

ATOMLAB 500 PLUS

# DOSE CALIBRATOR

*Dose Calibration and Wipe Testing combined...it's a complete Hot Lab Management System.*



Combine the Atomlab 500 Dose Calibrator with the Atomlab Wipe Test Counter and create a complete, efficient and cost effective radioactivity measurement system, the Atomlab 500Plus. Consider the software that is supplied with the Atomlab 500Plus. It's comprehensive, easy-to-use and feature rich. The software mirrors the way you think and work. It guides when necessary, but does not burden the advanced user. The touch-screen and easy-to-follow on-screen prompts mean you won't need "cheat sheets."

When required, you can be confident that every operation is captured and documented. That documentation makes compliance a breeze.

Your Atomlab 500 Dose Calibrator is upgradable. You can easily install software updates via the Biodex website or by using a convenient memory card.

Finally, one solution for all your molecular imaging needs.

[www.jgravengaard.com](http://www.jgravengaard.com) 2009-06-05

**J. Gravengaard Corporation**

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## FEATURES:

### *Atomlab 500 Plus System:*

- *Easy to use, large color touch screen with intuitive menus*
- *Small footprint economizes workspace*
- *One wipe counter and up to six ionization chambers can be connected*
- *Optional printers available for reports, labels, and hard-copy archives*
- *RS-232 bi-directional serial communications port*
- *Display can be desktop or wall mounted*
- *Self-diagnostic software*
- *Two-year warranty*



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

### *Dose Calibrator section:*

- *Automatic range selection; ranges up to 40 curies of Tc-99m or 10 curies of F-18*
- *Pre-programmed for 88 most commonly used radionuclides; any 12 can be conveniently touch-selected*
- *Displays in curies or becquerels*
- *Ultra fast response*
- *Robust software and extensive functionality*
- *Remote Ionization Chamber*
- *Quality Assurance Programs*
  - *Constancy*
  - *Expanded constancy*
  - *Linearity and auto-linearity*
  - *Accuracy*
  - *Geometry*
- *Radiopharmacy Applications*
  - *Future dose computation*
  - *Volume determination*
  - *Inventory control of 25 samples, correcting volume, activity and moly concentration*

### *Wipe Test Counter section:*

- *Meets NRC/State regulations*
- *64 Channel MCA*
- *Adjustable wide window and individual isotopes*
- *2x2 NaI drilled-well detector*
- *Remote shielded well*
- *Energy spectrums with individual ROI*
- *Ability to help identify isotopes causing contamination*
- *User-specific wipe locations and trigger levels*
- *Wipes that exceed trigger levels are immediately recognized: flashes on screen and prints in red*
- *Detailed wipe reports including CPM and DPM*
- *Automated QA testing, Chi square, FWHM and MDA*
- *Wipe testing results stored*

**ATOMLAB 500 PLUS DOSE CALIBRATOR/ WIPE TEST COUNTER**

**SPECIFICATIONS:**

**DOSE CALIBRATOR:**

**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, 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

**WELL COUNTER**

**Detector:** 2" x 2" NaI (TI) integral line scintillation detector with a 0.75" dia x 1.44 " depth well (1.9 x 3.7 cm)

**Style:** Remote Detector

**MCA:** 64-channel, integral to Well Counter

**Spectral Resolution:** FWHM 10%

**Count Rate:** (Maximum) 30,000 cps

**Memory:** Stores wipe, calibration, background, high voltage, isotope specification, isotope efficiency, Chi-Square testing results, technologist list, wipe locations list and latest MDA calculation. Results can be displayed and printed.

**Preset Radionuclides:** 27 including Tc-99m, Co-57, Cs-137, Ga-67, Tl-201, I-123, I-125, I-131, In-111, F-18

**Connectors:** RJ-12 for power and signal

**Lead Shielding:** 0.5" (1.2 cm) integral lead shield

**Optional Additional Shield:** 0.5" (1.2 cm) lead shield, slides over integral shield for total of 1.0" of shielding – includes cover

**Approvals:** ETL to UL 60601-1 and cETL to CAN/CSA C22.2 No. 601-1-M90, IEC 60601-1, IEC 60601-1-4 and IEC 60601-1-2

**Warranty:** Two year



**PHYSICAL/ ENVIRONMENTAL:**

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

**Power Requirements:**

**Line Voltage:** 100 to 240 VAC, auto selectable by the power supply, 1.5-0.75 amps

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

**Power Supply:** The system uses XP Power Auto Switching Supply for Medical Use, Model #PDM60US 15

**Detector and Interface Cables:** 8' (243 cm) long, six conductor

**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

**Chamber:**

**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)

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

**Well Counter:**

**Size:** 6"d x 11" h (15.24 x 27.9 cm)

**Weight:** 29 lb (3.2 kg)

**086-332** Dose Calibrator, Atomlab 500Plus,  
100-240 VAC ..... \$9,450.00  
*Includes Smart Display, Ionization Chamber,  
Well Counter, 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** Chamber Shielding Rings, 2" lead ..... 2,300.00  
*Additional protection from high energy activity.*
- 075-596** 0.5" Lead Shield, Well Counter ..... 450.00
- 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
- GF0209** Rod Source, 1uCi Cs-137 ..... 320.00

**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
- 006-350** Wipe Test Kits, 500/pkg ..... 70.00

Prices subject to change without notice.

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