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Water content of all types of samples

aqua 40.00

Vario Headspace

- **Closed-loop circulation of extraction gas**
- **Manual and automatic version available**
- **Easy to adapt to different vial sizes**

EXPERTS IN ANALYSIS

aqua 40.00 Vario Headspace

Description

AQUA 40.00 Vario Headspace (manual version)

The AQUA 40.00 Vario Headspace combines the Karl Fischer Titration with the headspace technique. This offers a wide range of interesting applications to determine moisture in solid and pasty samples, oils and viscous compounds.

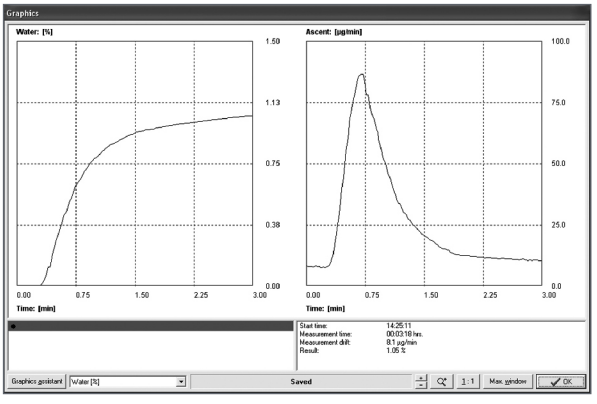
The sample preparation takes place using the dynamic headspace technique. The sample - in a closed vial - is placed into the headspace oven and tempered.

A closed-loop gas circulation with dry carrier gas flows across the sample and transports the extracted water completely into the measuring cell, where the analysis is carried out by titration according to the Karl Fischer method.

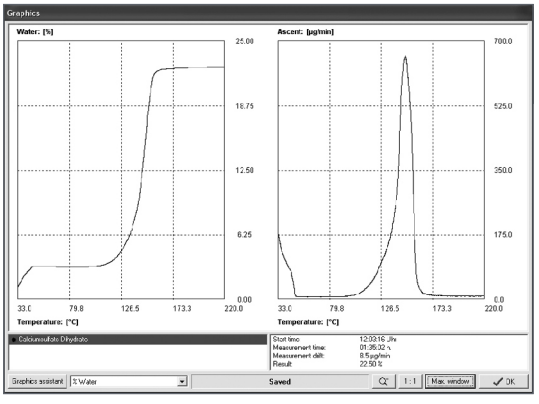
It does not require time-consuming sample preparation:
- Weigh out the sample into the headspace vial and close it
- Place the vial in the device (manually or automatically)
- Prepare the measurement and start it

Distinction of binding forms

Temperature-controlled heating procedure, e. g. with temperature program, can be defined individually by the user. Such a temperature program reveals in which way the water in question is bonded to the sample substance. You can distinguish between chemically bonded water of crystallization and adsorbed surface water.

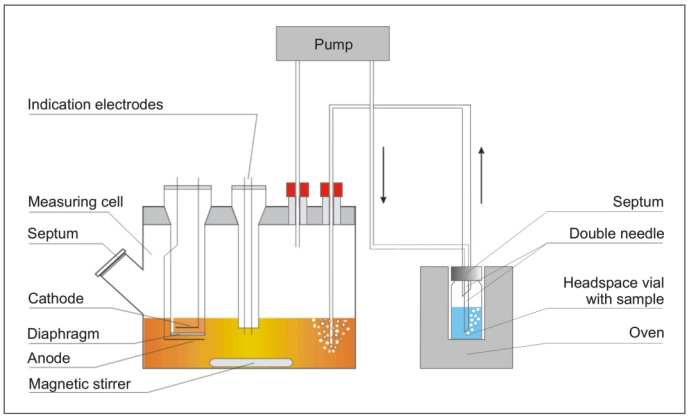


Typical measurement with isothermal heating



Heating with temperature program
to distinguish adsorbed and bounded water

Closed-loop gas circulation



Uniquely: the closed-loop circulation of extraction gas

The system has the unique advantage of circulating the extraction gas in a closed loop. Any additional gas drying is not necessary.

The internal carrier gas for the extraction is continually titrated to dryness within the closed loop. The total dryness of the gas enhances the moisture release from the sample. Sensitive samples can be heated out very gently.

All these advantages result in reducing reagent consumption considerably.

Applications

- Pharmaceutical products
- Biological substances
- Plastics
- Hygroscopic compounds
- Freeze-dried products, e. g. lyophilized cultures
- Oils and lubricants, creams, pastes
- Viscous materials (bitumen, tar, sludges)
- Powder and pellets
- Food
- Petrochemicals

Automated version

AQUA 40.00 Vario Headspace PLUS (with autosampler)

With the autosampler, the AQUA 40.00 Vario Headspace can be easily upgraded to a fully automated version.

By interchanging of the oven and sample plate of the autosampler, the system can quickly and comfortably be adapted to different sizes of sample vials.

Predefined methods contain all the adjustments of samples vials and device configuration.

Advantages

- Reduced reagent consumption
- Additional gas drying is not required due to closed-loop circulation of extraction gas
- No evaporation of methanol from reagents
- Temperature programmed procedures
- Short measuring times of complex samples
- Stand-by titration for automated conditioning and easy blank tests
- Suitable for 2 R - 50 R vials
- Easy automation with autosampler
- Software complies with requirements of FDA to 21 CFR Part 11 (Software with user-specific access, routine methods for individual and definable user levels, profound documentation and archiving of all measured data)
- Priorized express samples can set individually by user
- Automatic identification of interchangeable oven and sample plate of the autosampler

For different vial sizes: sample rack and oven unit easy interchangeably

Specifications

Sample dosing:	Headspace vials (size 2 R – 50 R)
Measuring range:	1 µg - 100 mg, absolute
Resolution:	0.1 µg
Reproducibility:	± 3 µg for 10 ... 1000 µg, 3 % for > 1 mg
Temperature range:	35 °C ... 300 °C (isothermal or temperature programmed)
Power supply:	230 V, 50/60 Hz; 115 V, 50/60 Hz
Power input:	250 W
Dimensions/Weight:	Manual version: 300 x 450 x 240 mm (W x H x D)/7 kg Automatic version: 420 x 450 x 460 mm (W x H x D)/17 kg
Device control:	PC software (PC not included in the scope of delivery)

We are here for you

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