



# PIS 203S

Shielded Particulate and Iodine Sampler



Nuclear  
Power



Healthcare



Homeland  
Security  
& Defense



Labs and  
Education



Industrial and  
Manufacturing

## OVERVIEW

The PIS 203S sampler forms part of the RAMSYS product line. It has been developed to sample air effluents under accident conditions conforming to the requirements set forth by RG 1.97. One sampler for batch sampling or dual samplers for continuous sampling are available with or without heat tracing. The sample flow rate through the sampler is measured and totalized. The collected activities of particulates and iodine are periodically analyzed in a laboratory as needed.

The PIS 203S is typically used in conjunction with noble gas monitor and an aerulic skid that automatically control the operation from standby to active sampling as applicable.

## KEY FEATURES

- Available for batch or continuous sampling acquisition version (single or dual PIS 203S units)
- Automatic start up in accident configuration
- Heat tracing available when required
- Provided with manipulation tools and lead shielded transport cart
- Heavily shielded for ALARA radiation considerations
- Available under 10 CFR 50 App.B, ASME NQA-1 and IEC61226 programs for safety related application

## RELATED MONITORS

- PIS 204L: « light » version
- PIS 205L: « light » version with flow rate control
- NGM 203S: low range noble gas monitor
- NGM 204S: high range noble gas monitor
- PING 206S: particulate, iodine and noble gas monitor

## PHYSICAL CHARACTERISTICS

- Particulate:
  - Filter type: fiberglass
  - Efficiency: > 99.95%
- Iodine:
  - Cartridge type: silver zeolite
  - Efficiency: > 99.99% (for methyl iodine)
- Lead shielding: 4 π/15 cm (4 π/5.9 in)
- Concentration on filter:  $3.7 \cdot 10^{+7}$  to  $3.7 \cdot 10^{+12}$  Bq/m<sup>3</sup> (10<sup>-3</sup> to 10<sup>+2</sup> 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)
- Pressure: 860 to 1060 hPa
- MTBF: > 20 000 hours, with preventive maintenance

## PNEUMATIC CHARACTERISTICS

- Standard flow rate: 1 l/min

## MECHANICAL CHARACTERISTICS

- Dimensions: 1214 mm x 650 mm x 740 mm (48 in x 25.6 in x 29.1 in)
- Weight: ~ 750 kg (~ 1650 lb)
- Color: gray RAL 7030 (decontaminable paint)
- Inlet tube connection: Ø 6.3 mm OD (1/4 in)
- Outlet tube connection: Ø 6.3 mm OD (1/4 in)

## ELECTRICAL CHARACTERISTICS

- Power supply: refer to possible versions

## SIGNALING

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

## REFERENCE STANDARDS

- Environmental: RG 1.97
- EMC: 2014/30/EU and 2014/35/EU

## VERSIONS

- 230 Vac or 230 Vac + 400 Vac 3Ø or 120 Vac + 400 Vac 3Ø
- Single module or dual unit
- Heat tracing with heat control unit, temperature sensors, thermal insulation and heating cartridge

## ACCESSORIES

- Shielded transport cart
- Sampling handling tool
- Filter paper

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