

*A Truly Versatile  
Coulometric Karl Fischer Titrator*



# Aquamax KF *Plus*



Conforms to ASTM/EN/ISO Standards

## Aquamax KF Plus

Aquamax KF Plus titrators have been specifically designed for the determination of water content. Combining coulometry with the Karl Fischer method, Aquamax KF titrators determine the 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 the calibration of reagents.

The Aquamax KF Plus is a truly versatile model which includes a built-in battery and printer to enable use in areas where the power supply is irregular. Low Drift Cell twin port glassware, results manager software and accessories are supplied as standard. As well as being a stand-alone instrument, the Aquamax KF Plus can be combined with an Oil Evaporator or a Solids Evaporator system. Suitable for a wide range of applications the Aquamax KF Plus can be used to determine water contents of liquids, gases and solids.

The Aquamax KF Plus offers many advantages over competition. Easy to use – simple to programme so that only a single button needs to be pressed for a titration, everything else is automatic. Results can also be downloaded via the Results Manager software package onto a pc spreadsheet.



## Results Manager

Run	Time	Drib	Wet	Volume	Density	Result	Flag
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	0.07	1.0000	0.8700	10.43	

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
- 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
- Conforms to ASTM D1533, D4928, D6304, IP386, IP438, API MPMS Chapter 10.9, IEC60814, ISO 10101-3, 10337 & 12937

## Areas of application:

- Petrochemical
- Aviation
- Power (electricity)
- Chemicals
- Contract Laboratories
- Gases
- Universities
- Automotive
- Pharmaceuticals & Toiletries / Cosmetics



## Coulometric Reagents

Aquamax KF Formula reagents offer optimum performance with Aquamax KF titrators. Our packaging concept has been based on advice from the HSE (Health & Safety Executive) to enable non laboratory personnel to work more safely. Cou-Lo Formula reagents are safer to use and safer to store.

Aquamax KF Formula "A" anode reagent is suitable for most routine applications and is especially useful for water content determination of oil samples, e.g. transformer oils, crude oils, etc. The anode reagent is supplied in "single shot" bottles of 100ml, no volume measurement or mixing with other solvents is required. Cathode reagent, Formula "C", is supplied in "single shot" 5ml ampoules which have "safety snappers" pre-fitted thereby reducing risk to the operator.

Each pack contains 8 x 100ml bottles of anode reagent plus 8 x 5ml ampoules of cathode reagent. Weighing only 3 kilo, the total pack volume is less than one litre so they can be shipped as limited quantity. Full MSDS information can be downloaded from our website.

## 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 of grease or PTFE sleeves, and provides improved baseline stability. Hassle free assembly and disassembly.



## 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

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

**Dimensions:** 250 x 245 x 120 mm

**Weight:** 3.5 kg

## Ordering Information

Part No.	Product
71000	Aquamax KF Plus
Supplied Accessories (also available as spare items)	
503053	Titration Vessel LDC
503054	Detector electrode LDC
503057	Electrode lead
503055	Generator electrode (with frit) LDC
503058	Desiccant tube & cap
503059	Injection septa (pack 10)
503063	Gas Tight 1.0ml syringe
503065	Luer needle 17 gauge
503073	Thermal paper roll
503072	Funnel
503070	Molecular sieve
101005	Results Manager software package

## Optional Accessories

Part No.	Product
503056	Generator Electrode without frit LDC
503062	Gas Tight Syringe 0.25ml
503064	Gas Tight Syringe 5.0ml
503067	Luer Needle Pair ( 17 & 19 gauge)
61000	Aquamax KF Formula Reagent Kit
61003	Water Standard 0.1mg/ml, 10x5ml
61004	Water Standard 1.0mg/ml, 10x5ml
61005	Water Standard 10.0 mg/ml, 10x5ml

## Certificates

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



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