

Clearance Monitor

LB 2050



The development of the clearance monitor was initiated upon new clearance regulations in Germany for radioactive materials (Radiation Protection Ordinance 2001 §29). The monitor consists out of a mobile detection unit with a measurement volume of 150 liter and an evaluation PC.

Six large area Xenon counter tubes measure both beta and gamma radiation. The approximate 4-pi geometry ensures a high sensitivity and a very good independence of the spatial distribution of the radioactivity in the waste container.

The weight is automatically taken into account by means of an integrated load cell scale. The data are collected in the PC and are stored into a data base.

For radionuclides like ^{11}C , ^{18}F , ^{57}Co , ^{90}Sr , $^{99\text{m}}\text{Tc}$, ^{111}In , ^{125}I or ^{131}I in typical waste containers filled with low density waste detection limits below 0.2 Bq/g can be achieved within a few minutes.

The monitor also measures simultaneously the surface contamination of the container on all sides.

Comprehensive and flexible report protocols and labels make the administrative tasks of the clearance measurement easy.

Technical Data

Measuring Chamber	Stainless steel, mobile, approx. 150 liter measuring volume front door access, base plate on sliders for ergonomically loading
Front Panel	Simplified use with status lights and Start/Stop buttons Clear status indication via red, green, yellow and blue LED lights
Detectors	Beta and gamma detection 6 Xenon large area proportional counters with integrated HV supplies and preamplifiers 4x 2000 cm ² detectors sideways, 2x 1000 cm ² detectors top and bottom
Protective grids	transparency 80%
Shielding	5 mm lead, covering all sides of the measuring chamber
Scale	built in scale, maximum load 90 kg
Software functions	User management, user registration (password), parameter entry, reference sources, calibration routines (special password for calibration), automatic background measurement, identification container type, selection of nuclide(s), failure and fault monitoring, clearance measurement, measurement protocol, label printer output, data base and functions for storage, sorting, filtering & release
Dimensions	Inner dimensions 477 x 477 x 650 mm ³ W x D x H Outer dimensions 577 x 800 x 1100 mm ³ W x D x H incl. wheels
Weight	approximately 210 kg

