



Direct mercury determination in air

using Lumex Instruments Hg analyzers

- Real-time continuous air measurement
- Low limit of detection
- Wide dynamic measuring range
- Highest selectivity
- Low running and maintenance cost
- Wide area of applications
- Atomic Absorption Spectroscopy with Zeeman background correction



Mercury (Hg) is recognized as one of chemicals posing a serious threat to the environment and public health. It enters the environment from various natural and anthropogenic sources. Atmospheric transfer plays a key role in the global Hg cycle: mercury is present in the air everywhere. Background air mercury levels typically range from 1 to 2 ng/m³, while concentrations at polluted sites can be thousands of times higher.

Lumex Instruments offers advanced time-tested mercury analyzers specifically designed for accurate, real-time measurement of full range of potential Hg concentrations in ambient and indoor air – including RA-915M, Light-915M2, and RA-915AM. Such wide model range is well-suited for any type of mercury-in-air application, such as background monitoring, pollution detection and mapping, environmental and public health protection, and other.

Key features

- Direct continuous measurement; no traps, no compressed gases
- Compliant with the EN 15852:2010 standard method
- Real-time operation with 1 s response time
- Ultra-low detection limit and highest selectivity
- Wide dynamic measuring range, no memory effect
- Long-term calibration stability
- No traps, carrier and zero gases
- Low running and maintenance cost

Principle of operation

Lumex Instruments mercury analyzers use the key patented technology based on Atomic Absorption Spectroscopy (AAS) with Zeeman background correction (ZAAS) to achieve high sensitivity and selectivity. ZAAS allows direct measurement from background level of mercury in ambient air, providing reliable real-time results without the need for sample pre-concentration on gold traps.

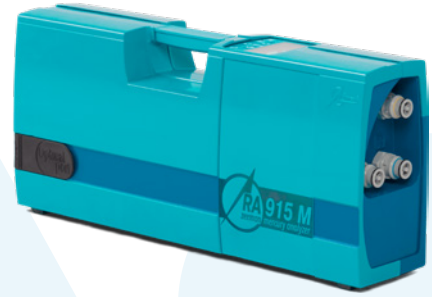
Universal mercury analyzer RA-915M

Features and advantages

- Portable multifunctional analyzer for field and laboratory use
- Detection limit: 0.5 ng/m³ with wide dynamic range
- Rechargeable battery for up to 12 hours operation
- Data logger for 122 hours of data acquisition

Main applications

- Stationary background monitoring
- Continuous real-time measurement while moving on foot or in a vehicle (car, boat, aircraft, etc.)
- Indoor and outdoor pollution revealing and mapping
- Geochemical exploration, volcanology
- Mercury in exhaled air measurement
- Detector for mercury determination in gases, liquids, and solids



Portable mercury analyzer Light-915M2

Features and advantages

- Compact, lightweight analyzer for field use
- Detection limit: 20 ng/m³
- Rechargeable battery for up to 15 hours operation
- Data logger for 12 days of data acquisition

Main applications

- Environmental and workplace monitoring
- Industrial hygiene and safety surveying
- Indoor and outdoor mercury pollution revealing and mapping
- Emergency response to mercury spills
- Demercurization control
- Contaminated equipment and hazardous waste inspection



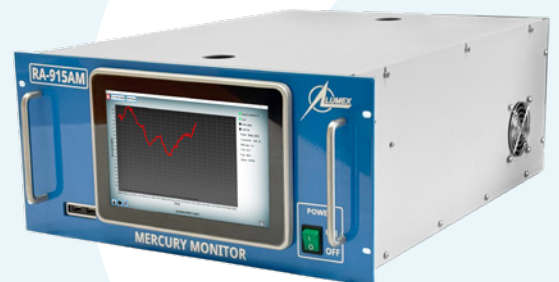
Industrial-grade continuous mercury analyzer RA-915AM

Features and advantages

- Fully automated monitor for long-term unattended operation
- Automatic zero and span drift correction
- Built-in control and self-diagnostics functions
- Optional multiplexer for sampling from 2 to 16 points
- Three modifications with the detection limits and ranges, ng/m³: 0.5 (0 – 2,000); 10 (0 – 150,000); 200 (0 – 3,000,000)

Main applications

- Stationary background air monitoring
- Environmental, fence-line, and workplace monitoring
- Mercury flux measurement as earthquakes and eruptions precursors
- Continuous real-time measurement while moving in a vehicle (car, boat, aircraft, etc.)
- Mercury monitoring in natural gas using modified RA-915AMNG version



SAFETY REGULATIONS

Limits, $\mu\text{g}/\text{m}^3$	Ambient air	Occupational Limit	Source
WHO	1	-	WHO AQGs
USA	0.3 (EPA RfC)	100	(OSHA)EPA IRIS, OSHA
EU	1	20	2004/107/EC
China	0.05	20	GB 3095-2012
India		50	IS 7812: 1975

WARRANTY

Lumex Instruments' mercury analyzers and attachments are covered by a full 1-year warranty.

SERVICES

Installation and commissioning of Lumex Instruments' mercury analyzers can be carried out at a customer site by our service engineers or by certified distributor.



Find your local Lumex Instruments distributor:
www.lumexinstruments.com | sales@lumexinstruments.com