



VF NUCLEAR



NUCLEAR
POWER PLANTS



WASTE
MANAGEMENT



CALIBRATION
LABORATORIES



RESEARCH
CENTRES



INDUSTRY
& MANUFACTURING

LEM-500

LIQUID EFFLUENT MONITOR



MAIN ADVANTAGES

- Suitable for environmental (regulatory) monitoring of effluents
- Low MDA
- Measuring chamber with non-stick surface and permanent drain

PURPOSE

The LEM-500 series monitors provide offline measurements of the volume gamma activity of liquids with very low minimum detectable activities.

It is suitable for the nuclide specific measurement and reporting of liquid effluents from nuclear facilities.

It can be used as part of larger monitoring systems or as an autonomous monitor, displaying results at the place of measurement or with a remote display of measurement result as well.

The key parts of the monitor are:

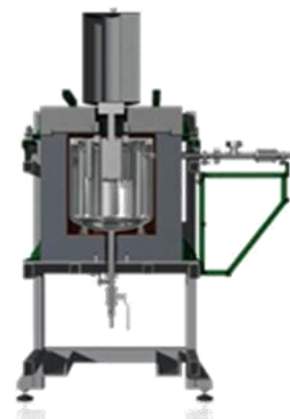
- Measurement chamber with variable shielding
- Scintillation detector or HPGe
- Data processing unit with a multi-channel analyser
- Control unit with display
- System for automatic control of sampling with valves¹

The detector is located in a shielded measurement chamber, to which the sampling line is connected.

The LEM-500 monitor control unit allows:

- Comparison of the value measured with alarm levels
- Automatic background measurements at preset intervals
- Monitor calibration using a sealed source of ionizing radiation
- Filling the measurement chamber with the calibration solution
- Flushing of the chamber with clean water
- Monitoring effluents and control of inlet pumps
- Monitoring the flow rate, pressure, and temperature
- Data transfer into a host system

Measurements are evaluated in normal and emergency mode. Various measurement time intervals are set for the individual measurement modes. Liquid temperature is also recorded. The measured data is stored in the form of hourly, daily and summary records.



The cross section of the monitor

¹ Allows automatic continuous measurement of liquid activity, periodic measurement of contamination of the measuring chamber, or sampling of liquid for subsequent laboratory evaluation according to set parameters

LEM-500

LIQUID EFFLUENT MONITOR

SPECIFICATION

Model	K1440	K1442
Detector	NaI(Tl) / YAP(Ce) ²	HPGe ³
Energy range	50 keV – 3 MeV	50 keV – 3 MeV
Shielding	50 mm	100 mm
Dimension (W × H × L)	700 × 1500 × 1100 mm	700 × 1500 × 1100 mm
Weight	864 kg	1670 kg
Measurement chamber volume	16 l	16 l
Sample flow rate	30 – 100 l/min	30 – 100 l/min
Power supply	230 V / 50 Hz	230 V / 50 Hz
Operational temperature	5 – 50 °C	5 – 50 °C

² Default NaI(Tl) 2"× 2"; optionally NaI(Tl) 3"× 3" or YAP(Ce) according to the required measuring range or medium temperature

³ The efficiency of the detector is chosen according to the required measuring range or the customer's request



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Specification subject to change without prior written notice.

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