



MIRION
TECHNOLOGIES

Radiation. **Safety.**

ABPM 203P

Portable Alpha Beta Particulate Monitor



Nuclear
Power



Healthcare



Homeland
Security
& Defense



Labs and
Education



Industrial and
Manufacturing

OVERVIEW

The ABPM 203P forms part of the RAMSYS product line. It has been developed for continuous monitoring of alpha and beta activity in workplace atmosphere.

Its compact detector allows this monitor to work locally next to workers respiratory tracts. A double and large silicon detector performs the gamma compensation. A radial fin grid limits the scattering of the alpha particulates and facilitates radon and thoron solid progenies compensation. Adapted algorithms make a dynamic compensation.

The spectrometry capability in real time allows immediate and easy isotope identification in case of alarm. All these benefits give to the ABPM 203P the best quality/price ratio of all continuous air monitors with incomparable flexibility.

KEY FEATURES

- Static and dynamic compensation of the radon and thoron solid progenies
- Natural alpha and beta volumetric activity indication
- Integrated spectrometry
- Version: fixed or movable filter
- Version: with or without pump unit
- RADNET compatible
- Ethernet connection
- Version for stack and vent sampling
- Version optimized for low energies
- Wireless capability: compatible with WRM2 or proprietary protocol

RELATED MONITORS

- ABPM 203M: mobile version
- ABPM 204M: uranium optimized version

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 $3.7 \cdot 10^{+6}$ 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)

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 (with pump): 1067 mm x 432 mm x 178 mm (42 in x 17 in x 7 in)
- Weight (with pump): ~ 18 kg (~ 40 lb)
- Color: dark blue RAL 5008

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 (0/4-20 mA)

SIGNALING

- Alphanumeric display: measurement, status...
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: 1 light (red)

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
- With or without pump
- Hoses length: 1 m (3.3 ft), 1.5 m (5 ft), 3 m (10 ft), 10 m (33 ft) or 20 m (66 ft)

ACCESSORIES

- Calibration tools
- Software
- USB converters
- Radiomodem
- Ethernet
- Wall mounting bracket

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