Water determination in liquids and gases

Universal basic instrument for coulometric Karl Fischer titration

aqua 40.00 Basic Module

made by ECH

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Product description

The **AQUA 40.00 Basic Module** determines the water content of liquid samples and gases quickly and precisely. The instrument is based on coulometric Karl Fischer titration and requires little space in the laboratory due to its compact design.
The sample is simply dispensed through a septum directly into the measuring cell. The cell is optimally designed and exhibits extremely low background drift. The titrator is thus particularly suitable for water determination in the trace range.
The titration speed is automatically adjusted to the actual amount of water to be titrated because of continuously controlled electrolysis current. This results in very short analysis times.
All common Karl Fischer reagents can be used for the titrator. In many applications,
a conventional diaphragm is not required in the generator electrode. Thus, only one coulometric reagent is required.
The application range of the **AQUA 40.00 Basic Module** can be extended with various additional modules. These modules can be retrofitted. This makes the analyzer system suitable for liquid and gaseous samples as well as for solid and pasty samples.

AQUA 40.00 Basic Module

Advantages

- No sample preparation
- Dosing by syringe directly into the titration cell
- Very short analysis times
- Suitable for all common Karl Fischer reagents
- Basic Module with low space requirement
- Additional modules available for different sample types

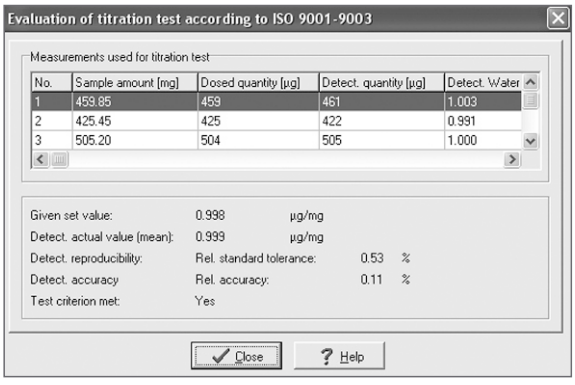
Applications

The AQUA 40.00 Basic Module is suitable for samples that can be dosed directly into the titration cell, e. g.

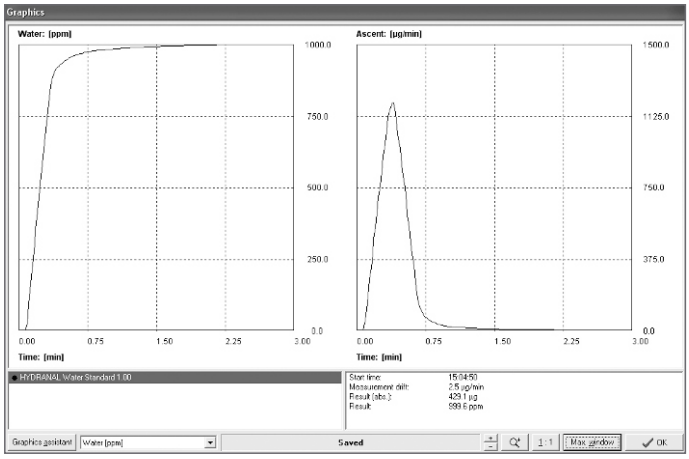
- Solvents
- Oils and fats
- Fuels, biodiesel
- Hydraulic and brake fluids
- Gases

Features

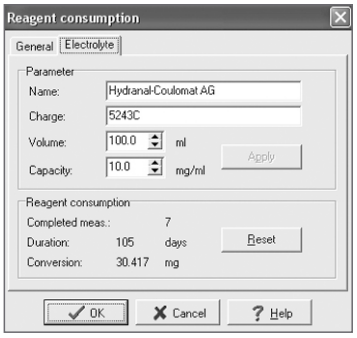
- Fast and reproducible analyses
- Continuously controlled electrolysis current
- Extremely low background drift
- Simple, clear software
- User-friendly handling
- Status display through large colouring



