

# MGA-1000

Zeeman atomic absorption spectrometer



## Determination of **gold** in rocks, ores and their processing products, soils and bottom sediments, mineral waste

### INTRODUCTION

Graphite furnace atomic absorption spectrometry (GFAAS) is proven to be one of the most reliable technique for gold determination, offering high sensitivity and selectivity.

Lumex Instruments provides practical guidelines for determining gold in samples of ores, their processing products, and waste materials using **MGA-1000 atomic absorption spectrometer**.



### MEASUREMENT METHOD

A prepared sample is subjected to acid digestion followed by transferring gold into a hydrochloric acid solution. Gold is quantitatively determined by GFAAS method using **MGA-1000**.

### MEASUREMENT RANGE

**Method A** (in hydrochloric acid solution of the prepared sample):

**1.0–1000 ppm ( $\mu\text{g/g}$ )**

**Method B** (in an organic extract from the hydrochloric acid solution of the prepared sample):

**0.020–1.0 ppm ( $\mu\text{g/g}$ )**

### FEATURES AND BENEFITS OF GFAAS

- Low detection limits and wide measurement ranges provided by state-of-the-art Zeeman High Frequency Polarization Modulation (ZHFPM) background correction system
- Precise analysis of complex matrices samples
- Noiseless atomization
- Closed water cooling system
- Compact size and user-friendly design

### EQUIPMENT AND REAGENTS

The following equipment and reagents are used for measurements:

- MGA-1000 atomic absorption spectrometer;
- high-purity gaseous argon;
- certified reference material (CRM) of gold solution composition;
- nitric acid;
- hydrochloric acid;
- nickel nitrate;
- ammonium acetate;
- isoamyl alcohol.

