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INFORMATION

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Gamma Counter LG-1



The Gamma Counter LG-1 is designed for radioimmunoassay (RIA) and immunoradiometric assay (IRMA) in medium and small size laboratories employing isotope ^{125}I . The counter is an easy to operate instrument with no moving mechanical components enlarging his operation reliability.

The gamma counter is one measuring channel instrument for ^{125}I labeled samples. Sample radiation is detected with NaI(Tl) well scintillator ensuring high detection efficiency of gamma radiation. Automatic gain control of photomultiplier tube, based on light pulse from light emitting diode as reference, ensures high stability of the counter operation. Measuring results including calibration curve are printed by an external printer. Printed document of the assay made is thus created. Lead shielding around the radiation detectors and registration of the detector

pulses in a window corresponding to ^{125}I energy range results in low background of natural radiation enabling thus measurement of samples with low substance concentration (activity).

The measurement is carried out under the control of a microprocessor software. Instructions at the counter display make calibration of the counter and the measurement of unknown samples easy. Two calibration curves are made during the calibration procedure: RIA (decreasing count rate) and IRMA (increasing count rate). Last calibration curve is stored in the counter memory and can be used later for another measurements.

Principal parameters

Type of isotope measured	^{125}I
Number of detectors	1
Radiation detector	NaI(Tl) $\varnothing 30 \times 40 \text{ mm}$ total dimension, $\varnothing 17 \times 38 \text{ mm}$ well
Calibration curve RIA	$\ln(B/B_0)$ versus $\log(\text{CONC})$
Calibration curve IRMA	$\log(B/T)$ versus $\log(\text{CONC})$
Measuring time	$\frac{1}{4}$, $\frac{1}{2}$, 1, 2, 4, 8 min.
Gain control	automatic, LED light pulse as reference
External printer	EPSON LX-300+
Power supply	200 - 240V, 50 Hz
Serial port	RS232C
Dimensions	270 x 220 x 180 mm (width x depth x height)
Weight	approx. 5 kg