



# ABPM 205M

Mobile Alpha Beta Particulate Monitor



Nuclear  
Power



Healthcare



Homeland  
Security  
& Defense



Labs and  
Education



Industrial and  
Manufacturing

## OVERVIEW

The ABPM 205M 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
- 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 205L or ABPM 201S when fixed unit is in maintenance with no loss of monitoring capability

## RELATED MONITORS

- ABPM 205L: light version

## 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/m<sup>3</sup> ( $2.7 \cdot 10^{-13}$  to  $10^{-4}$   $\mu$ Ci/cc)
  - Beta: 1 to  $3.7 \cdot 10^{+6}$  Bq/m<sup>3</sup> ( $2.7 \cdot 10^{-11}$  to  $10^{-4}$   $\mu$ 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

## 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

- Height: 1090 mm (42.9 in)
- Weight: ~ 38 kg (~ 84 lb)
- Color: gray RAL 7030
- Inlet tube connection:  $\varnothing$  25.4 mm OD (1 in)
- Outlet tube connection:  $\varnothing$  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
- EMC: 2006/95/CE and 2004/108/CE, IEC61000-6-2 and IEC61000-6-4

## VERSIONS

- 230 Vac or 120 Vac

## ACCESSORIES

- Calibration tools
- Software
- USB converters
- Ethernet
- Outlet pipe: 3 m (9.8 ft) or 20 m (65 ft)
- Sampling pipe: 1 m (3.3 ft) or 20 m (65 ft)

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