

LEM-221

LIQUID EFFLUENT MONITOR



MAIN ADVANTAGES

- Spectrometric measurement of volume activity of up to sixteen selected radionuclides
- A collimator that compensates the effect of level height and is adjustable for various activity levels
- Minimum maintenance
- Can be used as part of a system for controlled releases with retention tanks or as an autonomous monitor

PURPOSE

The LEM-221 monitor is designed for spectrometric monitoring of the volume activity of liquids in retention tanks at nuclear medicine workplaces and PET centres, as well as in the technological circuits of nuclear facilities.

The monitor consists of:

- LAD-21 detector with NaI(Tl) 1×1" scintillator
- DIM-15 BOX multichannel analyser

The scintillation detector is located in a lead collimator with a horizontal circular collimation slit with the adjustable width of 5-20 mm. The collimation angle is 20°. The design of the collimator compensates the effect of the level fluctuation in the storage tank on the measurement results and ensures optimal geometry for the detection of artificial radionuclides.

The LAD-21 detector is installed in a protective tube hung on a stainless steel wire in the retention tank. A simple mechanical fitting makes it easy to handle the detector and place it in the correct measuring position.

The detector's signal is then processed spectrometrically by the DIM-15 BOX multi-channel analyser using peak analysis. This device also provides power to the detector.

SPECIFICATION

Detector	NaI(Tl) 1 × 1"
Check source	¹³⁷ Cs, 1 kBq
Measuring range	700 kBq/m ³ – 60 GBq/m ³
Energy resolution (¹³⁷ Cs)	> 8 %
Number of MCA channels	8192
Dimensions	
LAD-21 (Ø x H)	95 × 297 mm
DIM-15 BOX (W x H x D)	260 × 160 × 91 mm
Weight	
LAD-21	approx. 13 kg
DIM-15 BOX	approx. 2.7 kg
Power supply	PoE, 24 V DC, 10 W
Communication interface	Ethernet, RS-485
Temperature range	from 5 to 50 °C

RELATED PRODUCTS

RESYS	Decay Tank Control System
SW RadSpec	Spectroscopy Software
ASU-50	Alarm Slave Unit

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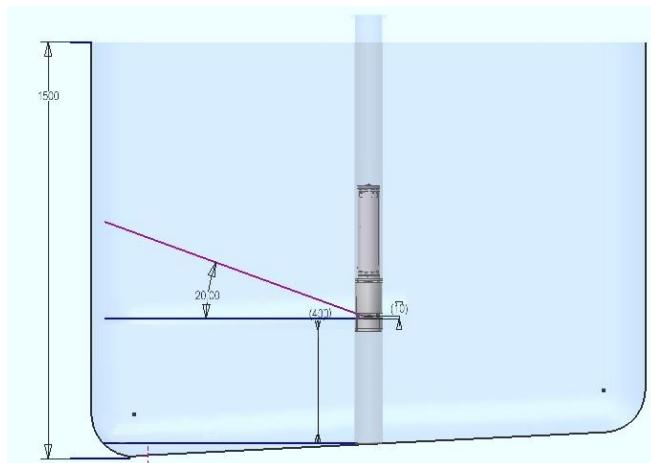
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LAD-21 scintillation detector



DIM-15 BOX multichannel analyser



*An example of placement of the LAD-21 detector
in a retention tank*



ASU-50 Alarm Slave Unit