

Portable coulometric analyser of total Arsenic in waters

DETERMINATION OF TOTAL ARSENIC IN AQUATIC SOLUTIONS IN THE CONCENTRATION RANGE OF 5 TO 1 000 $\mu\text{g}/\text{l}$.

Measurement principle

PCA Arsenomat uses the principle of flow-through electrochemistry, coulometry and in-electrode coulometric titrations. The measurement is automatic and is controlled by a microprocessor.

Samples and sample preparation

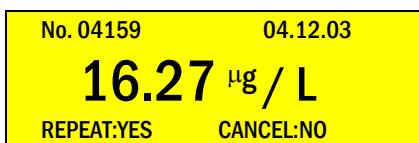
- *Water samples (process-, tap-, surface-, underground- and waste water):* Simple sample pre-treatment, just mix the sample with the reagent solution and inject.
- *Solid samples:* Sample digestion.

Analysis

PCA Arsenomat is a portable instrument rechargeable battery operated. This enables simple and quick analyses in the field or in the laboratory.

The sample is aspirated into the disposable syringe containing the reagent solution and on mixing the content is injected into the measuring cell. The calibration is carried out in a similar way.

The result is then shown on the graphical display and stored in the memory. Up to 20 results can be stored and then they can be transferred to a PC.



Communication with PC

The instrument communicates with any common personal computer by making use of the delivered PCA-software through the serial interface. The PC can be used for:

- Input of a new parameter set into the PCA (there is only one analytical method in the memory of the PCA at the time.)
- adjustment of time and date
- transfer of measured results from PCA into the computer



Advantages

- Portable instrument for fast analyses in the field and the laboratory
- Broad linear concentration range of 5 to 100 $\mu\text{g}/\text{l}$ (1000 $\mu\text{g}/\text{l}$ after dilution)
- Measurement of As(III) only - option
- Simple handling, sample-preparation and dosing
- Average measurement duration: 2 – 3 min
- Start-up for the measurements: 10 min
- No problems with coloured solutions, Fe and sulphides
- Rugged case on request making the system ideal for outdoor use
- Built-in NiH batteries allow an 8-hour battery operation

- Communication with PC enables download of software upgrades
- Communication with PC enables simple data transfer
- Advantageous price and low running costs
- One simple reagent solution containing a diluted mineral acid is used only.
- No toxic gases or waste can be formed at the analysis

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