



RAMSYS™

PNG 206S™

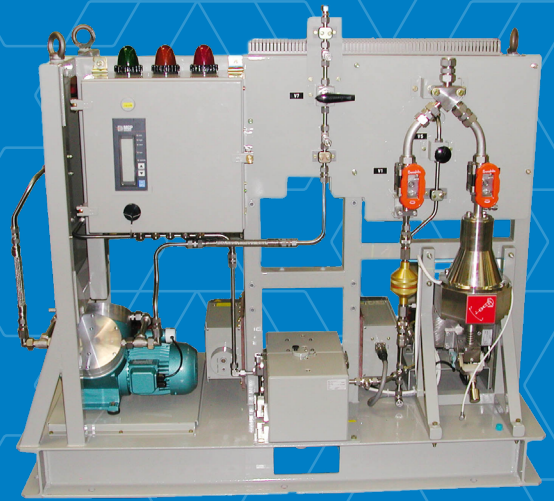
Seismic Particulate and Noble Gas Monitor

Continuously measuring the particulate and noble gas volumetric activities in stacks, ventilation ducts or working areas. Can withstand seismic conditions. Allows dynamic compensation of radon and thoron progenies.

DESCRIPTION

The PNG 206S monitor forms part of the RAMSYS product line.

It has been developed to continuously measure the particulate and noble gas volumetric activities in stacks, ventilation ducts or working areas. It integrates all the functions and performances of the ABPM 201 and NGM 204 monitors into a single monitor.



FEATURES

- ✓ Particulate monitoring with static and dynamic compensation of the radon and thoron solid progenies
- ✓ Noble gas monitoring with dynamic gamma and pressure compensations
- ✓ 1E qualification and embedded safety related software
- ✓ Available under 10 CFR 50 App. B, ASME NQA-1 and IEC 61226 programs for safety related applications

PNG 206S™ SEISMIC PARTICULATE AND NOBLE GAS MONITOR

PHYSICAL CHARACTERISTICS

Particulate (ABPM 201):

- Radiation detected: alpha, beta and gamma
- Detector: dual large area silicon (PIPS® detector)
- Filter type: FSLW
- Typical energy windows:
 - Alpha: 2 MeV to 10 MeV
 - Beta: 80 keV to 2.5 MeV
 - Gamma: 80 keV to 2.5 MeV
- Typical measurement range:
 - Alpha: 10^{-2} to $3.7 \cdot 10^{+6}$ Bq/m³ ($2.7 \cdot 10^{-13}$ to 10^{-4} µCi/cc)
 - Beta: 1 to $3.7 \cdot 10^{+6}$ Bq/m³ ($2.7 \cdot 10^{-11}$ to 10^{-4} µCi/cc)

Noble gas (NGM 204):

- Radiation detected: beta and gamma
- Detector: dual large area silicon (PIPS detector)
- Sampling chamber: 300 ml (300 cc)
- Typical energy windows:
 - Beta: 80 keV to 2.5 MeV
 - Gamma: 80 keV to 2.5 MeV
- Typical measurement range:
 - ⁸⁵Kr: $3.7 \cdot 10^{+4}$ to $3.7 \cdot 10^{+14}$ Bq/m³ (10^{-6} to 10^{+4} µCi/cc)
 - ¹³³Xe: $3.7 \cdot 10^{+4}$ to $1.8 \cdot 10^{+13}$ Bq/m³ (10^{-6} to $5 \cdot 10^{+2}$ µCi/cc)

ENVIRONMENTAL CHARACTERISTICS

- Normal temperature: +5 °C to +40 °C (+41 °F to +104 °F)
- Temperature limit: -5 °C to +55 °C (+23 °F to +131 °F)
- MTBF: > 20 000 hours, with preventive maintenance
- TID: 100 Gy (10^{+4} rad)

PNEUMATIC CHARACTERISTICS

- Standard flow rate: 35 l/min (1.24 scfm)
- Pressure drop: 100 to 350 mbar (1.45 to 5.07 psi)

MECHANICAL CHARACTERISTICS

- Dimensions: 1614 mm x 1535 mm x 690 mm (63.5 in x 60.4 in x 27.1 in)
- Weight: between 690 kg (1521 lb) and 720 kg (1587 lb)
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: Ø 25.4 mm OD (1 in)
- Outlet tube connection: Ø 12 mm OD (1/2 in)

ELECTRICAL CHARACTERISTICS

- Power supply: refer to possible versions
- Data link outputs: one RS232 and four isolated RS485
- Alarm relays: six SPDT relays and five DPDT relays
- I/O: six isolated analog outputs and one isolated analog input (0/4-20 mA)

SIGNALING

- Graphic display: measurement, historical trend, status...
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: three lights (red, yellow, green)

REFERENCE STANDARDS

- Nuclear: IEC 60761, IEC 611712, IEC 61578
- Environmental: RG 1.97, IEC/IEEE 60780-323
- Seismic: IEC 60980, IEEE 344
- EMC: 2014/30/EU and 2014/35/EU, EPRI 102323, RG 1.180, IEC 61000-6-2 and IEC 61000-6-4

VERSIONS

- 230 Vac or 230 Vac + 400 Vac 3Ø or 120 Vac + 400 Vac 3Ø
- Solenoid check sources for ABPM 201, NGM 204 monitors
- PIS particulate and iodine samplers
- Gas grab sampler ports
- Second pump for redundancy

ACCESSORIES

- Local and remote display units
- Calibration tools
- Software: MASS2™, RAMVISION™, SIMS2™ applications...
- USB converters



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