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Aquamax KF *ECO*



*A Truly Economical Entry Level
Coulometric Karl Fischer Titrator*



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Aquamax KF ECO

The Aquamax KF ECO has been specifically designed as an economical, entry level coulometric Karl Fischer titrator. Combining coulometry with the Karl Fischer method, our titrators determine water content of samples by measuring the amount of electrolysis current necessary to produce the required iodine – this is an absolute technique which does not require calibration of the reagents.

Suitable for a wide range of samples, such as incoming raw materials through to outgoing finished products in many industries including petrochemical, power, automotive, chemical, pharmaceutical and cosmetics.

The Aquamax KF ECO offers many advantages over other coulometers. Easy to use – simple to programme so that only a single button needs to be pressed for a titration, everything else is automatic. The keypad, stirrer unit and titration vessel are all located on a single, small footprint module. Results can also be downloaded via the Results Manager software package onto a pc spreadsheet. Contact our technical support team for free application assistance.



Results Manager

The screenshot shows the 'Results Manager' software window. It features a menu bar with 'CONNECT', 'SAVE', 'LOAD', 'EXPORT', and 'PRINT'. Below the menu, it displays 'Status: Disconnected', 'Model: Aquamax KF', 'Serial#: 7100', and 'Calibrated'. The date is '20 June 2013', 'Results: 4', 'Result Format: ppm', and 'Calculation Mode: VSG'. A table titled 'Results for Sample ID 001' contains the following data:

Trans	Time	Dist	Nett	Volume	Density	Result	Flags
1	07:46:50	0	0.92	1.0000	0.8700	10.25	
2	07:47:43	0	0.81	1.0000	0.8700	10.13	
3	07:48:37	0	0.50	1.0000	0.8700	10.92	
4	07:49:29	0	0.67	1.0000	0.8700	10.43	

At the bottom, summary statistics are shown: Max: 10.9 ppm, Min: 10.1 ppm, Mean: 10.4 ppm, SD: 0.30, CV: 2.89.

This is a windows application that allows you to view and print sets of results created by the Aquamax KF Coulometric. It can download results directly from the titrator through a serial port connection, or open result files previously

saved to disk. The Results Manager package contains all necessary cables, connections, installation cd and user manual.

For those who need to use the titrator outside of the laboratory and do not have a pc or laptop with them, our removable flash drive (memory stick) will store all the results. This flash drive can then be connected to a pc and results downloaded through Results Manager when returning to the laboratory.

The Results Manager Software is supplied as a standard item included with the Aquamax KF.

Key Features

- Simple operation
- 10 user programmable methods
- 1 ppm / 100%
- Results in ppm, mg/kg, % and µg water
- Multi language display
- Small footprint
- Robust titration cell design
- ACE control system (patented technique)
- Results Manager software

Areas of Application

Raw Materials

- Inorganic and organic salts, oxides, peroxides and carbonates

Pharmaceutical

- Tablets
- Salves and creams
- Drugs
- Vitamins

Cosmetics

- Soaps, shower gels and shampoos
- Dental Care and mouth rinse products
- Sprays

Beverages

- Dairy and Meat Products
- Honey, Molasses and Sugars

Tobacco products

Animal Feed

Biological

- Proteins and gelatins
- Hormones and steroids
- Dried plant material
- Vaccines

Petrochem

- Hydrocarbons
- Lubricating, motor oil and greases
- Hydraulic, insulating and transformer oils
- Mineral oils

Plastics

Surfactants

Paints, lacquers and solvents

Leather, paper and textiles

Agriculture

Technical Specifications

Titration Method: Coulometric Karl Fischer titration

Electrolysis Control: Patented "ACE" control system GB2370641

End Point Detection: AC polarisation

End point indication: Visual display/print out/acoustic beep

Measuring range: Possible 1µg - 200mg water

Typical 1µg - 10mg water

Moisture range: 1ppm - 100% water

Max. sensitivity: 0.1µg

Max. titration speed: 2.24 mg per minute

Max. current: 400 ma

Drift compensation: Automatically controlled

Precision: 10-100µg ± 3µg, 100µg-1mg ±3µg, above 1mg ±0.3%

Start delay time: 0-30 minutes, user selectable

End delay time: 0-30 minutes, user selectable

Calculation modes: Weight/weight, (W/w) (user programmable)

Weight/dilution ratio, (W/K)

Volume/density, (V/SG)

Volume/volume, (V/v)

Display format: µg, mg/kg, ppm, %

Method storage: 10 user programmable methods

Sample ID number: User programmable

Stirrer speed: Microprocessor controlled

Languages: Multi languages – user selectable

Data outputs: USB and RS232 ports

Removable Data storage: Flash drive (memory stick)

Data Entry: 15 key touchpad

Display: 40 character alphanumeric backlit LCD

Power supply: 90-264V AC, 47-63 Hz.

Dimensions: 250 x 245 x 120 mm

Weight: 3.5 kg

For additional technical information, specifications, MSDS data, user manuals, and exhibition news, visit our website at:

www.grscientific.com

Ordering Information

Part No.	Product
71000 ECO	Aquamax KF ECO
Supplied accessories (also available as spare items)	
Part No.	Product
503046	Titration vessel single port
503048	Detector electrode for single port vessel
503049	Generator electrode (with frit) for single port vessel
503051	PTFE sleeves (pack 5 each)
503058	Desiccant tube & cap
503059	Injection septa (pack 10)
503060	1ml glass syringe
503065	Luer needle 17 gauge
101005	Results Manager software

Optional Accessories

Part No.	Product
503062	Gas Tight Syringe 0.25ml
503063	Gas Tight Syringe 1.0ml
503064	Gas Tight Syringe 5.0ml
61000	Aquamax KF Formula Reagent Kit
61003	10 x 5ml 0.1 mg/ml Water Standard
61004	10 x 5ml 1.0 mg/ml Water Standard
61005	10 x 5ml 10.0 mg/ml Water Standard
503057	Electrode Lead
503050	Generator electrode (without frit) for single port vessel

About G.R. Scientific

Key personnel at G.R. Scientific are recognised experts in titration technology and electrochemistry. They have designed and manufactured titrators since the early 1980's and are widely regarded as some of the leading specialists in this technology.

Certificates

All Aquamax KF Coulometric titrators are supplied with a calibration certificate traceable to national standards.



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