



VF NUCLEAR



NUCLEAR
POWER PLANTS



WASTE
MANAGEMENT



RESEARCH
CENTRES



INDUSTRY
& MANUFACTURING

LAM-561

LIQUID ACTIVITY MONITOR



KEY FEATURES

- Measurement of volumetric activity of gamma-emitting radionuclides in process liquids in nuclear facilities.
- Suitable for high temperatures.
- Off-line monitor – sample taken from a process pipeline flows continuously through a measurement chamber of the monitor.
- Optionally can provide safety classified function, category C, according to the EN 61226 standard
- In-built Cs-137 check source

DESCRIPTION

The monitor is intended for the measurement of volumetric activity of gamma radionuclides in liquids such as process waters in nuclear facilities during routine, accident and post-accident conditions.

The monitor assembly is composed of:

- GD-51 gamma detector, including high temperature gamma scintillator YAP Ø 1"×1,5";
- Stainless steel flow-through measurement chamber with 60 mm diameter and 314 mm length;
- 50 mm thick lead shielding;
- Check and stabilization source Cs-137 with the activity of 25 kBq;
- Radiation processing unit RPU-04 with a 1024-channel analyser for the processing of data from the detector.

RPU-04 determines total volumetric activity of gamma radionuclides in the liquid flowing through the chamber. The detector is resistant to liquid temperatures up to 120°C without any additional cooling.

Remote indication of measurement results can be provided by:

- RDU-12 display unit, which is connected via RS-485 interface;
- ASU-50 alarm lights, connected to RPU-04's digital outputs.

The monitor can communicate with a host system using:

- RS-485 serial interface
- Ethernet 10 Mbit/s, UTP
- Current loop

The monitor can send data simultaneously to both non-safety classified and safety classified host systems.



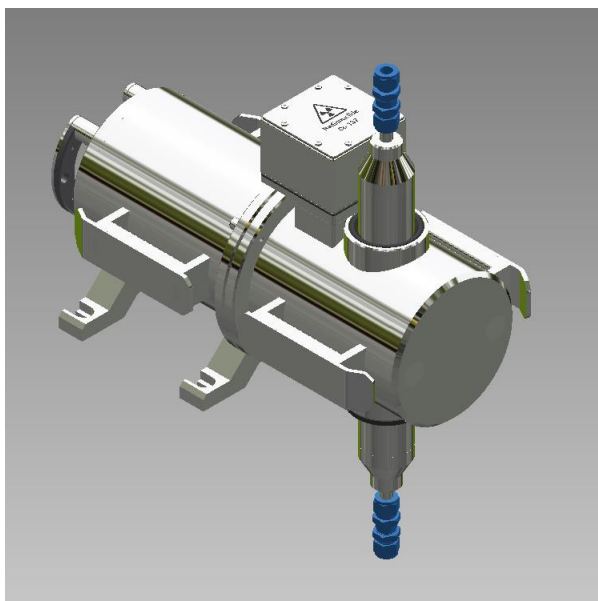
RPU-04

LAM-561

LIQUID ACTIVITY MONITOR

SPECIFICATION

Measurement range	from 1,0E06 to 2,8E09 Bq/m ³
Reference radionuclide	Cs-137
Sample temperature	5 to 120 °C
Weight with shielding	app. 130 kg
Dimensions	
· Detectors (w × h × d)	264 × 342 × 524 mm
· RPU-04 (w × h × d)	330 × 270 × 287 mm
Ingress Protection	IP 65
Power supply	+ 24 V DC/ max. 2 A
Communication Interface	RS-485 Modbus RTU



Positioning of the measurement chamber in the LAM-561 monitor

OPTIONAL ACCESORIES

RDU-12	Radiation Display Unit
ASU-50	Alarm Slave Unit
CIM-05	Ethernet interface
ICIM-03	Analogue outputs

RELATED PRODUCTS

LAD-07	Liquid Activity Detector – measures fuel cladding failures by the detection of Kr-88 in the primary circuit
LAD-08	Liquid Activity Detector – measures fuel cladding failures by the detection of I-132 in the primary circuit
LAD-64	Liquid Activity Detector – measurement of volumetric activity of gamma radionuclides in process waters of nuclear facilities
LAD-66	Liquid Activity Detector – measurement of volumetric activity of gamma radionuclides in process waters of nuclear facilities



RDU-12 display unit



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Specification subject to change without prior written notice.

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