for 511 keV radionuclides
- Display in Curies or Becquerels
- Automatic background subtraction and zeroing at the touch of a button



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- Remote ionization chamber with 6.4 mm lead shielding and 10-foot cable
- Self-diagnostic software
- Daily constancy isotope keys
- Electronic power supply (no battery in chamber)
- RS-232 bi-directional serial communications port

## SPECIFICATIONS:

**Measurement Range:** 0.01  $\mu$ Ci to 9999 mCi, auto-ranging

**Display Ranges (Units are user-selectable):**  
 0.01-19.99  $\mu$ Ci, 0.01-1.999 MBq (=54  $\mu$ Ci), 20.0-199.0  $\mu$ Ci, 2.00-19.99 MBq (=540  $\mu$ Ci), 200-1999  $\mu$ Ci, 20.0-1999.0 MBq (=5.5 mCi), 2.00-19.99 mCi, 200-1.999 GBq (=54 mCi), 20.0-199.0 mCi, 2.00-19.909 GBq (=54 mCi), 200-9999 mCi, 20.0-399.9 GBq (=10.8 Ci)

**Isotope Selection Keys:** Ten factory programmed — C-11; N-13; O-15;

F-18; Cu-62; Ga-68; Rb-82; I-124; Co-57; Cs-137 Three additional keys for user-defined isotopes

**Activity Range:** 0.01  $\mu$ Ci to 9999 mCi (0.001 MBq to 399.9 GBq)

**Energy Range:** 25 keV to 3 MeV photons

**Response Time (Auto Selection):** One second above 20  $\mu$ Ci; Three seconds between 2  $\mu$ Ci and 20  $\mu$ Ci; 10 seconds below 2  $\mu$ Ci

**Detector Linearity:**  $\pm 1\%$  or 0.2  $\mu$ Ci, whichever is greater

**Electrometer Linearity:**  $\pm 1\%$  or 0.2  $\mu$ Ci, whichever is greater

**Electrometer Accuracy:**  $\pm 1\%$  or 0.2  $\mu$ Ci, whichever is greater

**Overall Accuracy:**  $\pm 4\%$  or 0.4  $\mu$ Ci, whichever is greater.

Overall accuracy is affected by such factors as the accuracy of the specific source calibration, geometric variations due to sample volume or configuration, detector linearity, electrometer accuracy and readout accuracy background.

**Range** is from 0.1 to 999

**Detector:** Well-type pressurized ionization chamber, with Argon fill gas; Well opening 2.75" (7 cm), well depth is 10.5" (26.7 cm)

**Detector Shielding:** .25" (6.3 mm) lead on all sides except top well opening. Supplementary shielding available.

**Chamber Bias:** 340 volt electronic power supply

**Environmental Operating Conditions:**

**Temperature:** 0-40° C; Humidity: 0-90% rh, non-condensing

**Power Requirements:** 100 to 120 VAC @ 1/2A; 200 to 240 VAC @ 1/4A Line Frequency: 50/60 Hz; Detachable line cord;

**Display Unit: Dimensions:** 30.5 x 36.3 x 9.5 cm

**Weight:** 6 lb (3 kg)

**Detector Unit: Dimensions:** 19 x 19 x 41.3 cm

**Well Internal Dimensions:** 7 x 26.7 cm

**Well Internal Dimensions with Liner:** 6.3cm x 26cm

**Overall Weight:** 35 lb (16 kg)

**Well Shielding:** .25" lead (.63 cm)

### Atom Lab 300 PET Dose Calibrator

Includes Vial/Syringe Dipper, Well Liner

#### ACCESSORIES

Multi-Chamber Interface (Up to 6 chambers)

Dot Matrix Printer

Paper Rolls

Printer Ribbon

Dose Calibrator Interlocking Shielded Rings (50mm Thick Lead)

Lineator

Replacement Well Dipper

Replacement Well Liner

#### REFERENCE SOURCES

Co-57 370MBq

Cs-137 7.4 MBq

