

mercurio CV



A compact workplace for the
determination of mercury in
pure samples and digestions

The low-cost and complete Hg-CV analysis system for daily routine application!

Determines the mercury traces in extreme areas!

- Cost-effective analysis due to low investment costs
- Best detection limits $< 0.0005 \text{ ng}$
- As an option with Double Beam technology
- Disturbance-free analysis by Hg separation
- Measuring range from 0 to 1500 ng Hg with "dual signal technology"
- Compact system with color graphics terminal and software
- Complete logging of all working parameters
- Elimination of spectroscopic disturbances
- Low operation costs per analysis



A fast and reliable analysis by cold vapour technology

Through the development of new technologies and the advancing industrialization, our environment is also becoming increasingly stressed. It is precisely the determination of mercury that is an important component of environmental and food analysis due to its high toxicity. By using a cold vaporization technique, the mercury is converted into a gaseous state by chemical reduction, separated from the sample solution and transported into the absorption cell by a gas stream. Therefore with the mercurio-CV system, the entire Hg analysis of a sample with reaction and measurement time is achieved in only 2-3 minutes. For even a lower detection and trouble-free analysis, the extremely sensitive enrichment process can be converted within a few seconds. Interference by unspecific absorptions (digestion solution with gases such as NO_x, chlorine, aromatic organic compounds, water vapor, etc.) are thus eliminated.

The mercurio-CV model fulfills all common cold-vapour methods such as: EPA 245.2, EN12846, EN12338, CEN / TC 230, EN13806, etc. The new cuvette design allows different sample volumes of high Hg concentrations as well as extremely low contents to $< 0.0005 \mu\text{g/L}$ to be determined. Advantageous is the low susceptibility to contamination of the system by a parallel flushing. This prevents a cleaning and rinsing after high Hg values. Furthermore the special features of the system requires a small space with a built-in PC terminal, giving one an optimal price / performance ratio. As an option there is the system with the new, protected Double Beam technology for an even faster switching on and can also be equipped with a suitable autosampler of 36 or 89 sample holders.



Illustration of the computer terminal with touch input, high-resolution color monitor and the easyCONTROL operating and evaluation program.



Illustration of amalgam trap. Increase sensitivity by a factor of 100 and reduces spectral noise.



Illustration of the mercurio-CV „wet chemistry system“, which is easily accessible outside the device.

Hg Workplace

The mercury analysis system with integrated AA Spectrometer, automatic 6-channel pump, gas/liquid separation unit and the special low-pressure plasma Hg lamp ensure excellent sensitivity. The efficient evaporation and enrichment offers an application range of 0 to 1500 ng Hg. The mercurio-CV can also check and calibrate the delivery channels of the pump before each use. The system provides the highest analytical precision and with the support of a computer terminal a simple and clear handling by process symbols.

Easily accessible wet chemical components

All parts such as gas separation unit, mixing block, connection elements, etc. are installed on a workbench outside the equipment housing. This ensures fast, easy cleaning or replacement of parts during contamination. The transported gas is automatically dried without cost-intensive additional gas needed. In addition, the transport gas lines are monitored for droplet formation. This results in an extremely high sensitivity of about 20 pg Hg (1% A) and a detection limit down < 0.0005 ng Hg.

Areas of application

The mercurio-CV is designed for mercury analysis in pure liquids and digestions. This includes drinking water, groundwater, seawater, surface water, rainwater, solvents, but also for all types of digestions: soils, blood, urine, serum, saliva, fish, drinks, grain, rock, ash, minerals, paper, plastics, etc.



The „computer terminal“

Only one input („touch“) is required to access the stored methods DIN-EN and EPA. The variable viewing angle of the terminal and the high-resolution color display with „touch“ symbols (640x480 VG4, 256 colors) ensure optimal handling. Furthermore, the system has 5x USB and 2x RS 232 interface, LAN interface to the network computer as well as 2 video interfaces for a possible camera connection. The easyCONTROL program supports all methods, displays the element signals graphically, and displays the calculated values in tabular form.

Accurate analytics through better amalgam technology

The enrichment of a highly active gold surface prevents physical and chemical disturbances which lead to incorrect results. The active surface area is about 1200 m² per gram and thus ensures complete Hg retention for the entire measuring range.

Applications

Environmental engineering

Food industry

Medicine

Research Institutes

Universities

Geology

Industry

Petrochemistry

Waste and combustion plants



Facts/Properties

Technology	CV-AAS (cold vapour technology)
Working range	0 to 1500 ng Hg
Sample volume	0,05 ml to 50 ml
Detection limit	< 0,0005 ng
Wavelength	253,65 nm
Conformity	CE-sign
Warranty	12 month

Technical Data

Power supply	220 V to 240 V / 50 Hz
Power consumption	max. 500 VA (heating phase)
Screen	touch screen in color
Software	easyCONTROL (Hg-software)
Accessories	Power cable, pump hoses
Dimensions WxDxH	32 x 46 x 40 cm (with Terminal)
Weight	16 kg

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