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## WAM-300 WASTE ASSAY MONITOR



### MAIN ADVANTAGES

- Monitor configuration to customer requirements
- Division of the measured waste drum into volume segments
- Analysis of spectrometric data from each volume segment
- Peak attenuation correction
- Fast-Scan function
- Detector with optional adjustable collimator
- Integrated waste drum weighing
- Measurement of the density of the material in the waste drum
- Integrated **WAMIS** data and control software

### PURPOSE

The WAM-300 monitor is intended for the quantitative and qualitative characterization of radioactive wastes, with overall activity from 3 kBq to 3 TBq deposited in waste drums (for  $^{60}\text{Co}$ ).

The WAM-300 series monitors are equipped with a sealed radionuclide source to correct for non-homogeneous material distribution in the waste drum. Eu-152 is used as standard, in case of need other nuclides can be used, e.g. Se-75.

WAM-300 monitors can be customized to various customers' requirements for measuring different types and sizes of waste drums, various waste activities in drums, different requirements for handling drums, etc.

The WAM-300 includes:

- Rotating platform for measured waste drums with integrated weighing scale
- HPGe detector, cooled by liquid nitrogen, with min. 15 % efficiency and a fixed collimator that measures radionuclides in a selected waste drum segment
- Collimated dose rate detectors for Fast-Scan function
- Vertical lifting mechanism, which ensures measurement of the waste drum over its entire height
- A data processing system, which provides comprehensive waste drum analysis
- radionuclide source, installed opposite the HPGe detector, to measure material density in a waste drum

It is also possible add to the WAM-300 the following optional equipment<sup>1</sup>:

- HPGe detector with efficiency corresponding to the activity of the waste in the waste drum.
- Detector cooling: electric or hybrid (combination of liquid nitrogen and electric cooling)
- Collimator with adjustable aperture, for measuring a wide range of activities in waste drums, with automatic setting of the aperture using the Fast-Scan function
- Manual or automatic waste drum handling system
- Swab wipe system for the measurement of waste drum's surface contamination
- Barcode reader for waste drum identification

<sup>1</sup> Optional equipment must be specified before ordering

When the waste drum is loaded onto the rotating platform, it is weighed. The operator is then asked to enter the measurement input information and then the measurement can be started.

The Fast-Scan function performs a quick measurement using dose rate detectors to determine the maximum dose rate at the waste drum surface. Accordingly, the aperture size of the detector collimator is automatically adjusted so that the detector is not overloaded.

Next, a waste drum density measurement with the radionuclide source is performed to determine the average density of the material in the drum. Depending on the measured density, the corresponding peak attenuation correction factor is set.

Then the waste drum is gradually measured by an HpGe detector in individual cylindrical segments over its entire height.

After measurement, the monitor will provide a user a report with the total and mass activity of the radionuclides present in all measured segments, as well as the total and mass activity of the waste in the waste drum for each radionuclide.

WAM monitors are controlled by **WAMIS** software, which has the following features:

- Starting new waste drum measurements
- Manual WAM control, performing calibrations
- Archiving of waste drum measurements made
- Archiving of calibrations performed
- Archiving status and error messages
- Printing reports of waste drum's measurements made
- Printing WAM calibration reports



WAM-200

## SPECIFICATION

Detector	HPGe
Typical efficiency	15 %
Measuring range	from 3 kBq to 3 TBq
Resolution FWHM (122 keV)	< 0,85 keV
Resolution FWHM (1330 keV)	< 1,85 keV
Ratio Peak to Compton	60 : 1
Dimensions (W × H × D)	(2650 × 2260 × 1200) mm
Weight	1 800 kg
Typical diameter of the waste drum	610 mm
Weight of waste drum up to	500 kg
Power supply	110 – 230 VAC, 2 kW
Temperature	from 5 to 55 °C
Humidity	max. 80 % non-condensing
Operating pressure	86 – 106 kPa

## RELATED PRODUCTS

<b>WAM-200</b>	Waste Assay Monitor
<b>MK-30P</b>	Measuring Chamber
<b>HF</b>	Hand-Foot Contamination Monitor
<b>PAM-170</b>	Portable Activity Meter
<b>MDG-12S</b>	Directional Dose Rate Meter
<b>RMS</b>	Radiation Monitoring System