

DOSE CALIBRATOR



The ATOMLAB 100Plus performs all standard dose calibrations and then some. The Atomlab 100Plus provides fast, accurate radionuclide activity measurements with performance that easily surpasses the most stringent regulatory requirements. The unit is simple to operate. There are 13 isotope selection keys, 12 are pre-programmed for the most commonly used radionuclides and one is user defined. There are 88 isotope-specific dial values listed in the manual, including Y-90 and Sr-89. 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. It can be located up to ten 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.

- *All functions microprocessor controlled*
- *Ultra fast response*
- *Automatic range selection Ranges up to 9,999 curies of Tc-99m or 2.5 curies of F-18*
- *Pre-programmed for the most commonly used radionuclides*
- *Display in Curies or Becquerels*
- *Automatic background subtraction and zeroing at the touch of a button*
- *Remote ionization chamber with .25" (.64 cm) lead shielding and 10 foot cable*
- *Self-diagnostic software*
- *Daily constancy isotope keys*
- *Electronic power supply (no battery in chamber)*
- *Industry exclusive two-year warranty*
- *Clock / Calander*
- *Print "peel and stick" syringe / vial labels and patient labels*
- *Constancy reports with carbonless copies for Co-57, Cs-137, and Ba-133*
- *Save up to two months of constancy data*
- *RS-232 bi-directional serial communications port*
- *Dot matrix printer*
- *ETL to UL 3101-1 and cETL to CAN/CSA C22.2 No. 1010.1-M92*

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ATOMLAB 100Plus DOSE CALIBRATOR

**ATOMLAB 100
DAILY CONSTANCY REPORT**

This report form is convenient for preparing daily and monthly constancy reports using the labels printed by the ATOMLAB 100 plus.

HOSPITAL NAME
ADDRESS
CITY/STATE

02/24 Daily Constancy Record
Printed: 02/23/94 13:50
Ca-137 Standard=0.1089 mCi on 11/21/93

0 ID #	ACTIVITY	MR	9 ID #	ACTIVITY	MR		
1	14	0.1073	-0.1	13	14	0.1072	-1.0
2	14	0.1075	-0.7	16	14	0.1072	-1.0
3	14	0.1070	-1.2	19	0.1071	-1.1	
4	14	0.1073	-0.9	20			
5				21			
6				22	16	0.1070	-0.9
7	14	0.1074	-0.8	23	16	0.1070	-0.9
8	14	0.1071	-1.1	24	14	0.1071	-1.0
9	14	0.1070	-1.2	25	14	0.1072	-1.0
10	14	0.1079	-0.9	26			
11	14	0.1071	-1.0	27			
12				28	16	0.0917	-1.1
13				29	16	0.1070	-0.9
14	16	0.1071	-1.1	30	16	0.1070	-0.9
15	14	0.1070	-1.2	31	16	0.1070	-0.9
16	14	0.1073	-0.9	32			

Max Actv=0.1070 mCi, Error=-0.94
03/31/94 13:50 Ca-137 Decay=0.1080 mCi

Legend of Printed Constancy Record:
Month/Year Daily Constancy Record is printed on indicated Month/Day/Year at indicated Hour/Minute.
ID: Day of the Month
ID: Employee ID number. This value is entered by the user at the time of measurement.
ACTIVITY: Measured Activity of daily constancy standard. Units are mCi.
MR: Percent error of the measured activity with respect to the decayed activity.

CAUTIONS:
● Indicates decayed activity is less than 0.050 mCi and which may fall below your license requirements.
■ The measured activity error exceeds 5% or is less than 1%. Consult with your RSO or assigned person from your license.
■ The measured activity error exceeds 10% which is beyond your license requirements. Consult your RSO for recommended action.

Report Prepared by: _____ ID # _____ Date: _____

Daily Constancy Report—Printouts are generated with peel and stick backing to affix to 8 1/2 x 11 legend sheet for convenient storage.

HOSPITAL NAME
ADDRESS
CITY/STATE

Radionuclide Activity Record
Nuclide: Tc-99m Activity: 19.38 mCi
09:32 02/23/94

Pt. Name: _____
Pt. ID: _____
Study: _____
Dose Administered by: _____
Time & Date: _____

Tc-99m 19.38 mCi
02/23/94 09:32

Co-57 19.38 mCi
02/23/94 09:32

Radionuclide Activity Record—Reflects isotope, activity, date, and time measured and prints out on both a syringe label and a patient file folder tag.

SPECIFICATIONS:

Isotope Selection Keys:

12 pre-programmed — Tc-99m, Sr-89, Tl-201, Mo-99, I-123, Xe-133, Ga-67, In-111, I-131, Cs-137, Co-57 and Ba-133; one additional for user defined isotope.

Activity Range: 0.01 µCi to 9999 mCi (.001 mBq to 399.9 GBq) of Tc-99

Energy Range: 25 keV to 3 MeV photons

Response Time: One second for doses greater than 2 mCi; Three seconds for doses between 200 µCi and 2 mCi; 3-30 seconds for doses below 200 µCi.

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

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

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

Overall Accuracy: ±3% or 0.3 µCi, 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 mCi short term (24 hr); 1% long term (1 yr)

Digital Calibration Dial: Four-digit LED dial display with increment/decrement keys to change the value. 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 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; Built-in EMI filter and transient suppression.

Detector and Interface Cable: 10' (304.8 cm) long, six conductor.

Display Unit:

Dimensions: 12" w x 14.3" depth x 3.75" h (30.5 x 36.3 x 9.5 cm)

Weight: 6 lb (2.7 kg)

Detector Unit:

Dimensions: 7.5" w x 7.5" depth x 16.25" h (19 x 19 x 41.3 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 (.63 cm)

Weight: 35 lb (16 kg)

Approvals: ETL to UL 3101-I and cETL to CAN/CSA C22.2 No. 1010.1-M92

Print Labels and Constancy Reports

The ATOMLAB 100Plus will generate peel and stick labels. Each label shows the selected isotope, activity, date and time. At the time the label is printed, a carbonless copy is also produced for department record keeping. The Power-Up/Self-Test Report is automatically printed. Constancy Reports for Co-57, Cs-137 and Ba-133 may be selected for the current or previous month. Constancy Reports are easy to read and feature three caution warnings: measurement error that exceeds ±5% of the decayed standard, error that exceeds 10% of the decayed standard and decayed standard less than 50µCi.

The RS-232 port enables the Atomlab 100Plus Dose Calibrator to communicate with most commercially available nuclear medicine management systems.

Clock/Calendar

Enter time and date in setup mode with a few simple key-strokes, and the ATOMLAB 100Plus will continually update this information and automatically print it on all reports. An industry exclusive two-year warranty is standard.

Prices subject to change without notice.

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J. Gravengaard Corporation

Medical Imaging Sales & Service

PO Box 20171 Portland, Oregon 97294 Nationwide (800)796-SCAN Local (503)255-0535 Fax (503)255-7047

086-265 Dose Calibrator, Atomlab 100Plus \$6,300.00
Includes RS-232 port, Vial/Syringe Dipper, Well Insert and Printer

Optional:

086-269 Voltage Configuration, 230V no charge
*For 086-265.
Must be purchased with Atomlab Dose Calibrator.*

Related:

086-301 Shielding Rings, Interlocking, 2" lead \$2,100.00
For additional protection from high energy activity

086-423 Shield, Moly Breakthrough 125.00

086-435 Moly Shield, Syringe, .28" lead 425.00

086-509 Lineator 495.00

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 and stick", 250/roll 42.00