MIRION TECHNOLOGIES

Radiation. **Safety.**

ABPM 201S

Alpha Beta Particulate Monitor

Nuclear Power | Healthcare | Homeland Security & Defense | Labs and Education | Industrial and Manufacturing

OVERVIEW

The ABPM 201S 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.

KEY FEATURES

- Static and dynamic compensation of the radon and thoron solid progenies
- Online spectrometry
- Up to 6 months filter cassette autonomy
- 1E qualification and embedded safety related software
- Available under 10 CFR 50 App.B, ASME NQA-1 and IEC61226 programs for safety related application

RELATED MONITORS

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

Radiation Monitoring Systems Division

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: 1305 mm x 830 mm x 680 mm (51.4 in x 32.7 in x 26.8 in)
- Weight: ~ 250 kg (~ 551 lb)
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: Ø 25 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: 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
- Environmental: IEC60780, IEEE323, RG 1.97
- Seismic: IEC60980, IEEE344
- EMC: 2014/30/EU and 2014/35/EU, EPRI 102323, MIL STD 461 E, IEC61000-6-2 and IEC61000-6-4

VERSIONS

- 230 Vac or 230 Vac + 400 Vac 3Ø or 120 Vac + 400 Vac 3Ø
- Solenoid check sources
- With or without PIS sampler
- Gas grab sampler ports

ACCESSORIES

- Calibration tools
- Software
- USB converters

> CHINA - SHANGHAI
T: +86 21 6180 6920

> FRANCE - LAMANON
T: +33 (0) 4 90 59 59 59 | E: marketing-fr@mirion.com

> GERMANY - MUNICH
T: +49 (0) 89515 13 0 | E: muc-info@mirion.com

> USA - SMYRNA, GEORGIA
T: +1 770 432 2744