Evaluation of the titration test



Typical measurement of a water standard

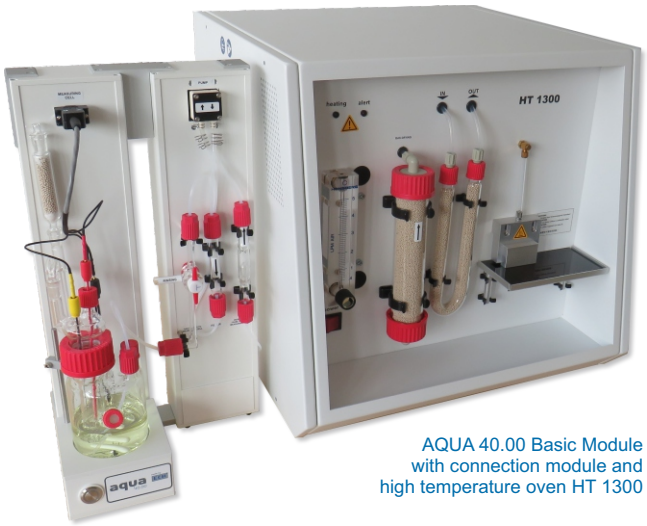


Reagent consumption

Additional modules

The AQUA 40.00 Basic Module can be expanded to the AQUA 40.00 Vario. This allows the water determination in all sample types by using headspace technology. The AQUA 40.00 Vario is available as a manual version or with an autosampler. Both versions are suitable for headspace vial sizes 2 R - 50 R and can be easily adapted to the respective vial size.

If high heating temperatures (up to 1300 °C) are required, the AQUA 40.00 Basic Module can be combined with the high temperature oven HT 1300. Then samples such as inorganic salts, building materials, metals, molecular sieves, oxides/hydroxides can also be analysed.



AQUA 40.00 Basic Module with connection module and high temperature oven HT 1300

AQUA 40.00 Basic Module extended to AQUA 40.00 Vario as manual version

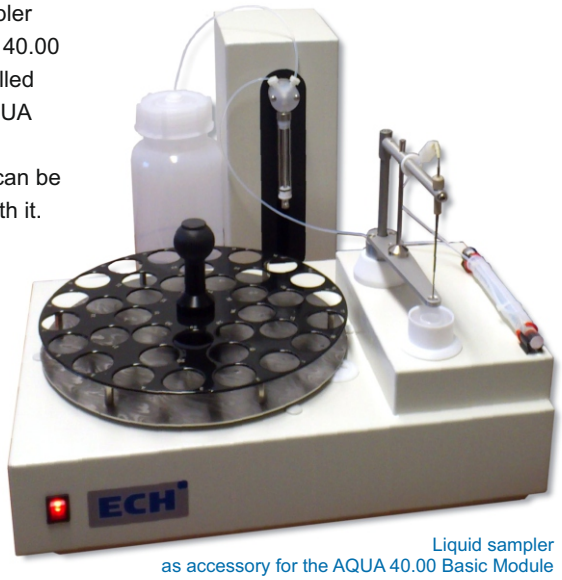
AQUA 40.00 Basic Module extended to AQUA 40.00 Vario PLUS, the automatic version with sampler

Accessories

The **SWOP BOX** makes it easy and convenient to change reagents in titration cells. The module can be used, for example, on any Karl Fischer titrator of any design if the titration cell has at least one free connection.

Universal reagent exchange module SWOP Box

An automatic Liquid sampler is available for the AQUA 40.00 Basic Module. It is controlled by the software of the AQUA 40.00 Basic Module.
Large sample quantities can be measured much faster with it.



Liquid sampler
as accessory for the AQUA 40.00 Basic Module

Technical specifications of the AQUA 40.00 Basic Module

Measuring range:	1 µg ... 100 mg absolute
Resolution:	0.1 µg
Reproducibility:	± 3 µg for 10 ... 1000 µg, 3 % for > 1 mg
Generator current:	0 ... 250 mA
Sample volume:	0.01 ... 20 mL (direct injection)
Volume of reagent:	100 mL
Typical measuring time:	5 min (depending on the water content)
Result display:	µg, µg/L, mg/L, ppm, %, mC, customized with formula generator
Indication:	biamperometrical, polarization with square-wave voltage
Power supply:	230 V/50 Hz or 115 V/60 Hz
Interface:	RS 232
Balance connection:	RS 232
Dimensions:	112 x 448 x 208 mm (W x H x D)
Weight:	5 kg
Device control:	PC software (PC not included in the scope of delivery)

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