bertin vf nuclear

NUCLEAR FACILITIES

WASTE MANAGEMENT

CIM-303

CONTINUOUS IODINE MONITOR

MAIN ADVANTAGES

- Continuous measurement under normal, accident and post-accident operational conditions
- Easy exchange of the iodine cartridge
- Installed and mobile versions available
- Various communications interfaces
- Compliant with IEC 60761, IEC 61171
- Easy maintenance

PURPOSE

The CIM-303 Continuous Iodine Monitor is designed for continuous monitoring of iodine activity in air (in both organic and inorganic forms). The air can be sampled directly from working environments, ventilation systems or the environment.

The main components of the monitor are as follows:

- CID-03 Continuous Iodine Detector,
- RPU-06 Radiation Processing Unit (RPU-12 if required)
- VP-30 Vacuum Pump (VP-50 if required)
- GFM-10 Gas Flow Meter

The air is sampled through an iodine cartridge filled with impregnated activated carbon as standard. During sampling, the iodine contained in the air is collected in the cartridge. The CID-03 Continuous Iodine Detector measures iodine activity in the cartridge using a NaI(Tl) scintillation detector. The CID-03 can be equipped with shielding of various thicknesses. A remotely controlled radionuclide source Cs-137 is used for temperature and time stabilization of the detector.

The RPU-06 (or RPU-12) Radiation Processing Unit provides power for the system, displays the results of activity measurements, archives measured values and displays the status and other measured parameters of the monitor. It also visually and audibly indicates when the pre-set alarm levels have been exceeded.

The Vacuum Pump ensures the required air flow.

The monitor is available as installed (skid) and mobile (trolley) versions. The components of the skid version are mounted on a rigid metal frame. The components of the mobile version are mounted on a mobile trolley with wheels.

Optionally, an installed version without the integrated pump can be supplied. In this case, a remote pump is required to ensure sample flow through the monitor.

If it is not necessary to display the results locally, the RPU-04 unit can be used instead of the RPU-06 unit. It performs the same functions but is not equipped with a local display.

RPU-06 Radiation Processing Unit

The CIM-303 monitor can be connected to the host system via the Ethernet and/or RS-485 interfaces.

Using the display and keyboard, you can check the values and statuses of the monitor and, after authorization of the operator, you can enter basic control commands.

VF-Setup service software is used to set all parameters and perform full diagnostics. The service laptop is connected via the service connector.

CIM-303

CONTINUOUS IODINE MONITOR

SPECIFICATION

Detector type	scintillation NaI(Tl)
Filter media	iodine cartridge TC-45
Cartridge collection efficiency	96 %
Measuring range (^{131}I)	
· Installed version	1,8 to 4E6 Bq/m^3
· Mobile version	7,7 to 4E6 Bq/m^3
Standard shielding (Pb)	
· Installed version	5 cm
· Mobile version	1 cm
Nominal flow	35 l/min
Settable flow range	
VP-30 vacuum pump	16 to 40 l/min
VP-50 vacuum pump	16 to 66 l/min
Communication interface	Ethernet, RS-485, relay outputs
Service interface	UART
Power supply	230 VAC
Usual weight	
· Installed version	400 kg
· Mobile version	150 kg
Usual dimensions (W × H × D)	
· Installed version	(1000 × 1562 × 680) mm
· Mobile version	(772 × 1738 × 565) mm
Operational temperatures	from -10° to 60 °C

OPTIONAL ACCESORIES

1-7004-00003	TC-45 Iodine cartridge with activated carbon impregnated with 5% TEDA
	Iodine cartridge with silver zeolite
	Calibration jigs (Ba-133 source with a holder in the form of iodine cartridge)

OPTIONAL FEATURES

- Dust filter upstream of the iodine cartridge
- Alternative shielding of the CID-03: 1 cm, 5 cm, 10 cm
- Alternative radiation processing unit: RPU-04 or RPU-12.
- Configuration for iodine cartridges with silver zeolite
- Intake and exhaust connections freely from the place / hose attached with a clip / pipe with a nut M30×1.5
- Ports for air grab sampling
- Wireless communication with the host system
- Displaying of the total activity on the filter
- Displaying of the total activity discharged from the ventilation stack
- Gamma detector for the measurement of the area gamma dose rate
- 115 VAC power supply
- UPS for backup monitor power supply (without the pump)
- Galvanically isolated analog inputs and outputs 0/4-20 mA, digital inputs and outputs, RS-232
- Qualification according to IEC 61226 or IEC/IEEE 60780-323, seismically resistant skid according to IEC/IEEE 60980-344

CIM-303 mobile version

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Specification subject to change without prior written notice.