

# ISOMED 2151 WASTEWATER COUNTER



The ISOMED 2151 Wastewater Counter is used to measure the activity of radionuclides in wastewater from nuclear medicine facilities and radioiodine therapy stations. The wastewater is collected in decay tanks. Samples from these decay tanks are filled into special measuring cups and measured with the wastewater counter. The limit value prescribed by the authorities can be reliably demonstrated.

## Advantages

- PC-supported measurement system on Windows 10 basis
- Automatic dead time and background correction can be activated
- Display of the energy spectrum
- Special measuring containers guarantee the safe and accurate determination of the activity of the sample
- Measured values can be assigned to the corresponding tanks and archived with the energy spectra
- Nuclide-specific isotope windows
- Measured values can be saved, exported, printed and displayed graphically

## Key figures

- Ø 3" x 3" → NaI(Tl) scintillation probe
- 7 → Nuclides measurable
- 30 mm → lead shielding (+20 mm optional)
- 2 → Energy spectra comparable

## Product Description

The ISOMED 2151 Wastewater Counter works on the basis of a computer with Windows operating system and monitor. An external multi-channel analyzer (MCA) and a NaI scintillation probe are connected. The pulses arriving at the detector are processed by the MCA and output as a digital measured value. In addition, the measurements are displayed graphically as an energy spectrum. The scintillation probe is operated in a shielding, a special 30 mm lead castle with swivel lid. The measuring beaker (1 l Marinelli beaker or Roediger cartridge) is inserted from above. The basic version of the wastewater counter allows the determination of the nuclides F-18, Sr-89, In-111, I-125, I-131, I-131 P (cartridge), Tc-99m or TI-201. The special version allows the measurement of nuclide mixtures. Measured values can be saved and summarized as protocols. The protocol can also contain the last energy spectrum in addition to the measured value tables when printed. The menu structure and operator guidance ensure simple, fast and error-free operation of the measuring system.

## Functionalities

- Simple measurements of wastewater samples from decay tanks.
- Measured value display in Bq/l.
- In addition to the currently measured values, the measuring time, the statistical error, the windows called up and the control window are also displayed.
- Calculation of the time when the regulatory limit is reached.
- Additional shieldings available to reduce background radiation.
- Energy window, gain and high voltage adjust automatically according to the selected nuclide.
- Depending on the design, individual nuclides or nuclide mixtures of two to four nuclides can be measured.
- Eight different nuclides selectable.



## Technical Data

Operating system	Windows 10
Scintillation probe	Standard version with NaI(Tl) scintillator $\varnothing 3'' \times 3''$
Energy range of the scintillator	10 keV to 2000 keV
Measurable nuclides	In-111, I-131, I-125, Tc-99m, TI-201, F-18, Sr-89
Detection limits	In-111, I-131, Tc-99m, TI-201, F-18 : 5 Bq/l to 5 kBq/l I-125 : 15 Bq/l to 50 kBq/l Sr-89 : 200 Bq/l to 5 MBq/l
Decision thresholds	In-111, I-131, Tc-99m, TI-201, F-18 : 3 Bq/l to 100 kBq/l I-125 : 3 Bq/l to 250 kBq/l Sr-89 : 100 Bq/l to 25 MBq/l
Measurement error	$\leq 40\%$
Measuring time for lower detection limit	approx. 3600 s
Possible accessories	Cs-137 test source 9.5 kBq for device calibration 1 l Marinelli beaker with screw cap Various printers Additional shielding