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POWER PLANTS



WASTE
MANAGEMENT



RESEARCH
CENTRES

WAM-200

WASTE ASSAY MONIOTOR



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
- Integrated **WAMIS** data and control software

PURPOSE

The WAM-200 series monitors are 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}Co).

The sophisticated WAMIS evaluation software allows the total drum activity to be evaluated, including its distribution in the waste drum.

WAM-200 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-200 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
- Vertical lifting mechanism, which ensures measurement of the waste drum over its entire height
- The data and control software WAMIS, which provides comprehensive waste drum analysis

It is also possible add to the WAM-200 the following options and features¹:

- 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)
- Collimated dose rate detectors for Fast-Scan function
- 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
- Movable platform for loading of waste drums at safe distance form the detector part
- Barcode reader for waste drum identification
- Swab wipe system for the measurement of waste drum's surface contamination

¹ 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.

Then the waste drum is gradually measured by an HpGe detector in individual cylindrical segments over its entire height. During the measurement, the drum is rotated at an adjustable speed and the detector moves vertically along the drum.

After measurement, the monitor will provide a user 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 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-300

SPECIFICATION

Detector	HPGe
Typical efficiency	15 %
Measuring range	from 3 kBq to 1 TBq
Resolution FWHM for 122 keV	< 0,85 keV
Resolution FWHM for 1330 keV	< 1,85 keV
Ratio Peak to Compton	60 : 1
Dimensions (W × H × D)	(2560 × 2145 × 1670) mm
Weight	1700 kg
Typical diameter of the waste drum	650 mm
Weight of waste drum up to	500 kg
Power supply	220 – 240 VAC
Temperature	from 5 to 55 °C
Humidity	max. 80 % non-condensing
Operating pressure	86 – 106 kPa

RELATED PRODUCTS

WAM-300	Waste Assay Monitor (with transmission source)
MK-30P	Sample Measurement System
HF	Hand-Foot Contamination Monitor
PAM-170	Portable Activity Meter
MDG-12S	Directional Dose Rate Meter
RMS	Radiation Monitoring System