*A **Truly Portable** Karl Fischer for the Oil and Power Industries.*

GECIL
PROCESS

PROCESS AND LAB INSTRUMENTATION

Aquamax KF
Portable

Conforms to ASTM/EN/ISO Standards
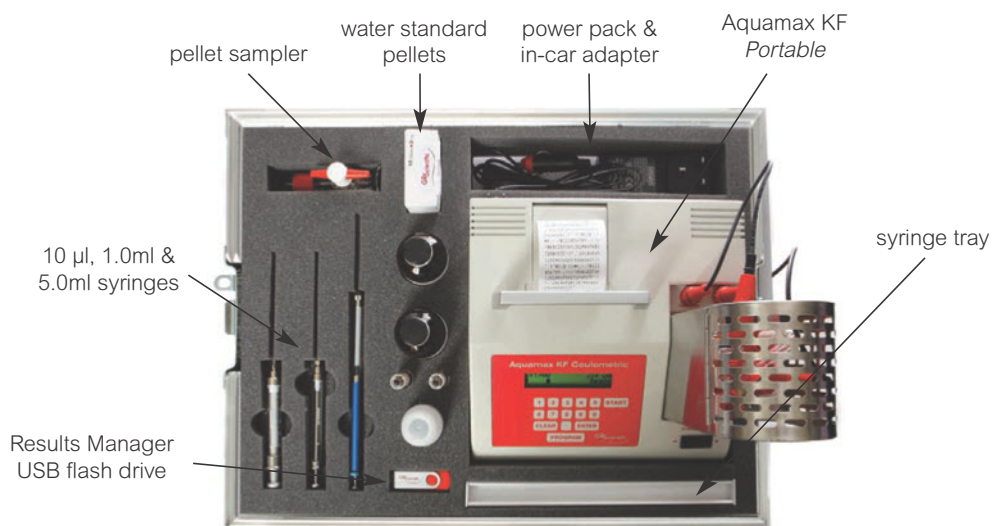
Aquamax KF *Portable*

Measuring and controlling the amount of water in oils is of considerable economic importance to the industrial community, particularly to the crude oil and electric power industries. Water content determination by Karl Fischer titration is no longer restricted to being used by a chemist in a laboratory – now the technique is used by engineers, plant operators, tanker drivers, distribution/maintenance engineers and other non-laboratory personnel.

Karl Fischer titrations can now be performed in many different locations such as the tailgate of trucks, mobile laboratories, offshore installations, tankers, engineering workshops and dockside cabins.

The Aquamax KF *Portable* is a specialised version of the very successful Aquamax KF Coulometer which has built-in carry handle and a stainless steel protection cage around the titration vessel and electrodes. The unique low drift cell glassware design is by far the easiest to use and also the most robust. The electrode locking system allows the joints to seal completely, without the use of grease or PTFE sleeves, and provides improved baseline stability. Hassle free assembly and disassembly. This cell design enables users to transport the instrument with reagents already in the titration cell so that it can be used immediately on arrival.
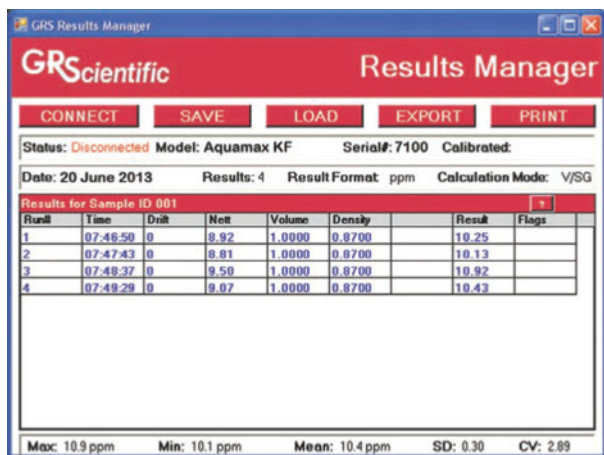
Aquamax KF *Portable* OPS Workstation

