

SIM

SMALL ITEMS MONITORS



MAIN ADVANTAGES

- Easy installation, simple control
- Identification of the person making the measurements
- Entry and exit door interlocking
- Exit door blocking system to prevent the spread of contamination
- Archiving of measurement results
- The option of operating with only one door
- A communication port for remote status indication, instrument setup and servicing using the host system



SIM-27F with an open entry door

PURPOSE

The SIM series monitors, with plastic scintillators, are designed to check radiation contamination of small items. The G-Series monitors measure gamma and the F-series monitors measure beta and gamma contamination. The monitors are designed primarily for use in nuclear facilities where they prevent contaminated objects being taken out of radiation controlled areas.

The monitors contain two, four or six high-volume plastic scintillation detectors located on the sides of a stainless steel chamber. The number of detectors, the volume of the measuring chamber and the thickness of the lead shield vary, depending on the model of the monitor.

For the detection of beta contamination, it is possible to produce a measuring chamber with inner walls made of perforated stainless steel sheets penetrable for beta radiation. However, wet objects cannot be measured in such monitors.

The monitors have entry and exit doors to the measuring chamber. The exit door cannot be opened unless the monitor evaluates that the inserted items are not contaminated. Optionally, a monitor with only one door can be ordered.

Above both doors, there is a display, contamination warning lights and a door-opening button. The display shows the measured value of contamination in the selected unit. Exceeding the alarm level is also indicated audibly.

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SPECIFICATION

Detector type	plastic scintillator
Measuring volume	
- SIM-17	17 dm ³
- SIM-27	27 dm ³
- SIM-101	101 dm ³
- SIM-300	300 dm ³
Max. number of detection units	
- SIM-17	2
- SIM-27	4
- SIM-101	6
- SIM-300	6
Pb shielding	
- SIM-17	0 mm (optional 10 / 20 mm)
- SIM-27	0 mm (optional 10 / 20 mm)
- SIM-101	0 mm (optional 10 / 25 mm)
- SIM-300	10 mm (optional 25 / 50 mm)
Dimensions (W × H × D)	
- SIM-17	413 × 548 × 448 mm
- SIM-27	570 × 655 × 415 mm
- SIM-101	700 × 840 × 740 mm
- SIM-300	1054 × 1492 × 887 mm
Chamber dimensions (W × H × D)	
- SIM-17	230 × 230 × 320 mm
- SIM-27	300 × 300 × 300 mm
- SIM-101	450 × 500 × 460 mm
- SIM-300	770 × 620 × 620 mm
Weight (10 mm Pb shielding)	
- SIM-17	< 200 kg
- SIM-27	< 300 kg
- SIM-101	< 700 kg
- SIM-300	< 1 100 kg
Power supply	100 - 240 V AC, 45 – 65 HZ
Temperature range	from 5 to 45 °C
Humidity range	max. 80 % non-condensing
Units	cps, cpm, Bq, dpm, Ci, 1/s, %

EXAMPLE OF RADIOMETRIC PARAMETERS

Model	Radionuclide	Measurement range [Bq] ^{*)}
SIM-17	¹³⁷ Cs	from 100 to 1E+5
SIM-27	¹³⁷ Cs	from 120 to 3E+6
SIM-101	¹³⁷ Cs	from 65 to 3E+6
SIM-300	¹³⁷ Cs	from 35 to 1,5E+7

^{*)} The measurement ranges listed above apply to monitors equipped with the maximum number of detection units.

OPTIONAL FEATURES

Castors wheels for the SIM-101 and SIM-300^{*)}

ID card reader

^{*)} In the standard configuration, SIM-101 and SIM-300 are supplied with a stand optimized for pallet-truck transport.

OPTIONAL ACCESSORIES

51-A-0000259	Service cable, USB A – Fischer 5 pin
n/a	Stand for placing the SIM at an elevated position
n/a	Point sources for calibration checks and a calibration jig for the positioning of the source at the centre of the chamber
n/a	Set of lifting eyes for crane transport for SIM-17 and SIM-27

RELATED PRODUCTS

MCM-300	Tools and Materials Contamination Monitor
ASU-50	Alarm Slave Unit
PAM	Portable Activity Meters