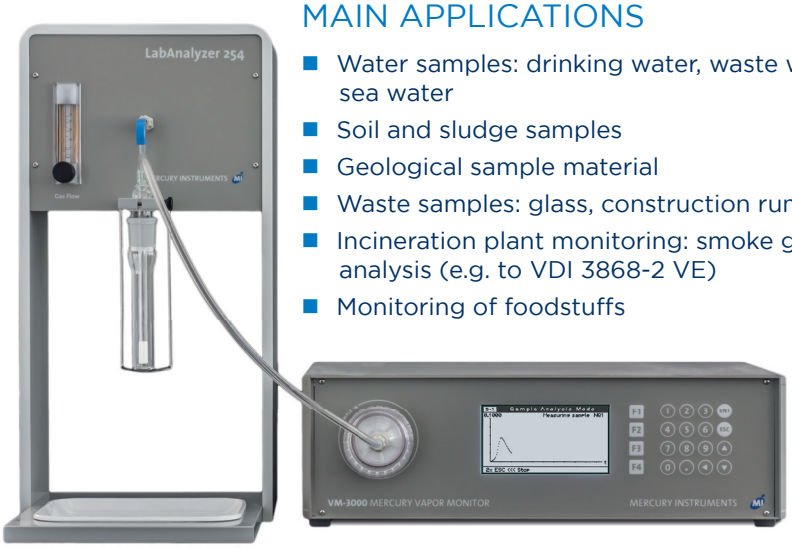
LabAnalyzer 254

Mercury LabAnalyzer 254

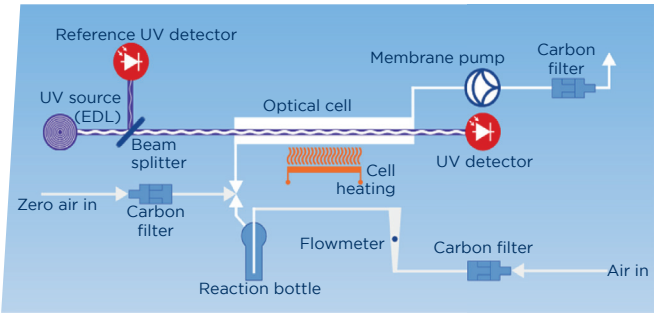
LABORATORY

The Mercury LabAnalyzer 254 is a laboratory tool for rapid and precise determination of mercury concentrations in aqueous samples and sample digests.



MAIN APPLICATIONS

- Water samples: drinking water, waste water, ground water, surface water, sea water
- Soil and sludge samples
- Geological sample material
- Waste samples: glass, construction rumble, contaminated liquids, wood
- Incineration plant monitoring: smoke gas scrubber water, smoke gas analysis (e.g. to VDI 3868-2 VE)
- Monitoring of foodstuffs
- Clinical samples: urine, saliva
- Chemical industry: environmental protection and quality control
- Petrochemical industry
- Scientific research



Schematic drawing of the LabAnalyzer 254

MEASURING PRINCIPLE

The mercury contained in the liquid sample is extracted by an air stream and sucked to the photometer unit equipped with an optical cell made of fused silica. There the quantitative determination of mercury is obtained by measuring UV absorption at a wavelength of 254 nm. This method is commonly known as “cold vapor atomic absorption spectroscopy” (CVAAS). In contrast to a typical multi-element AAS the LabAnalyzer 254 is specially designed for elemental mercury. The use of a specially developed highly stable mercury lamp in connection with thermostat-controlled UV sensors results in top performance in analytical applications.

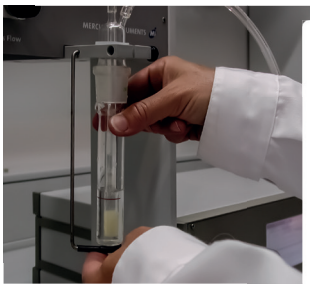
SPECIFIC FEATURES

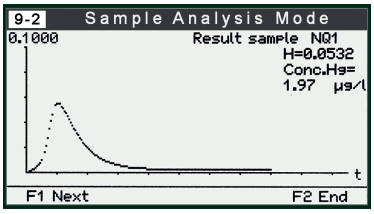
- Firmly adjusted optical system
- Short analysis times
- Low reagent consumption
- Automatic zero adjustment
- For analyses according to DIN 38406-12 / EPA 7470A / EPA 7471A)
- Measuring range: 0.01 ppb ... 10 ppb (10 ng/l to 10 µg/l)
- Hg trap: mercury vapors cannot escape into the lab
- Upgradable to VM-3000 Mercury Vapor Monitor

EASY OPERATION

The sample is pipetted into a reaction flask and spiked with 0.5 ml reduction reagent e. g. Tin-II-Chloride solution. The flask is then inserted into the reaction unit of the LabAnalyzer 254. Measurement is started by a keystroke. After 60 to 90 seconds the result of the measurement will be displayed on the photometer.

The analyzer is now ready for the next analysis.





Purging of the system is not necessary.
An Auto-Zero is performed before each measurement.

OPTION

A software update can turn the photometer of the LabAnalyzer 254 into an independent and versatile analyzer (Mercury Vapor Monitor VM-3000) that can be used for various applications. See our webpage or flyer for more information.

TECHNICAL SPECIFICATIONS

Measuring principle:	UV absorption (CVAAS), wavelength = 253.7 nm; Peak method
UV source:	Electrodeless low-pressure mercury lamp (EDL)
Stabilization method:	Reference beam method
Optical cell:	Fused silica (Suprasil) l = 230 mm heated, approx 45°
Reducing agent:	Tin-II-chloride or sodiumborohydride
Sensitivity:	approx. 50 ng/l resp. 0,05 ng absolutely
Signal outputs:	• analogue: 4...20 mA • serial: RS 232 / USB
Power supply:	• 230 VAC/50 Hz; • 110 VAC/60 Hz
Power consumption:	100 VA
Dimensions (WxHxD):	• Photometer: 45 x 14 x 35 cm • Reactor: 24 x 48 x 27 cm
Required floor space (WxD):	approx. 70 x 50 cm
Weight:	approx. 10 kg

Standards for the LabAnalayzer 254

Compliant with:

ISO 6637 (fruit, vegetables and derived products)
ISO 11212-2 (starch and derived products)
ISO 16772 (soil quality)
ISO 17733 (workplace air)

European methods:

EN 1483 (water quality)
EN 12497 (paper and board-paper in contact with foodstuffs)
EN 13806 (foodstuffs)

EPA methods:

7470A (liquid waste)
7471A (solid or semisolid waste)
245.1 (drinking, surface, and saline waters, domestic and industrial wastes)
245.5 (soils, sediments, bottom deposits and sludge type materials)
245.6 (tissues)

ASTM E538 (caustic soda and potash)

FSIS USDA Food Safety and Inspection Service Method for Mercury Determination in Food

The Ontario Hydro Method (stack gas)

Product developed and manufactured in Germany by:

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