GECIL
PROCESS
PROCESS AND LAB INSTRUMENTATION

GEC KFV Volumetric KF

Areas of application:

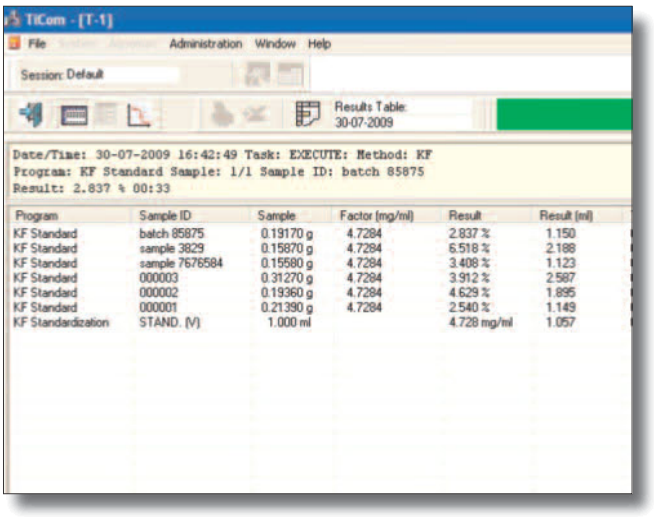
- Petrochemical
- Cosmetics/Toiletries
- Chemicals
- Automotive
- Universities
- Pharmaceuticals
- Food/Beverage
- Power (electricity)
- Agriculture
- Contract Laboratories

GEC - KFV Volumetric Karl Fischer Titrator

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)



Communications software between GEC - KFV 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

Automatic dispensing of the required volume of solvent into titration vessel

Neutralisation – initial titration to remove water from the solvent

Drift monitoring – after titration has concluded, the GE C - KF V automatically determines the vessel drift. This value is then deducted from later titration. The GE C - KFV will prompt the user if the measured drift value is greater than the programmed limit value.

Standardisation of titrant reagent – 4 standardisation methods can be selected by user. The GEC - KFV determines the reagent factor and automatically stores it in the titration programs.

Titrating the sample – the G E C - KFV prompts user to introduce the sample. Titration commences immediately or after programmed extraction period.

Results – Calculated results are displayed on the GE C - KFV screen, stored in the Data Logger and also sent to a printer or pc.

Emptying the vessel – The GE C - KFV 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.

Next sample – if no other samples are analysed within 15 minutes the GE C - KFV 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

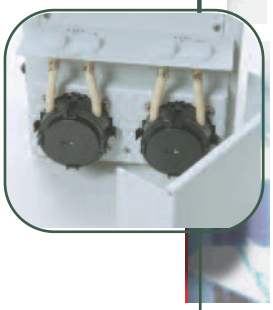
One for the KF reagent and other for automatic dosing of standard for the titre. Second syringe can also be used for automatic dosing of a standard for titre determination or for other factor reagents or special reagents

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



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) ≤ 0.2 % for volumes higher than 10 % of the syringe
Dispensing reproducibility:	± 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 80 %, max relative humidity, non condensing
Enclosure:	ABS and enamelled steel
Physical parameters:	Weight: 4 kg approx. Dimensions: 130 x 160 x 300mm

Certificates

All GEC - KFV Volumetric titrators 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.

Ordering Information

Part No.	Product
91000	GEC - KFV Volumetric titrator
Supplied Accessories (also available as spare items)	
91-8736	1 x Power supply 90-264 VAC, 47-63 Hz, 24 V DC
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

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 GEC - KFV and PC Includes CD with software and cable

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