



VF NUCLEAR



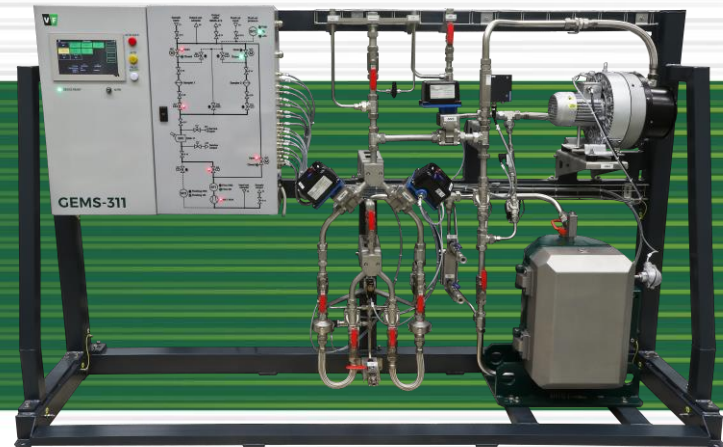
NUCLEAR
POWER PLANTS



RESEARCH
CENTRES

GEMS-300

GASEOUS EFFLUENT MONITORING AND SAMPLING SYSTEM



KEY FEATURES

- System for measurement of radioactive noble gases and sampling of particulates and iodine
- Usage during routine operation
- Local and remote control and display of measurement results and monitor status
- Can be easily dismantled for transport and installation

DESCRIPTION

The monitor is designed for the measurement of noble gases and sampling of particulates and iodine in the air, which is taken from the ventilation stack or the containment of nuclear facilities during routine operation.

The main components of the monitor are:

- stainless steel pipes and valves to distribute the measured air
- two samplers for sampling of particulates and iodine
- the NGD-11 detector for measuring the volume activity of radioactive noble gases
- air sampling pump
- options of a purge system with a separate pump, or with a connection to a pressurized air distribution system
- a processing display unit with 10" touch screen
- a steel frame

The monitor is equipped with a system of self-diagnostics of important parts. Operational check of the NGD-11 detector is provided by a control LED.

The monitor communicates with the host system via the RS-422/485 interface, Ethernet, or analogue loops. It can communicate simultaneously with the classified host system and separately send data to a non-classified system.



GEMS-311 switchboard with display

GEMS-300

GASEOUS EFFLUENT MONITORING AND SAMPLING SYSTEM

SPECIFICATIONS

NGD-11 detector	plastic scintillator
Measuring range	Xe-133: from 1.3E3 to 1.1E10 Bq/m ³ Kr-85: from 8.6E2 to 7.7E9 Bq/m ³
Lead shielding of the detector	10 cm
Temperature of measured air sample	max. 50°C (short term up to 66°C)
Temperature of sampling line heating	max. 60°C
Pressure of measured air sample	max. 135 kPa
Ingress Protection	IP 20
Dimensions (w × h × d)	(2800 × 2700 × 650) mm
Weight	1150 kg
Communication interface	RS-422, RS-485, Ethernet, analogue (I/U) loops

OPTIONAL FEATURES

Ports for air grab sampling and / or calibration with radioactive gases

Heating of detectors and sampling lines

Galvanically isolated analogue inputs and outputs, digital outputs, RS-232, isolated connections to qualified and non-qualified host systems

Qualification of the monitor according to IEC 61226 and IEC/IEEE 60780-323, seismically resistant skid according to IEC/IEEE 60980-344

OPTIONAL ACCESSORIES

ASU-50 Alarm Slave Unit

RELATED PRODUCTS

GEMS-700 Gaseous Effluent Monitoring and Sampling System for routine and post-accident operation

GEMS-400 Gaseous Effluent Monitoring and Sampling System for post-accident operation



Noble Gas Detector NGD-11



Gaseous Effluent Monitoring and Sampling System GEMS-413 for post-accident operation



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Specification subject to change without prior written notice..

VF2404160245 / 01 / 2024-05-22