

PA 1000 Gamma Sampler

- DETERMINATION OF ATMOSPHERIC CONTAMINATION FOLLOWING A RADIOLOGICAL ACCIDENT

□ APPLICATIONS

- Radiological intervention units
- Environmental monitoring
- Expertise



PA1000Gamma with sampling head, elevating kit and stabilisers

- Sampling is **initiated** when **gamma activity exceeds** a preset threshold.
- **In situ sampling** on filters and activated carbon cartridge, followed by laboratory analysis,
- Designed and equipped for **outdoor use**,
- Battery powered, 4 hours autonomy in sampling mode,
- Efficient pump with a $1.5 \text{ m}^3 \cdot \text{h}^{-1}$ nominal flow rate, compatible with high pressure drop filters,
- **Regulation** of the sampling flow on a nominal value preset by the user,
- Display of the sampled volume and the instant flow rate values,
- 3 additional operating modes: continuous, timer, programmed,
- **Protected Access** by confidential code, no ON/OFF switch accessible,
- Data reading and parameter setting via keyboard or *PaView* software,
- Conforming to the NF M 60-760, IEC 61172 and IEC 60846 standards,

Specifications



PA 1000 Gamma Sampler

SPECIFICATIONS

Gamma detector :

Geiger Müller counter with onboard data processing
Sensor sensitivity $0.75 \text{ c.s}^{-1} \cdot \mu\text{Sv.h}^{-1}$
Measuring range 0 nSv.h^{-1} à 1 mSv.h^{-1} H*(10)
Spectral response $\pm 40\%$ from 33keV to 1.2 MeV centered on Cs137
Device based on the Dolphy Gamma, accredited by CTHIR (DSU/SERAC/BIREN/08-17) in compliance with IEC60846 standard.

Sampling media :

« pink », « yellow » or « blue » paper filter, fiberglass, membrane, Absorbent activated carbon cartridges 51mm diam.

Sampling head :

Combines: 51 mm filter holder and 2 activated carbon cartridges
Secured by clips

Sampling :

Diaphragm vibrating pump 12V DC
Nominal flow adjustable from 30% to 100% of the maximum value via the **PaView** monitoring software, available from www.algade.com
Adjustment to $\pm 0.5\%$ of the nominal flow
Data reading every 36 seconds.
Tolerance on the measurement of the sampled volume $(\Delta V/V) < 0.8\%$

Sampling modes :

Gamma : Alarm threshold adjustable from 250 nSv.h^{-1} to 1 mSv.h^{-1}
Factory setting $1 \mu\text{Sv.h}^{-1}$
Triggered by statistical precision better than $\pm 20\%$
Response time 2 mn
Setting in situ or via **PaView**
Continuous : Sampling in manual mode
Timer : Sampling during a given time period
Program : Weekly scheduling with a daily operational time range

Parameters monitored :

Temperature: accuracy 0.5°C (absolute)
Power voltage : 0.1 V (resolution)
Power consumption

Monitoring :

14 bits RISC Microcontroller
Back-lit 4*20 LCD screen
Control via a 2 push-button key pad.
Protected Access by a 4 digit confidential code
Data back-up in the event of power failure (volume sampled and parameters).

Memory capacity :

1Mb Flash memory (Data back-up in the event of power failure).

Environment :

-15°C to $+45^\circ\text{C}$ / 10-90 % relative humidity.
Protection rating: IP54.
Noise level: $< 52 \text{ dBA}$
Compliant with CEM EN 55022 and CEI 61000-4 standards

Housing :

Polycarbonate.
Dim L*1*h = $340*190*300 \text{ mm}$.
Weight 10 Kg

Power supply :

Lead battery. 4 hours autonomy
External battery charger

Configuration and data download :

Data transfer via RS232C cable serial link (Rs232, 19200 Bauds, 8bits, 1 stop).

The PA 1000 Gamma is supplied with :

- * Battery charger ,
- * Serial link cable,
- * Verification certificate.
- * **PaView** Software

References:

2 Mandatory references:

1-Instrument type

PA1000 Gamma P-531-103

2- Filter media

Filter dia 51/47 mm P-531-110
Filter dia 78/70 mm P-531-130
Filter dia 90/80 mm P-531-111
Filter dia 140/125 mm P-531-112
Cartridge P-531-113
Sampling head P-531-138

3-Accessories :

Elevating Kit P-531-131
1m50 filter holder
Stabilisers P-531-132

Other accessories on application