

Aquamax KF Volumetric



Areas of application:

- Petrochemical
- Pharmaceuticals
- Cosmetics/Toiletries
- Food/Beverage
- Chemicals
- Power (electricity)
- Automotive
- Agriculture
- Universities
- Contract Laboratories

Aquamax KF Volumetric

Features and Benefits

- Very easy to use - intuitive keypad and function guide display
- Automatic and periodic elimination of bubbles which can form in the liquid circuit.
- Automatic drift monitoring and compensation
- Flexible - can be used with different reagent brands
- 2 x 5ml syringes – one for the KF reagent and other for automatic dosing of standard for the titre (second syringe can also be used for different factor reagent or special reagents for ketones, amines, etc.)
Syringe volume dispensed in 40,000 steps
- 2 x built-in pumps - one for dispensing the solvent and other for emptying the vessel
- Automatic rest cycle (stand-by mode) if not used for 15 minutes
- Programmable – several easy to use programs for titration and standardisation
- Results expressed in ppm, mg/l, %, etc.
- Connects to external pc keyboard for easy text and sample information data entry
- Connects to different types of printers, pc and balances
- Data Logger – automatic data storage of last 55 analysis results



TiCom Software (optional)

Program	Sample ID	Sample	Factor (mg/ml)	Result	Result (ml)
KF Standard	batch 85875	0.19170 g	4.7284	2.837 %	1.150
KF Standard	sample 3829	0.15870 g	4.7284	6.518 %	2.188
KF Standard	sample 7676584	0.15580 g	4.7284	3.408 %	1.123
KF Standard	000003	0.31270 g	4.7284	3.912 %	2.587
KF Standard	000002	0.19360 g	4.7284	4.629 %	1.895
KF Standard	000001	0.21390 g	4.7284	2.540 %	1.149
KF Standardization	STAND. (V)	1.000 ml	4.728 mg/ml	1.057	

Communications software between Aquamax KF Volumetric and PC
Allows viewing and printing of all calculation input, calibration and titration measurement data.
Reports on multiple samples can be generated directly and exported to Excel or Access.

Printer (optional)



Following data will be printed (or sent to PC) after a titration or standardisation:
Header; date and time, reagent factor; drift value, sample ID code, titration result, final volume, titration duration, user name.

How does it work

Usual procedure is

- 1** Automatic dispensing of the required volume of solvent into titration vessel
- 2** Neutralisation – initial titration to remove water from the solvent
- 3** Drift monitoring – after titration has concluded, the Aquamax KF automatically determines the vessel drift. This value is then deducted from later titration. The Aquamax KF will prompt the user if the measured drift value is greater than the programmed limit value.
- 4** Standardisation of titrant reagent – 4 standardisation methods can be selected by user: The Aquamax KF determines the reagent factor and automatically stores it in the titration programs.
- 5** Titrating the sample – the Aquamax KF prompts user to introduce the sample. Titration commences immediately or after programmed extraction period.
- 6** Results – Calculated results are displayed on the Aquamax KF screen, stored in the Data Logger and also sent to a printer or pc.
- 7** Emptying the vessel – The Aquamax KF can often perform several titrations on the same solvent. The built-in pump can be used to transfer the vessel contents directly to a waste container.
- 8** Next sample – if no other samples are analysed within 15 minutes the Aquamax KF will go into Rest Cycle (stand-by mode).

Rest cycle

If the Aquamax KF is not used for 15 minutes it will automatically go to stand-by mode.

Elimination of bubbles

Using a novel control of the syringe, the Aquamax KF eliminates the well known problem of bubble formation in the reagent circuit

2 x 5ml syringes

One for the KF reagent and other for automatic dosing of standard for the titre. Second syringe can also be used for automatic dosing of a standard for titre determination or for other factor reagents or special reagents



2 x Electrovalves

These are fitted to top of each syringe and control flow direction of solvent and reagents



2 x Peristaltic pumps

One used for solvent dispensing, other used for emptying titration vessel. Alternative tubing materials suitable for different solvents and applications available



Technical Specifications

Non-volatile memory: Up to 10 titration programs,
Clock/calendar,
Header texts: 2 lines x 40 characters.
Name of up to 4 operators
Program comments: 8 lines x 40 characters
Up to 55 results stored in Data Logger

Languages: English, Spanish, French, Italian

Display: Graphic backlit LCD, 128 x 64 dots

Keypad: Membrane, 7 keys, guaranteed up to 6 million strokes per key,

Material: PET with protective treatment

Measuring ranges: From 0.1 mg up to 100% water

Syringe volume: Standard syringe 5 ml

Resolution: 1/40000 of syringe volume

Dispensing accuracy: (as relative error) $\leq 0.2\%$ for volumes higher than 10 % of the syringe

Dispensing reproducibility: $\pm 0.1\%$ for volumes higher than 10 % of the syringe

Liquid contact materials: Syringe: borosilicate glass and PTFE
Electrovalve: PTFE and KEL-F.
Tubes: PTFE

Inputs and outputs: Polarised electrode, BNC connector.
For external keyboard, miniDIN connector.
RS232C bidirectional for PC or printer,
telephone connector.
RS232C for balance, telephone connector
Stirrer control: On/Off and speed,
RCA connector

Power supply: 90-264 VAC, 47-63 Hz, 24 V DC

Electrical safety: Meets EC, EN 61010

EMC: Meets EC, EN 50081-2 and EN 50082-2

Permitted temperatures: Operating: 15 – 40 °C.
Storage: -10 – 50 °C
 $\leq 80\%$, relative humidity,
non condensing

Enclosure: ABS and enamelled steel

Physical parameters: Weight: 4 kg approx.
Dimensions: 130 x 160 x 300mm

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

www.grscientific.com

Ordering Information

Part No.	Product
91000	Aquamax KF Volumetric titrator
Supplied Accessories (also available as spare items)	
91-401511	Plug in Power Supply
91-9228	2 x TLL SL syringe, 5ml
91-8708	2 x Burette inlet tube with bottle cap, DIN 45 screw
91-8701	2 x Burette outlet tube with antidiffuser device
91-9200	5 x Drier cartridge with molecular sieve
91-8705	1 x Inlet pump tube (for solvent dispensing) with bottle cap DIN 45 screw
91-8710	2 x Inlet & Outlet tubes with conical adapter
91-8729	1 x Outlet pump tube with bottle cap DIN 45 screw
91-9160	1 x Support for electrode & tubes with magnetic stirrer and vessel
91-5264	1 x Double platinum electrode
91-9055	1 x Electrode cable with BNC connector
91-8734	1 x Pack (10) white "O" rings
91-9142	Glass vessel, 120ml

Optional Accessories

Part No.	Product
91-8201	Thermal printer CT-S280, 40 columns
91-8200	Dot matrix printer
91-9013	Standard PC keyboard
91-8682	TiCom software kit for communication between Aquamax KF and PC Includes CD with software and cable

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 Volumetric are supplied with:

- EC Declaration of conformity according to directive C.E.M. 89/336/CE
- Calibration test of dispensed volume with the syringe
- Specifications certificate and mV measuring test.

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