

SOFTWARE-CONTROLLED DOSE CALIBRATOR

MEASUREMENT OF RADIOPHARMACEUTICALS FOR PET AND SPECT APPLICATIONS

- CALIBRATED FOR MORE THAN 50 NUCLIDES
- MEASUREMENT & COMPENSATION OF BACKGROUND
- SOFTWARE BASED
- FULLY INTEGRATED INTO GINA



The i-Dose is a software-controlled ionization chamber, designed for the fast and accurate determination of the activity, the volume activity or the half-life time of radiopharmaceuticals that are used in nuclear medicine for diagnostics and therapy. The dose calibrator is calibrated for all common radionuclides, including the RSO nuclides (Y-90, Er-169, Re-186) and the PET nuclides (e.g. F-18, I-124). The influencing factors for containers (syringe, eluate bottle, capsule etc.) and contents are considered in the measurement. It is fully integrated into the Gina software and is a perfect combination to our radio-detectors or the miniGita's.

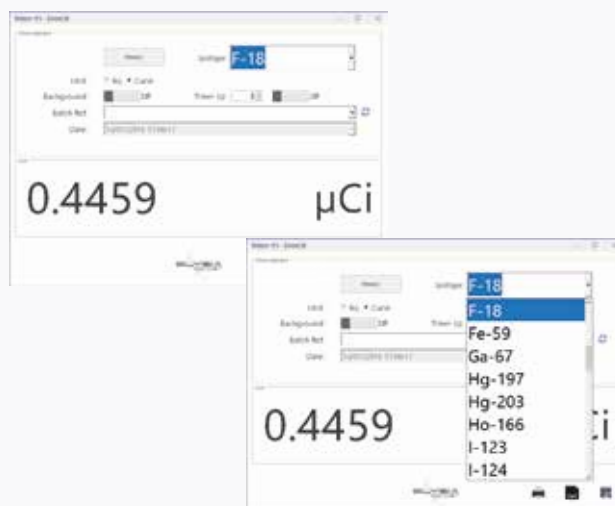
The dose calibrator is a certified medical device class II b.

The I-Dose is a long-term-quality and user-friendly device. The measuring chamber is connected with the PC via a USB interface and controlled with our Gina software. The user-friendly Gina interface can be used as the central software for your Quality control.

It can be extended with the radio TLC (miniGita) control and offers a fully integrated solution for our LIMS system. Other LIMS solutions can easily be adapted on request.

The integrated menu for quality control consequently fulfils all requirements of DIN 6855-11 and the requirements of medical authorities. The software can be used with an optional user access module and has a full audit trail for GMP compliancy. The user's menu of the dose calibrator supports in performing the (partially daily) quality control (background, responsiveness) and documents the results as an evidence. For background quality control, a measurement with and without sample holder are made one after the other.

- Calibration factors for different containers, container sizes and contents (volumes) are taken into account to reduce the total error
- Activity measurement of all nuclides used for PET and SPECT production and application
- Activity calculation for freely definable application times
- Determination of radiopharmaceutical half-life
- Determination of impurity percentage
- Integrated quality control according with data storage, protocol print and audit trail
- ⁹⁹Mo breakthrough check
- Integrated database with measuring value storage
- Integration in Gina
- Integration in other LIMS solutions on request



Technical Specifications

Measuring range

Gain
Bias Correction
Zero adjustment
Calibration
Background substration
Energy range for γ -sources

Measurement time

HV test accuracy
Linearity error
Temperature coefficient
Reproducibility
Stored isotope table

Contents (sample quantity)
Measurement chamber
Well liner
Dimensions
Weight
Lead Shielding

Three ranges with auto ranging function.

Digital adjustment
Digital adjustment
Digital adjustment
Digital adjustment
Digital control
25 keV to 3 MeV

$\pm 5 \%$
 $\pm 1 \%$ between 1 MBq and 200 GBq (Tc-99m)
0,1%/°C between 10°C and 40°C at 5 MBq and up
 $\pm 1\%$ over 24 hours, stable conditions

Am-241, Au-195, Au-198, Ba-133, C-11, Cd-109, Co-57, Co-58, Co-60, Cr-51, Cs-137, Cu-64, Er-169, F-18, Fe-59, Ga-67, Hg-197, Hg-203, Ho-166, I-123, I-124, I-125, I-131, In-113, Kr-81, Lu-177, Mn-52, Mn-52, Mn-54, Mn-56, Mo-99, N-13, Na-22, Na-24, O-15, P-32, Ra-223, Ra-226, Rb-81, Rb-82, Re-186, Re-188, Sc-46, Se-75, Sm-153, Sr-85, Sr-87m, Sr-89, Tc-99m, Tl-201, Xe-127, Xe-133, Y-88, Y-90, Yb-169

0.1 ml – 99.9 ml
Chamber 280 , xl \varnothing 69 mm
270 x \varnothing 57mm
150mm \varnothing (bottom 160mm) x 451 mm height
15.5 kg
3 mm Pb basic shielding additional
with 50mm external shielding