

RA-915 Series

Zeeman mercury analyzer



Determination of **mercury** in soils, bottom sediments, rocks, and ores

INTRODUCTION

Analysis of soils, bottom and overburden sediments, rocks and ores for mercury content is one of the most common measurements in environmental pollution monitoring and geochemical exploration. Lumex Instruments proposes a rapid and precise method for direct mercury determination using RA-915 series analyzers based on atomic absorption spectroscopy with Zeeman correction of the background absorption (ZAAS). The thermoscanning option enables the identification of mercury species with varying binding energies to a sample matrix providing additional information in comparison to the total mercury determination.

The following mercury analyzers are used for these applications: RA-915Lab, RA-915F, or RA-915M combined with the PYRO-915+ attachment.

MEASUREMENT METHOD

The sample is heated in the thermal decomposition chamber of the analyzer. The mercury compounds are evaporated and dissociated, forming elemental mercury. All gaseous products formed are transported into the heated analytical cell by Hg-free ambient air, and mercury atoms then are detected by ZAAS having the highest selectivity of the analysis.

ANALYSIS FEATURES

- no sample pretreatment with wet chemistry;
- no amalgamation step;
- low limit of detection, high selectivity;
- wide dynamic measurement range: more than 5 orders of magnitude;
- no memory effect;
- automatic closed-loop temperature control system;
- option for mercury thermospeciation analysis;
- high analysis throughput (1–3 minutes per sample);
- no reagents and cylinders of oxygen, argon, or other compressed gases;
- the CRM of any matrix can be used for calibration and QA/QC;
- low running cost.

EQUIPMENT AND REAGENTS

The following equipment and materials are used for analysis:

- RA-915 series mercury analyzers: RA-915Lab, RA-915F, or RA-915M combined with PYRO-915+ attachment;
- PC with Windows® and RAPID software;
- any solid or liquid CRM of mercury;
- Lumex Instruments kit, order **No 0300003062**.



RA-915M with PYRO-915+



RA-915 Lab



RA-915F



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The information and specifications in this publication are subject to change without notice.

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