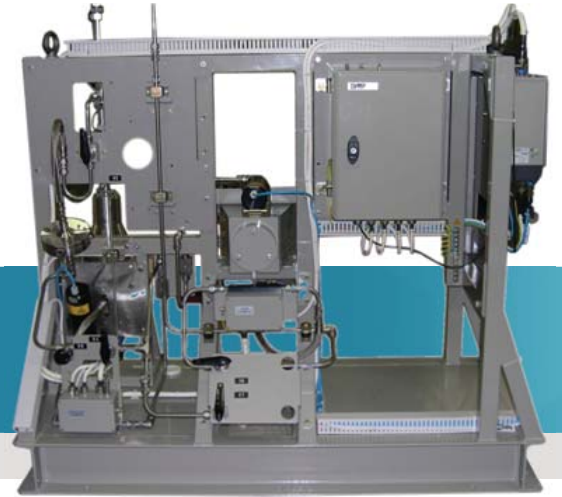




# PIM 206S

Particulate and Iodine Monitor



Nuclear  
Power



Healthcare



Homeland  
Security  
& Defense



Labs and  
Education



Industrial and  
Manufacturing

## OVERVIEW

The PIM 206S monitor forms part of the RAMSYS product line.

It has been developed to continuously measure the particulate and iodine volumetric activities in stacks, ventilation ducts or working areas. It integrates all the functions and performances of the ABPM 201 and IM 201 monitors into a single monitor.

## KEY FEATURES

- Particulate monitoring with static and dynamic compensation of the radon and thoron solid progenies
- Iodine monitoring for both molecular and organic forms
- 1E qualification and embedded safety related software
- Available under 10 CFR 50 App.B, ASME NQA-1 and IEC 61226 programs for safety related applications

## RELATED MONITORS

- ABPM 201S: particulate monitoring only
- IM 201S: iodine monitoring only
- PING 206S: adding noble gas monitor
- PIS 203S: accident range particulate and iodine sampler
- NGM 203S: high range noble gas monitor

## PHYSICAL CHARACTERISTICS

- **Particulate (ABPM 201):**
  - 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)
- **Iodine (IM 201):**
  - Radiation detected: gamma
  - Detector: 1¼"x1" NaI(Tl)
  - Iodine cartridge: 57.7 mm (2.27 in)
  - Energy range: 100 keV to 3 MeV
  - Typical energy window: 314 - 414 keV (<sup>131</sup>I, E<sub>γ</sub> 364.5 keV)
  - 1024 channels spectrum
  - Typical measurement range: 3.7 to  $3.7 \cdot 10^{+6}$  Bq/m<sup>3</sup> ( $10^{-10}$  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
- 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: 1614 mm x 1535 mm x 690 mm (63.5 in x 60.4 in x 27.1 in)
- Weight: between 670 kg (1477 lb) and 720 kg (1587 lb), depending on versions
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: Ø 25.4 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 5 isolated RS485
- Alarm relays: 6 SPDT relays and 5 DPDT relays
- I/O: 6 isolated analog outputs and 1 isolated analog input (0/4-20 mA)

## SIGNALING

- Graphic display: measurement, historical trend, status...
- Sound alarm: buzzer 90 dBA at 1 meter
- Visual alarm: 3 lights (red, yellow, green)

## REFERENCE STANDARDS

- Nuclear: IEC60761, IEC61171, IEC61172, IEC61578
- Environmental: IEC60780, IEC61323, RG 1.97
- Seismic: IEC60980, IEC61344
- 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 for ABPM 201 and IM 201
- PIS particulate and iodine samplers
- Second pump for redundancy

## ACCESSORIES

- Local & remote display units
- 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](mailto:marketing-fr@mirion.com)

> GERMANY - MUNICH

T: +49 (0) 89515 13 0 | E: [muc-sales@mirion.com](mailto:muc-sales@mirion.com)

> USA - SMYRNA, GEORGIA

T: +1 770 432 2744



Copyright (c) 2014 Mirion Technologies, Inc. or its affiliates. All rights reserved. Mirion, the Mirion logo, and other trade names of Mirion products listed herein are registered trademarks or trademarks of Mirion Technologies, Inc. or its affiliates in the United States and other countries. Third party trademarks mentioned are the property of their respective owners.