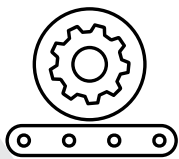


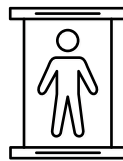


VEBOS

WHOLE BODY IN-VIVO COUNTING SYSTEM



Fully automatic
scanning system



Measure of total body activity
and committed effective dose



Alternative detection
equipment options

Detectors: two liquid-
nitrogen-cooled HPGe

Low-background
lead shielding/collimators

Extensive safety devices

Several operating modes
available according to
required activities

The **VEBOS** system is designed to perform a complete scan of individuals standing in front of a vertically moving detection equipment.

The measuring equipment is composed of 2 electro-cooled HPGe detectors, or NaI(Tl) scintillators, managed by a multi-channel analyser.

The detectors are shielded with lead collimators in order to reduce the contribution due to environmental background. The collimators can also be used to define a detection field of view, according to the measurement requirements (e.g. full body scan, hot spot deep analysis, etc.).

The detectors and related components are lodged on a mechanically moving shelf, activated by the system software according to the pre-set measurement sequence.

The mechanical structure of **VEBOS** includes a main frame which acts both as supporting structure as well as shielding from external background contribution.

The primary user interface is provided by a built-in panel PC with proprietary software allowing the complete management of the system, i.e. activation and control of the measurements, display/archive of the results, etc.

Several safety devices are implemented in **VEBOS**: a base platform that detects an individual presence, interlocks at the maintenance door, and buttons on the holding handles to enable the movement of the detectors.

OPERATING MODES

VEBOS is designed to be an extremely flexible system, allowing the User to select proper measurement modalities depending on the specific needs:

- Full scan: 6-steps segmented scan of the individual, to evaluate the total body contamination (in Bq) and to subsequently evaluate the committed effective dose (in Sv). The segmented approach allows identifying hot-spots.
- Fixed-position measurement: dedicated, high-statistics measurement for a specific body region in case of hot-spot detection.
- Lung and thyroid measurement: specifically conceived to measure thyroid and lungs' contamination.
- Sample measurement: low-background isotopic analysis of contaminated samples.

TECHNICAL SPECIFICATIONS

Detection unit

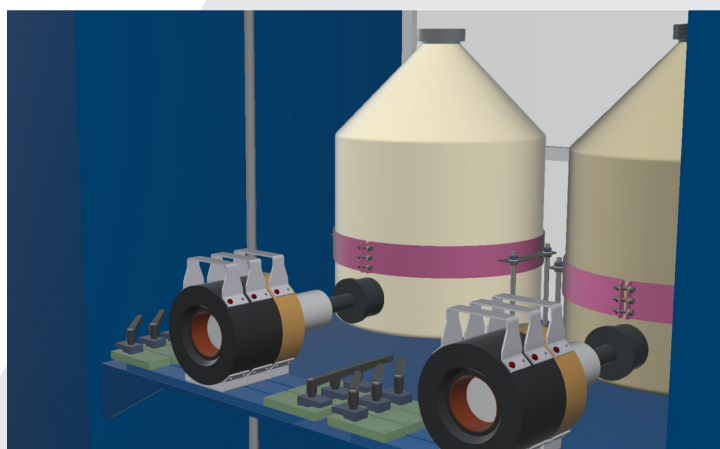
- Detector type: electro-cooled coaxial P-type HPGe detectors or NaI(Tl) scintillators
- Number of units: 2
- Lead shielding/collimator thickness: 50 mm
- Energy range: 40 keV to 10 MeV
- Relative efficiency: $\geq 25\%$
- Energy resolution (122 keV): 0.82 keV
- Energy resolution (1.33 MeV): 1.85 keV
- Peak to Compton: 56:1
- Detectors endcap size: 70 mm

Mechanical characteristics

- Overall dimensions (WxHxD):
2000 x 2720 x 1800 mm
- Total weight: approx. 1000 kg

General features

- Alarm column
- Handles for helping the person to keep a suitable position during measurements
- Door for easy access to the detectors for maintenance activities
- Eyebolts for easy deployment of the system



*VEBOS detectors detail
(optional nitrogen-cooled version)*

OPTIONS

- Alternative detection equipment options, e.g.: liquid-nitrogen-cooled HPGe detectors, NaI(Tl) scintillators, etc.

ACCESSORIES AVAILABLE UPON REQUEST

- BOMAB phantom for calibration
 - Warranty extension from 12 months to 24 months
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