

SIRA ENVINET



SIRA – Spectroscopic Aerosol Monitoring System

The ideal solution for monitoring environmental levels of airborne radioactivity. Based on Scienta Envinet's tried-and-tested spectroscopic solution, the highly reliable SARA, SIRA detects extremely small amounts of artificial radioactivity in the air. The robust design, high automation, flexible analysis, easy handling, and seamless integration into your existing surveillance networks make SIRA the comprehensive answer to your air monitoring requirements.

SPECTROSCOPIC AEROSOL MONITORING SYSTEM

SIRA is Scienta Envinet’s solution for continuous automated monitoring of airborne radioactivity. The gamma spectroscopic aerosol monitor combines industry-leading, tried-and-tested components, namely Scienta Envinet’s SARA from Germany and an aerosol sampler made by Digital Elektronik AG of Switzerland. A perfectly coordinated mechanical design is paired with sophisticated algorithms that control the monitor with maximum precision and analyze the measurement data in situ.

FEATURES

SIRA is designed to provide maximum reliability and a minimum error rate, exceeding the standards’ requirements. It is able to rapidly detect extremely low levels of artificial radiation in the air. SIRA is available as pure γ - and as combined β - γ -monitor (SIRA-B).

Depending on the use-case and application, the most appropriate scintillator types and sizes are offered, for example:

Material	Resolution	Deconvoluted*	Benefit
CeBr ₃	4%	<2.5%, up to 0.8%	High resolution
Nal(Tl)	7,5%	<4%, up to 2%	Cost-effective
Nal + plastic	8,5%	N/A	γ + β phoswich

- Gamma nuclide activity evaluation for each spectrum according to ISO11929
- Configurable nuclide library
- Flow rate: 0.3–5.7 m³/h physical, up to 20 m³/h virtual throughput using deconvolution*
- Filter size: 47 mm
- Filter magazine for 60 filter holders with automatic filter change
- Support for carbon-activated filters for Iodine detection
- Internal heating of sampling pipe (optional)
- Compact size, small footprint
- Low energy consumption of only ~180 W
- No compressed air, no counting gas, no cooling required

*Requires NMC with DAISY module

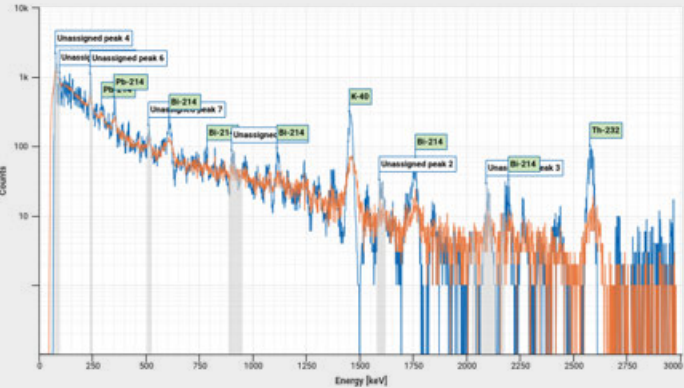


Filters and filter magazine

DESCRIPTION

SIRA consists of a sophisticated collecting unit: up to 5.7 m³ of ambient air are pumped per hour through the sampler where the aerosols are retained on the filter. With its automatic switching mechanism, the filter magazine enables maintenance-free operation. Each of the 60 filters can be removed individually during operation, making it easy to carry out follow-up analysis in the lab at any time. SIRA’s gamma spectroscopic detector that is located directly above the filter enables the station to identify radionuclides automatically, directly alerting the monitoring center in the event of an incident. This eliminates the need for complex background corrections and delayed measurements.

As SIRA can be integrated into existing and new NMC monitoring networks, it is the perfect complement to dose rate probes within them.



Spectrum (orange: raw; blue: deconvoluted)



CAPABILITIES

- 60 individual filters, each separately exchangeable
- Immediate data analysis during air accumulation, fast response
- Detection of lowest artificial gamma activity contribution, even in the case of strongly variable, natural radon background
- Beta detection without delay (SIRA-B)
- Multiple active measurement intervals in parallel to simultaneously achieve fast alarming and low detection limits
- Signal processing, evaluation and alarm generation directly in the station. Should the network connection or the data management software ever fail, the measurement will still be fully functional.

BENEFITS

SIRA is an easy-to-operate, highly reliable air monitoring system that is able

- To detect extremely low levels of artificial radiation in the air
- To improve early warning and counter-measures due to its rapid detection technology and nuclide identification

Thanks to SIRA’s high degree of automation

- Operator-training is kept to a minimum
- Installation is simple and maintenance minimized
- Total cost of ownership is low

GOOD TO KNOW

Not just reliable, SIRA is also compact and economical. What’s more, a measurement container is redundant, thanks to the optional, IP54-certified field casing.



For even more information, such as the probe’s low maintenance requirement, contact your Scienta Envinet consultant at info@scientaenvinet.com. Or just pick up the phone and dial +49 89 456657-0. We look forward to hearing from you.



IN USE AROUND THE WORLD

Since 1985, our customers have been relying on Scienta Envinet's solutions for monitoring environmental parameters with more than 5,800 stations.



www.scientaenvinet.com

EUROPE:

ENVINET GmbH

Hans-Pinsel-Str. 4
85540 Haar (Munich)
Germany
+49 89 456657-0
info@scientaenvinet.com

Scienta Sensor Systems AB

Danmarksgatan 22
753 23 Uppsala
Sweden
+46 18 4805800
info@scientaenvinet.com

US:

Scienta Omicron, Inc.

3222 E. 1st Ave, #521
Denver, CO 80206
United States
+1 901 538-1258
sales.us@scientaenvinet.com

CHINA:

Scienta Omicron (Beijing) Analytical Instrument Co., Ltd.

Room 12C5, Building No. 2
No. 1 Xizhimen Street
Xi Cheng District,
Beijing 100044, China
+86 010 58301883
sales.china@scientaenvinet.com