

Radiometer RGG-03-TE

Purpose and operation mode

A radiometer provides continuously measurement and transmission values of volume activity of iodine radionuclides I-131 by information network.

The operation mode is based on analyse of the energy spectre of gamma-quantum that are emitted by radionuclides which has left on the sorption-filtering material in the result of pumping air through it.

A radiometer measures the value of volume activity of iodine radionuclides I-131 that is calculated according to the algorithms of detection, accumulation and average hourly measurements.

Application areas

Continues automatic control of concentration of iodine radionuclides I-131 in the independent mode or as a part of automation radiation monitoring systems in the air of workplaces, ventilation systems, pipelines, chambers and etc.

Operation modes:

- a stationary measuring device with own pump block or with work from external sampling line;
- a portable measuring device on a trolley with pump block; a point of continuous control in a radiation control system with ability of transfer data to a local network.

Features:

- built-in air flowmeter;
- compensation of impact external gamma background with lead protection 5 cm thick;
- communication interface RS-485;
- an ability of air sampling from the ventilation system;
- setting by means of the console and notebook;
- ability of connection external block of indication and alarm.
- stationary or portable version with own pump block;
- work from an external sampling line.



Specifications

| | |
|---|--|
| Type of detectors | scintillation, spectrometric NaI (TI) |
| Quantity of detectors | 1 |
| Measurement range | from 0,1 to $3,1 \cdot 10^7$ Bq/m ³ |
| Energy range of registration (peak of complete absorbtion) I-131 | from 290 to 480 keV |
| Measurement uncertainty of volume activity | no more ± 40 % |
| Measurement time | from 10 s to 24 h |
| Air flow rate through a filter | from 10 to 40 l/min |
| Measurement uncertainty of air flow rate | ± 7 % |
| Types of filter tapes | СФЛ-2И-50 |
| Power supply of the radiometer from AC mains 50 ± 2 Hz, voltage | from 187 to 242 V |
| Power consumption: | |
| - without a pump block | no more 70 V·A |
| - with a pump block | no more 470 V·A |
| Ambient temperature range | from +5 to + 50°C |
| Relative humidity | up to 100 % at + 50°C |
| Protection class | not worse IP65 (IP20 for a pump block) |
| Average failure time | no less 20000 hours |
| Average service life | no less 10 years |
| Dimensions | 430×350×190 mm |
| Weight of radiometer: | |
| - without pump | no more 63 kg |
| - with pump | no more 83 kg |

Purpose indicators:

- a radiometer by purpose refers to the elements of the system of normal operation, the impact on the safety of nuclear power plants - to systems and elements important for safety, third class;
- analyse of energy spectre of gamma-quantum that are emitted by radioactive iodine isotopes which accumulate on the filter using a 1024-channel AD converter provides spectrometric determination of the volumetric activity of the radionuclide iodine I-131;
- a radiometer measures a consumption and volume of pumped volume of air by means of the built-in flowmeter;
- a radiometer controls its own pump block and can control external devices (for example, solenoid valves while working with an external sampling line).

Delivery set

Standard:

- a detection device UDAG-011;
- a console USR-04-01;
- a verification and configuration software;
- an operation manual.

On request:

- a pump block BN-01;
- a set of mounting parts.

«SPE «TETRA» Ltd
52210 Zhovti Vody, Franko 2
Dnipropetrovsk region., Ukraine
Tel: +38 (098) 894-06-06, +38 (050) 145-76-84
e-mail: info@tetra.ua <http://www.tetra.ua>

 **TETRA**
www.tetra.ua
Devices of radiation and technological control
