Dose Calibrator ISOMED 2000

With the Dose Calibrator ISOMED 2000, MED Nuklear-Medizintechnik has created an instrument combining highest performance and small footprint. The measuring system has been designed for complex applications in the clinical/ university field und in PET and research centers.

Benefits

- Minimization of components, integration of all components into a flat housing, requiring only little set-up space. Integration into hot cells or laminar flow boxes possible.
- State-of-the-art, powerful computer technology according to the industry standard (PC 104)
- Flat LC display, 12.1" TFT with touch-screen operation, clearly structured presentation of measurement results and parameters
- Menu-guided Windows-based software
- Integration into network and combination with database system possible for radiopharmaceutical balancing and management
- Integrated quality control according to the EN/DIN standard with protocol printout and date monitoring
- Software includes program for radiopharmaceutical identity checks, e.g. during production of PET nuclides
- User-specific result display through adjustable user interface
- Comprehensive isotope table, calibrated for more than 30 nuclides, including nuclides for **radio synoviorthesis** (Y-90, Er-169, Re-186) and palliative pain therapy (Sr-89, Sm-153, Re-188) and for Ra-224 **(Morbus Bechterew therapy)**

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- Container (syringe size, ampoule, bottle, capsule) and contents are taken into account; important especially with β sources
- Measurement of the activity of all nuclides common in PET; measuring range up to 300 GBq; rapid determination of the bottled activity (T = 1 – 1.5 s)
- Background measurement and compensation
- Calculation of measured value for freely selectable application times
- Allocation of measured value to patient possible. Network connection with patient database.
- Reliable chute ionization chamber in various designs; high measurement accuracy, low position dependency of sample
- Connection of several measurement chambers to one central electronics (multi-chamber concept)
- Upgrade of measurement electronics with additional I/O ports, e.g. to control syringe filling machines
- Combinable with:
  - Laser scanners for reading barcodes
  - Transponder readers for control of access rights
  - Network systems
- Expandable by user-specific software e.g.
  - Depot management
  - Nuclide management and balancing
- Certified in accordance with Medical Product Act CE 0123

Technical Data:

Measuring range	
e.g. Tc-99m	40 kBq to 50/200* GBq (* 7% additional error)
F -18	60 kBq to 70/300* GBq
Measuring range setting	automatically, alternative: fixed measuring range adjustable e.g. for PET filling
Energy range for Gamma sources	25 keV to 3 MeV
Measurement time	
with meas. range change-over	2s - 15s
without meas. range change-over	1s - 3s
Basic error	< 5%
Linearity error	< 2%
Result display	4-digits including display of unit, nuclide and chemical compound
Stored isotope table	C-11, N-13, O-15, F-18, P-32, Cr-51, Mn-54, Co-57, Co-58, Fe-59, Co-60, Ga-67, Se-75, Sr-89, Y-90, Mo-99, Tc-99m, In-111, In-113m, I-123, I-125, I-131, Xe-133, Cs-137, Ba-140, Sm-153, Er-169, Yb-169, Re-186, Re-188, Hg-197, TI-201, Ra-224
Containers	
Injector syringe	1, 2, 3, 5, 10, 20 ml
Bottles	5, 10 (P6), 15, 20 ml
Ampoules	5 ml
Capsules	for Co-57, Co-58, I-131
Contents (sample quantity)	0.1 ml – 99.9 ml
Measurement chamber	chamber Ø 125/184 mm, chute Ø 47 mm
Dimensions	total height 387 mm, chute depth 205 mm
Shielding	4 mm Pb basic shielding additional shieldings 16 / 50 mm
PC-System	industry-standard PC-system (PC 104) in flat housing (250 x 330 x 55 mm)
Monitor	LC-display 12,1" TFT
Keyboard	touch-screen, external keyboard or mouse
Weight	approx. 10 kg (without additional shielding)

Accessories:

- Test source Cs-137, 3.7 MBq
- Molybdenum kit
- Manipulator
- Sample dish for capsules
- Additional shieldings (16/50 mm Pb)
- Various printers

Further technical data see instrument documentation. Subject to technical modifications without notice.

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