



IM 201 M

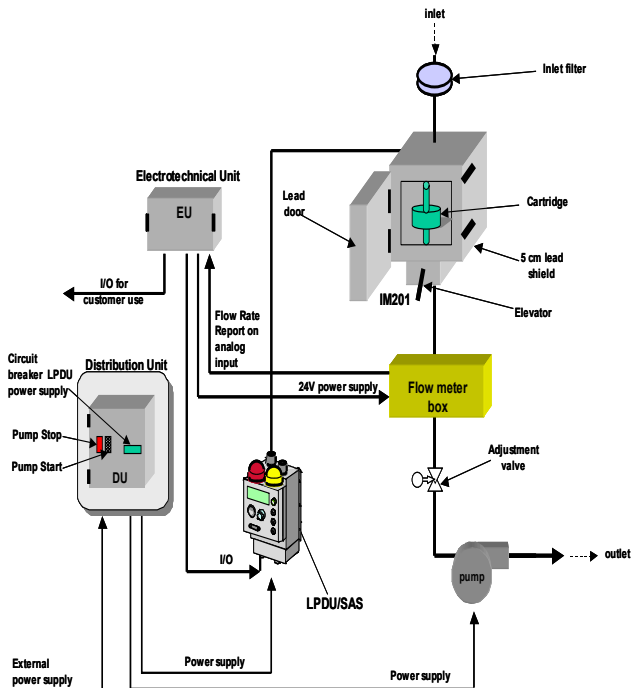
Mobile iodine monitor

- continuous air monitoring and display of radioactive Iodine volume activity
- visual, audible and electrical signal alarms when threshold levels are exceeded

- embedded ^{241}Am Source for energy spectrum stabilization against temperature changes and aging
- 1024 channels spectrum analysis

The IM 201 M monitor forms part of the **RAMSYS** product line. It has been developed to continuously measure the gamma volumetric activity of radioactive iodine sample, in both molecular and organic forms (methyl iodine), contained in air drawn from stacks, ventilation ducts or working areas. An NaI scintillation detector faces the activated charcoal cartridge in which Radioactive Iodine is trapped. The proximity of the detector and the cartridge, enclosed within a $4\pi/5$ cm ($4\pi/2$ in) lead shielding, serves to optimize detection efficiency. A radioactive ^{241}Am source built into the NaI crystal allows compensation of temperature and aging related drifts. The spectrometry capability, based on a 1024 channel spectrum analysis, allows Radio Iodine isotope localisation.

This monitor is also available in «light» or seismic version.



Physical characteristics

- radiation detected: gamma
- detector: 1¼"x1"NaI (TI) scintillator + PM + ²⁴¹AM source
- lead shielding: 4 π / 5 cm (4 π / 2 in)
- cartridge:
 - type: activated charcoal
 - efficiency:
 - methyl iodine: 99.99%
 - molecular iodine: 99.98%
- measurement range (IEC60761):
 - 3.7 to 3.7 10⁶ Bq/m³ (10⁻¹⁰ to 10⁻⁴ μCi/cc)
- selective measurement:
 - window position: 314-414 keV (131I. E_γ 364.5keV)
- temperature range: +0°C to +55°C (32°F to 131°F)
- temperature range: +0°C to +55°C (32°F to 131° F)

Electrical characteristics

- power supply: 120V 60Hz - 230V 50Hz
- interfaces:
 - RS 232 Serial link for parameter configuration of the monitor through PC and MASS application software
 - two 0/4 - 20 mA analog outputs, one 0/4 - 20 mA analog input, two RS 485 isolated serial links, three programmable relays

Mechanical characteristics

- protection index: IP 65 and IP 54
- color (decontaminable paint): grey RAL 7030
- sizes: 1406 x 520 x 708 mm (55.3 x 20.5 x 27.9 in)
- weight: ~200 kg (440 lb)

Qualification

- EMI/RFI: EN 55022, CEI 61000-6-2, 61000-6-4

Alarm signaling (applicable to LPDU only)

- audio indicators: buzzer sound alert rated 90dBa at one meter
- visual indicators: programmable operation lights such as red for high alarm, yellow for alert alarm, green for normal operation

Accessories

- RAMSYS softwares
- dust hydrophobic filter
- set of calibration (¹³³ Ba source and its fixture)

RAMSYS: Radiation Monitoring System