ABPM 201M
Mobile Alpha Beta Particulate Monitor

The ABPM 201M monitor forms part of the RAMSYS product line.
It has been developed to sample air extracted from ventilation ducts or stacks. A double silicon detector performs the gamma compensation and a radial fin grid limits the scattering of the alpha particles (static compensation) which facilitates the compensation of the radon and thoron solid progenies by the processing algorithms (dynamic compensation).

Operating costs are minimised by the autonomous operation through automatic filter advance management.

FEATURES

- Static and dynamic compensation of the radon and thoron solid progenies
- Gamma dose rate indication
- Natural and artificial alpha volumetric activity indication
- On-line spectrometry
- Up to 6 months filter cassette autonomy
- Can be used as temporary bypass for ABPM 201S or ABPM 201L when fixed unit is in maintenance with no loss of monitoring capability

APPLICATIONS

- Radioprotection of workers
  - Containment atmosphere
  - Control room air, etc.
- Operational process monitoring

RELATED MONITORS

- ABPM 201L: “light” version
- ABPM 201S: seismically qualified version
- PING 206S: version with iodine and noble gas
- PIM 206S: version with iodine
- PNG 206S: version with noble gas

radiation monitoring systems
A Mirion Technologies Division

Featuring:
MGP INSTRUMENTS

PHYSICAL CHARACTERISTICS

- 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 10^{+6} Bq/m^3 (2.7 10^{-13} to 10^{-4} µCi/cc)
  - Beta: 1 to 3.7 10^{+6} Bq/m^3 (2.7 10^{-11} to 10^{-4} µCi/cc)

ENVIRONMENTAL CHARACTERISTICS

- Long term temperature:
  +10°C to +40°C (+50°F to +104°F)
- Periodic temperature:
  -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: 1406 mm x 530 mm x 710 mm
  (55.4 in x 21 in x 28 in)
- Weight: ~ 120 kg (~ 265 lb)
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: Ø 12 mm OD (1/2 in)

ELECTRICAL CHARACTERISTICS

- Power supply: 230 Vac – 50 Hz or 120 Vac – 60 Hz
- Data link outputs: 1 RS232 and 2 isolated RS485
- Alarm relays: 3 SPDT relays
- I/O: 2 isolated analog outputs and 1 isolated analog input (0/4-20 mA)

SIGNALING

- Alphanumeric display: measurement, status…
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: 3 lights (red, yellow, green)

REFERENCE STANDARDS

- Nuclear: IEC60761, IEC61172, IEC61578
- EMC: 2006/95/CE and 2004/108/CE, IEC61000-6-2 and IEC61000-6-4

VERSIONS

- 230 Vac or 120 Vac
- Output dust filter

ACCESSORIES

- Calibration tools
- Software
- USB converters

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