

ATOMLAB 500

# DOSE CALIBRATOR

*Extensive QA applications streamline and simplify hot lab administration.*

The Atomlab 500 provides fast, accurate radionuclide activity measurements with performance that easily complies with the most stringent regulatory requirements. The system consists of a new low pressure ionization chamber with redesigned seal, electrometer with extraordinary linearity, and an auto-ranging touch screen color display. Now one dose calibrator can be used for a wide variety of nuclear medicine, PET, and radioimmunotherapy applications. Additionally, there are advanced, but easy-to-use programs for nuclear pharmacy, radiochemistry, and radiochromatography.

Activity measurements are performed by the microprocessor controlled electrometer located within the chamber assembly. The chamber is shielded with .25" (6.3 mm) lead. It can be located up to eight feet away from the display unit. Chamber bias is generated by an electronic high voltage supply, eliminating the need for expensive battery changes.

Every element of the design and technical development will increase dose accuracy, department productivity and regulation compliance. The attractive and intuitive human interface guides the user through each operation. Software can easily be updated via the Biodex website or by using a convenient memory card. The touch-screen display can rest on a bench or mount on the wall of a hot lab, hot cell or laminar flow hood.

In addition to powerful self diagnostics, the Atomlab 500 includes an exclusive chamber monitoring technology to assure longer life and accuracy. Integrated pressure and temperature sensors feedback data so that the influence of gas pressure change will not effect an accurate reading.

The Atomlab 500 is backed by Biodex's industry exclusive two year warranty.



## FEATURES:

- ***Pre-programmed for 88 most commonly used radionuclides***
- ***Large, easy-to-read backlit LCD***
- ***Small footprint economizes workspace***
- ***Ultra fast response***
- ***Automatic range selection; ranges up to 40 curies of Tc-99m or 10 curies of F-18***
- ***Displays in curies or becquerels***
- ***Remote Ionization Chamber***
- ***Self-Diagnostic Software***
- ***Desktop or wall mount display***
- ***RS-232 bi-directional serial communications port***

[www.jgravengaard.com](http://www.jgravengaard.com) 2009-06-26

**J. Gravengaard Corporation**

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# ATOMLAB 500 DOSE CALIBRATOR

## SPECIFICATIONS:

**Display:** LCD Touch Panel 6.5" x 5", function keys are displayed for the operation being performed

**Connectors:** RJ-12 for well cable, USB for printer

**Auxiliary Port:** RS-232 connector, used for data export and firmware updates

**Memory:** Stores Inventory and QA tests

**Isotope Selection Keys:** Twelve pre-programmed — Tc-99m, Tl-201, I-123, I-131, Cs-137, Co-57, Xe-133, Ga-67, In-111, F-18, Y-90, Mo-99; 25 user-defined isotopes and a full alphabetical list of 88 isotopes.

**Activity Range:** 0.01 uCi to 40 Ci (.001 MBq to 1500 GBq) of Tc-99m

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

**Response Time:** One to two seconds for doses greater than 200 uCi; three seconds for doses greater than 20 uCi; 50-100 seconds below 20 uCi of Tc-99m with default threshold; threshold adjustable to reduce counting time

**Detector Linearity:** ± 1% or 0.2 uCi, whichever is greater

**Electrometer Linearity:** ± 1% or 0.2 uCi, whichever is greater

**Electrometer Accuracy:** ± 1% or 0.2 uCi, whichever is greater

**Overall Accuracy:** ± 3% or 0.3 uCi, 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.

**Repeatability:** ± 0.3% above 1 Ci short term (24 hr); 1% long term (one yr.)

**Detector:** Well-type pressurized ionization chamber, with Argon fill gas; well opening 2.75" (7 cm), well depth 10.25" (26 cm). Up to seven chambers can be serially connected to one display.

**Chamber Gas Pressure:** 149KPa gauge (21.6 psig) at 20 degrees C or 250KPa absolute (36.3 psia) at 20 degrees C. IATA regulation 3.2.2.4 Exempts Gases of Division 2.2 from Dangerous Goods Regulations when transported at pressure less than 200KPa gauge (29 psig) at 20 degrees C. Device is shipped standard goods.

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

**Chamber Bias:** 355 ± 5 volts

**Environmental Operating Conditions:** Temperature: 0-40° C; Humidity: 0-90% rH, non-condensing

**Power Requirements:** 100 to 240 VAC, 0.38 — 0.15 amps, auto switching; XP Power Supply (PDM60US15), for medical use.

**Line Frequency:** 50/60 Hz; detachable line cord; built-in EMI filter and transient suppression

**Detector and Interface Cable:** 8' (243 cm) long, six conductor cable (two carry power; two chassis ground; two carry serial data I/O)

### Physical Specifications:

#### Display Unit:

**Dimensions:** 9.5" w x 12" depth x 12" h (24.1 x 30.5 x 30.5 cm)

**Weight:** 6.3 lb (2.9 kg); desktop or wall mountable

#### Detector Unit:

**Dimensions:** 6" dia x 15.5" h (15.24 x 39.37 cm)

**Well I.D.:** 2.75" dia x 10.5" h (7 x 26.7 cm)

**Well I.D. with Liner:** 2.5" dia x 10.25" h (6.35 x 26 cm)

**Lead Shielding:** .25" lead (6.3 mm)

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

**Approvals:** ETL to UL 60601-1 and cETL to CAN/CSA C22.2 No. 601-1-M90

**Warranty:** Two year



*The Atomlab 500 System with report and label printers.*

**086-335** Dose Calibrator, Atomlab 500,  
100-240 VAC ..... \$6,600.00  
*Includes RS-232 port, Vial/Syringe Dipper  
and Well Insert.*

### Related:

**086-336** Chamber, Dose Calibrator ..... \$5,500.00  
**075-594** Atomlab Well Counter ..... 2,950.00  
**086-337** Label Printer, Dot Matrix ..... 495.00  
**086-339** Report Printer, Inkjet ..... 250.00  
**086-333** Software, Atomlab 500 Data Manager .... 100.00  
**086-338** Dose Calibrator Shielding Rings,  
Interlocking, 2" lead ..... \$2,300.00  
*Additional protection from high energy activity.*  
**086-243** Copper Dipper, Vial/Syringe ..... 250.00  
**086-423** Moly Shield, Vial, .28" lead ..... 125.00  
**086-435** Moly Shield, Syringe, .28" lead ..... 425.00  
**086-509** Lineator ..... 495.00  
**086-334** Cable, European wall outlet ..... 15.00

### Replacement:

**086-242** Vial/Syringe Dipper ..... \$70.00  
**086-241** Well Insert ..... 70.00  
**086-278** Ribbon, Printer, 4/pkg ..... 18.00  
**086-268** Labels, "peel & stick", 200/roll ..... 42.00

Prices subject to change without notice.

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