The Aquamax KF *Portable* can also be supplied complete with an OPS Workstation. A sturdy outer case secures and enables transportation of the titrator complete with 2 spare anode reagent bottles, 2 spare cathode reagent vials, distilled water and 10 microlitre syringe for water standard test, pellet sampler and water standard pellets, 1ml & 5ml sample syringes and luer needles, power pack, in-car adapter and Results Manager USB flash drive for storage of all results whilst in the field.

pellet sampler

water standard pellets

power pack & in-car adapter

Aquamax KF *Portable*

10 µl, 1.0ml & 5.0ml syringes

syringe tray

Results Manager USB flash drive

Above the flash drive are two bottles anode reagent, two cathode reagent vials and distilled water bottle.

Results Manager

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.

Water Standard

The display prompt when first switched on reads "Water Standard Test" . By simply pressing just one single button, the titrator is ready for the operator to inject 10 µl of distilled water as required by the ASTM methods for these analyses. After running this 10,000 µg check the titrator reverts back to ordinary user mode. The Water Standard Test can also be used to check lower microgram count levels using water standard pellets and pellet sampler.

Glassware

The unique Low Drift Cell glassware design is by far the easiest to use and also the most robust. The electrode locking system allows the joints to seal completely, without the use o grease or PTFE sleeves, and provides improved baseline stability. Hassle free assembly and disassembly.

Key Features

- Simple operation
- 10 user programmable methods
- 1ppm / 100%
- Results in ppm, mg/kg, % & µg water
- Multi language display & print out
- Small footprint
- Integral high speed printer
- Fully portable
- Low drift cell design
- Automatically compensated errors (patented technique)
- Results Manager software
- Optional carry case
- Optional OPS workstation

Aquamax KF Coulometric Standards

The Aquamax KF series of Coulometric Karl Fischer titrators can be used for the following standard methods, either by direct sample introduction or in conjunction with accessories such as water evaporators:-

ASTM	D 1533	Insulating liquids	EI / IP	386	Crude petroleum
	D 3401	Halogenated organic solvents		438	Petroleum products
	D 4928	Crude oils	BS	6829:1.5	Surface active agents
	D 5460	Rubber compounding materials	ISO	TC 158/SC	Natural gas and gas substitutes
	D 6304	Petroleum products, lubricating oils and additives		10101-1	Natural gas
				10101-3	Natural gas
	D 6869	Plastics		10337	Crude petroleum
	E 1064	Organic liquids		12937	Petroleum products
API MPMS	Ch. 10.9	Crude oil	IEC	60814	Insulating liquids

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

Titration vessel: Low Drift Cell design, no grease or PTFE sleeves required

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, %

Print format: µg, mg/kg, ppm, %

Statistics: max, mean, min values up to 99 runs

Method storage: 10 user programmable methods

Sample ID number: User programmable

Stirrer speed: Microprocessor controlled

Languages: Multi languages – user selectable

Calendar/clock: Analysis time & date print out

Battery low indicator: Display & print out indication

Data outputs: USB and RS232 ports

Removable Data storage: Flash drive (memory stick)

Data Entry: 15 key touchpad

Display: 40 character alphanumeric backlit LCD

Printer: 42 character high speed thermal printer

Stainless steel protection cage

Carrying handle

Power supply: 90-264V AC, 47-63 Hz.
12V DC car adapter/internal battery

Dimensions: 250 x 245 x 300 (incl. cage)

Weight: 4 kg

Ordering Information

Part No.	Product
71000P	Aquamax KF *Portable*
Supplied Accessories (also available as spare items)	
503053	Titration Vessel LDC
503054	Detector electrode LDC
503055	Generator electrode (with frit) LDC
503058	Desiccant tube & cap
503059	Injection septa (pack 10)
503063	Gas Tight 1.0 ml syringe
503065	Luer needle 17 Gauge
503073	Thermal paper roll
101005	Results Manager software package

Optional Accessories

Part No.	Product
201004	Carry Case
503062	Gas Tight Syringe 0.25ml
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
101018	OPS Workstation complete

GECIL PROCESS
PROCESS AND LAB INSTRUMENTATION

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Certificates

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

For additional technical informations visit www.gecil.com