



FEATURES

- Particulate monitoring with static and dynamic compensation of the radon and Thoron solid progenies
- Noble gas monitoring with dynamic gamma and pressure compensations
- RG 1.97 compliance
- 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

Particulate and Noble Gas Monitor

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.

APPLICATIONS

- Effluent release monitoring
 - Stacks, etc.
- Radioprotection of workers
 - Containment atmosphere
 - Control room air, etc.
- Post-accident operations (in combination with PIS 203 and NGM 203)
 - Containment atmosphere
 - Stacks, etc.

RELATED MONITORS

- ABPM 201S: particulate monitoring only
- NGM 204S: noble gas monitoring only
- PING 206S: version with iodine
- PIS 203S: accident range particulate and iodine sampler
- NGM 203S: high range noble gas monitor

radiation monitoring
systems

A Mirion Technologies Division

Featuring:



PHYSICAL CHARACTERISTICS

- **Particulate (ABPM 201):**
 - Radiation detected: alpha, beta and gamma
 - Detector: dual large area silicon
 - Filter type: FSLW2 (MILLIPORE)
 - 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} μ Ci/cc)
 - Beta: 1 to $3.7 \cdot 10^{+6}$ Bq/m³
($2.7 \cdot 10^{-11}$ to 10^{-4} μ Ci/cc)
- **Noble gas (NGM 204):**
 - Radiation detected: beta and gamma
 - Detector: dual large area silicon
 - 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 $7.4 \cdot 10^{+13}$ Bq/m³ (10^{-6} to $2 \cdot 10^{+3}$ μ Ci/cc)
 - ¹³³Xe: $3.7 \cdot 10^{+4}$ to $3.7 \cdot 10^{+12}$ Bq/m³ (10^{-6} to 10^{+2} μ Ci/cc)

ENVIRONMENTAL CHARACTERISTICS

- Long term temperature: +10°C to +40°C
(+50°F to +104°F)
- Maximum periodic ambient temperature:
+0°C to +55°C (+32°F to +131°F)
- MTBF: > 20 000 hours, with preventive maintenance
- TID (processing unit): 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)



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- Weight: between 670 kg (1477 lb) and 720 kg (1587 lb), depending on versions
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: \varnothing 25.4 mm OD (1 in)
- Outlet tube connection: \varnothing 12 mm OD (1/2 in)

ELECTRICAL CHARACTERISTICS

- Power supply: refer to possible versions
- Data link outputs: 1 RS232 and 4 isolated RS485
- Alarm relays: 6 SPDT relays and 5 DPDT relays
- I/O: 6 isolated analog outputs and 1 isolated analog input (0/4-20 mA)

SIGNALING

- Graphic display: measurement, historical trend, status...
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: 3 lights (red, yellow, green)

REFERENCE STANDARDS

- Nuclear: IEC60761, IEC611712, IEC61578
- Environmental: IEC60780, IEEE323
- Seismic: IEC60980, IEEE344
- EMC: 2006/95/CE and 2004/108/CE, EPRI 102323, MIL STD 461 E, IEC61000-6-2 and IEC61000-6-4

VERSIONS

- 230 Vac or 230 Vac + 400 Vac 3 \varnothing or 120 Vac + 400 Vac 3 \varnothing
- Solenoid check sources for ABPM 201 and NGM 204
- PIS particulate and iodine samplers
- Second pump for redundancy

ACCESSORIES

- Local & remote display units
- Calibration tools
- Software
- USB converters

www.mirion.com
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