MIRION TECHNOLOGIES

RAMSYS™

ABPM 203M™

Mobile Alpha Beta Particulate Monitor

Lightweight and movable to operate next to the respiratory tract of workers in workplace areas.

DESCRIPTION

The ABPM 203M monitor forms part of the RAMSYS product line. Its small and lightweight extendable sensor allows this monitor to operate next to the respiratory tract of workers in their area. A dual 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 minimized through unattended operation, by the use of a continuous filter and the online spectroscopy capability. The optional filter card can be used on the CE200 with a fixed filter in order to collect several radioactive particles. All these features make the ABPM 203M monitor an efficient diversified and cost-effective tool.

FEATURES

- Static and dynamic compensation of the radon and thoron solid progenies
- Dynamic gamma background compensation
- Perfectly adapted for alpha and beta measurement of particulates in environment with high rate of radon
- Optimized alpha measurement for high energies (^{238}PU, ^{239}PU)
- Real-time alpha spectrometry
- Up to 6 months filter cassette autonomy with moving filter or fixed filter card option

ABPM 203M™ MOBILE ALPHA BETA PARTICULATE MONITOR

PHYSICAL CHARACTERISTICS

- Radiation detected: alpha, beta and gamma
- Detector: dual large area silicon (PIPS®)
- 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 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

- Nomal 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: 1270 mm x 360 mm x 303 mm (50 in x 14.2 in x 12 in)
- Weight: ~ 26 kg (~ 57 lb)
- Color: gray RAL 7030 (decontaminable paint)

ELECTRICAL CHARACTERISTICS

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

SIGNALING

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

REFERENCE STANDARDS

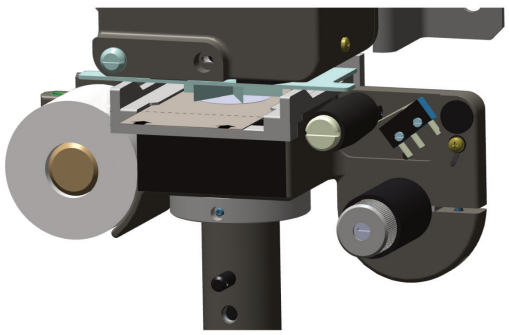
- Nuclear: IEC60761
- EMC: 2014/30/EU and 2014/35/EU, IEC61000-6-2 and IEC61000-6-4

VERSIONS

- 230 Vac or 120 Vac
- Detection sub-assembly available with or without shielding
- Hose length: 1.5 m (5 ft), 3 m (10 ft), 10 m (33 ft) or 20 m (66 ft)
- Moving filter or optional fixed filter

ACCESSORIES

- Calibration tools
- Software: MASS2™, RAMVISION™, SIMS2™ applications...
- USB converters
- Radiomodem (either customer specified or WRM2™)
- Fixed filter holder kit



Fixed filter card option

MIRION TECHNOLOGIES