

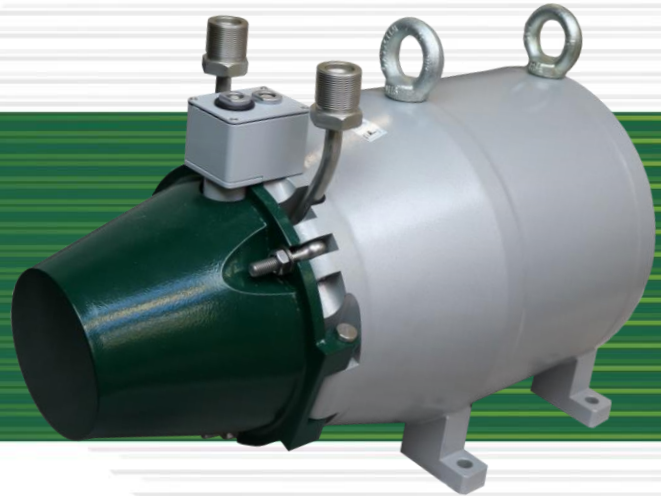


VF NUCLEAR



LAD-07

LIQUID ACTIVITY DETECTOR



MAIN ADVANTAGES

- Monitoring of fuel integrity through Kr-88 detection in the primary circuit of a nuclear reactor
- Attached to line (ATL) monitor
- Detector shielding reducing the response to increased background
- Water cooled monitor
- Checking of the detector function by means of LED check source (without using radioactive source)

PURPOSE

The detector is designed to measure the Kr-88 radionuclide in the primary circuit of a nuclear reactor.

Kr-88 is present in the coolant water only in case of fuel cladding leakage.

The LAD-07 detector consists of:

- GD-52 gamma detection module with 2.5 "x 2.5" NaI(Tl) crystal (correct functioning of the detector can be checked by a built-in LED),
- Sandwich shielding of the GD-52 detector (lead, tin, copper) near the pipeline with the measured liquid,
- Stainless steel cooler of the detection module, through which the coolant permanently flows (ensuring that the maximum working temperature of the detector is not exceeded),

LAD-07 can be optionally connected to radiation processing units RPU-04, RPU-06, or RPU-12 with a 1024 channel analyzer (MCA) to process data from the detector.

RPU-06 and RPU-12 enable local presentation of measured data.

Remote data presentation and status indication can also be provided by:

- RDU-12 remote display unit, which communicates with the local RPU via the RS-422 interface
- ASU-50 alarm unit connected to the local RPU unit by digital outputs.



RPU-04



RPU-06

LAD-07

LIQUID ACTIVITY DETECTOR

SPECIFICATION

Measurement range	from 5E07 to 1E12 Bq/m ³
Reference radionuclide	⁸⁸ Kr
Sensitivity	5,89E-09 cps/(Bq/m ³)
Temperature range	from 5 to 40 °C
Weight (shielding including)	250 kg
IP protection	IP 65
Power supply	+24 V DC/ max. 2 A
Interface	RS-485 Modbus RTU

OPTIONAL ACCESSORIES

RPU-04	Radiation Processing Unit (compact, without display)
RPU-06	Radiation Processing Unit (compact, with display)
RDU-12	Radiation Processing Unit (with display)
RDU-12	Radiation Display Unit
ASU-50	Alarm Slave Unit

RELATED PRODUCTS

LAD-08	Detector for measuring the tightness of fuel cladding in the primary circuit of a nuclear reactor based on the detection of I-132 in liquid
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RPU-12



RDU-12



GD-52