



Solutions for mercury analysis

- Environmental applications
- Background air monitoring
- Industrial applications
- Emission monitoring
- Health & safety
- Oil & gas industry applications
- Mining & geochemistry
- Food analysis
- Human biomonitoring
- Scientific research

Lumex Instruments mercury analyzers are supersensitive and highly selective real-time instruments based on differential Zeeman atomic absorption spectrometry with high frequency modulation of light polarization (ZAAS-HFM). All the instruments do not require any chemicals and compressed gases for the operation. As a result, most samples can be analyzed directly, avoiding time-consuming sample preparation. The distinctive features of mercury analyzers are robust design, low running and maintenance cost, and wide analytical range that suits for any laboratory, field and industrial applications.

MERCURY ANALYZERS



RA-915 Lab is a unique laboratory analyzer for routine and specific analyses of solid and liquid samples of any composition. Direct analysis does not involve sample pre-treatment and compressed gases. The analyzer has low limit of detection, wide dynamic range, and long-term calibration stability. RA-915 Lab is optionally equipped with an autosampler for 45 positions.



RA-915M is a versatile portable multifunctional mercury analyzer that allows real-time operation for air and gases under lab and field conditions. The instrument is capable of analyzing gaseous, liquid and solid samples when combined with RP-92 Cold Vapor and Pyro-915+ Pyrolysis attachments. Its wide dynamic measuring range covers up to six orders of magnitude. The analyzer is robust and easy to use. It is equipped with a built-in performance verification test cell and auto zero function.



PYRO-915+ attachment implements unique advantages of Zeeman AAS: direct analysis of any solid and liquid samples excluding sample preparation procedures. The PC programmable heating modes and full control over pyrolysis process makes it possible to optimize analysis conditions for specific samples over a wide range of the mercury concentrations.



RP-92 attachment is designed for fast, sub-ppt analysis of liquid samples using conventional Cold Vapor technique.



RP-91NG attachment provides direct analysis of hydrocarbon gases of complex composition. The technique significantly simplifies sampling and enables analyses both from the gas stream and the gas containers (Tedlar® bags, cylinders, etc.).



Light-915M2 is an updated compact light-weight instrument for workplace monitoring, pollution revealing and mapping, and mercury spill clean-up verification. As compared to RA-915M, it is equipped with a shorter analytical cell to expand the measurement range up to 200 (500) mg/m³ and simpler interface and is intended for measuring higher mercury concentrations in contaminated environment. The analyzer has an integrated storage for 12 days of data acquisition.

CONTINUOUS MERCURY ANALYZERS



RA-915AM/AMNG is designed for continuous mercury concentration measuring in ambient and indoor air, hydrocarbon and process gases. These stand-alone industrial-grade instruments have the highest sensitivity and selectivity and do not require any compressed gases. They are well optimized for long-term unattended continuous measurements. Optional multiplexer for RA-915AM enables air sampling from 2 to 16 points.

Continuous mercury analyzers operate in automatic mode, including automatic zero drift and span drift correction, automatic recalculation to standard conditions, self-diagnostic and preventive maintenance functions.

STACK GAS SAMPLING & ANALYSIS



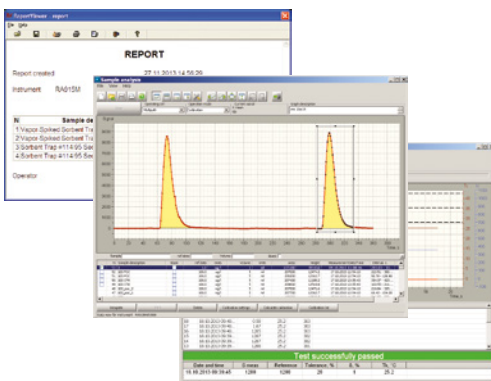
Sorbent Trap method is the most cost-effective and accurate technique for mercury measurement in flue and process gases. For over 15 years, it has been widely used in power generation industry, cement production industry, etc. Sorbent traps are fine-tuned and customized to different types of source conditions. They provide total mercury measurement as well as speciated mercury measurement (oxidized and elemental mercury). The reliability of Sorbent Trap method is RATA proven. Traps are specifically designed to assure the best US EPA Method 30B performance.



OLM30B is a dual train, fully functional sampling system, complete with mass flow controllers, vacuum gauges, a Watlow controller with thermocouple input and probe power port.

The system is fully compliant with US EPA Method 30B and portable sampling system with exceptionally steady flow control.

Software



Powerful **RAPID software** provides performance checkup, data acquisition, storage and processing for continuous monitoring and all kinds of samples analyses.

The software enables thermoscaning option for mercury thermospeciation study and closed-loop automatic temperature adjustment control for analysis of samples with very high mercury content.

APPLICATIONS



ENVIRONMENTAL APPLICATIONS

soils and sediments, biota, natural and waste waters, precipitations, contaminated sites revealing and mapping.



BACKGROUND AIR MONITORING

ambient air, passive air samplers.



INDUSTRIAL APPLICATIONS

raw materials, process gases, quality control, waste management.



EMISSIONS MONITORING

stack/flue gases, fly ash, coal and other fuels, sludge, gypsum, absorbents, etc.



HEALTH & SAFETY

workplace monitoring, human health and safety risk assessment.



OIL & GAS INDUSTRY APPLICATIONS

monitoring of hydrocarbon gas, analysis of crude oil and gas condensate, naphtha, sludge, stratal water, and waste waters.



FOOD ANALYSIS

all kinds of food products (fish, meat, cereals, vegetables, beverages, etc.).



HUMAN BIOMONITORING

exhaled air, urine, hair, and blood analysis.



SCIENTIFIC RESEARCH

biogeochemistry, volcanology, medicine, toxicology.



MINING AND GEOCHEMISTRY

Ore, coal, and other minerals analysis, workplace and environmental monitoring, waste management

Matrix	Configuration of the equipment
Ambient air	RA-915M, Light-915M2, RA-915AM
Solid samples (soils, rocks, sediments)	RA-915M with PYRO-915+, RA-915 Lab
Coal and other solid fuels	
Oil and oil products	
Biological samples (tissues, blood, hair, etc.)	
Foodstuff, animal feeding, raw materials	
Stack gases with sorbent traps	
Water, aqueous solutions, ppb +	
Water, aqueous solutions, sub-ppt +	RA-915M with RP-92 (Cold vapor)
Biological samples (urine)	RA-915M with RP-91NG, RA-915AMNG
Hydrocarbon gas and other gases	
Hydrocarbon gas with sorbent traps	

SERVICES

Installation of instruments can be carried out at a customer's site by our service engineers. Personnel training specific to the customer needs can be also provided.

WARRANTY

All Lumex Instruments' mercury analyzers are covered by a 12-month warranty.



Find your local Lumex Instruments distributor:
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