

FAST AND EASY MOISTURE TESTING



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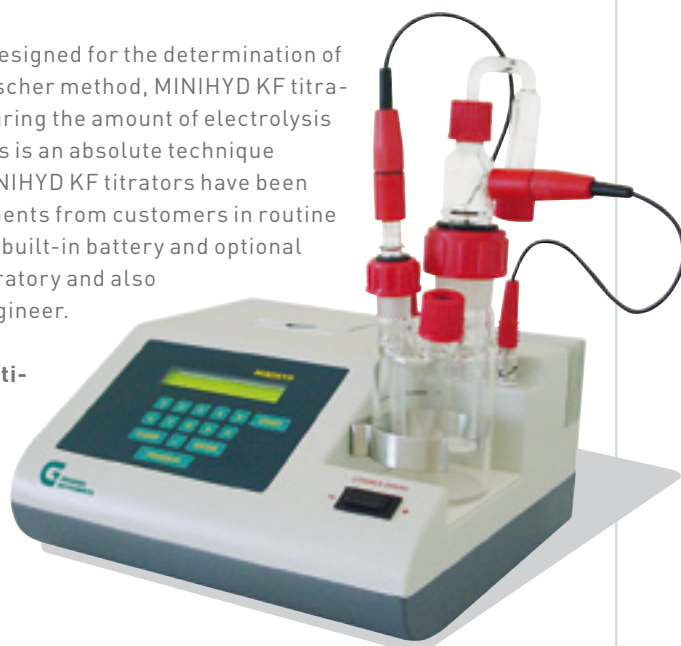
MINIHYD

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Karl Fischer Moisture Meter

MINIHYD KF moisture meters have been specifically designed for the determination of water content. Combining coulometry with the Karl Fischer method, MINIHYD 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. MINIHYD KF titrators have been developed in response to many suggestions and comments from customers in routine laboratories, off-shore platforms and in the field. The built-in battery and optional carry case provide the versatility required by the laboratory and also the ease of use and portability required by the field engineer.

The MINIHYD KF 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. Complete with built-in high speed printer, everything in a single footprint, small space requirement. Results can also be downloaded via the Results Manager software package onto a pc spreadsheet.



Features

- Conforms to ASTM D1533, D4928, D6304, IP386, IP438, API MPMS Chapter 10.9, IEC60814, ISO 10101-3, 10337 & 12937
- Simple operation
- 10 user programmable methods
- 1ppm / 100%
- Results in ppm, mg/kg, % & µg water
- Small footprint, fully portable
- Integral high speed printer
- Low drift cell design
- Automatically compensated errors
- Results Manager software

TECHNICAL DATA

Titration Method	Coulometric Karl Fischer titration	Statistics	max, mean, min values up to 99 runs
Electrolysis Control	Patented "ACE" control system	Method storage	10 user programmable methods
End Point Detection	AC polarisation	Sample ID number	User programmable
End point indication	Visual display/print out/acoustic beep	Stirrer speed	Microprocessor controlled
Measuring range (poss.)	1µg - 100mg water	Languages	English, Français, Español, Portuguese, Deutsch & Magyar; user selectable
Measuring range (typ.)	1µg - 10mg water	Calendar/clock	Analysis time & date print out
Moisture range	1ppm - 100% water	Battery low indicator	Display & print out indication
Max. sensitivity	0.1µg	RS232 output	Connection to Results Manager
Max. titration speed	2.0 mg per minute	Removable Data storage	XD Card
Max. current	400 ma	Data Entry	15 key touchpad
Drift compensation	Automatically controlled	Display	40 character alphanumeric backlit LCD
Precision	10-100µg ± 3µg, 100µg-1mg ± 5µg, above 1mg ± 0.5%	Printer	42 character high speed thermal printer
Start/End delay time	0-30 minutes, user selectable	Power supply	90-264V AC, 47-63 Hz. Field application: 12V DC car adapter/ internal battery
Calculation modes (user programmable)	Weight/weight, (W/w) Weight/dilution ratio, (W/K) Volume/density, (V/SG) Volume/volume, (V/v)	Dimensions / Weight	W x H x D: 250 x 120 x 245 mm (9.8 x 4.7 x 9.6 inch) / 3.5 kg (7.7 lbs)
Display/Print format	µg, mg/kg, ppm, %		

Perfectly easy to use water content analysis

■ Small, fast and accurate

MINIHYD combines the key qualities of a modern titration test equipment: Its small size, the built-in-battery and the car-adaptor allow for field application in addition to general laboratory use. Its advanced software makes it an outstanding performer for routine quality control and more detailed research applications. MINIHYD works with the patented ACE (Automatically Compensated Errors) control system, which guarantees bias-free results.

■ Results Manager

This is a windows application that allows you to view and print sets of results created by the MINIHYD KF Moisture Meter. 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 built-in xd memory card system will store all results. The removable card can then be connected to our card reader to download stored data through Results Manager when returning to the laboratory. The Results Manager Software is supplied as a standard item included with the MINIHYD KF.



■ Coulometric Reagents

Cou-Lo Formula reagents offer optimum performance with MINIHYD 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. Cou-Lo 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 plus two water standards. Weighing only 3 kilo, the total pack volume is less than one litre so they can be shipped as limited quantity. Each MINIHYD unit is shipped with a batch of four packets of Cou-lo Formula reagents to save you time and money.

■ Wide range of applications:

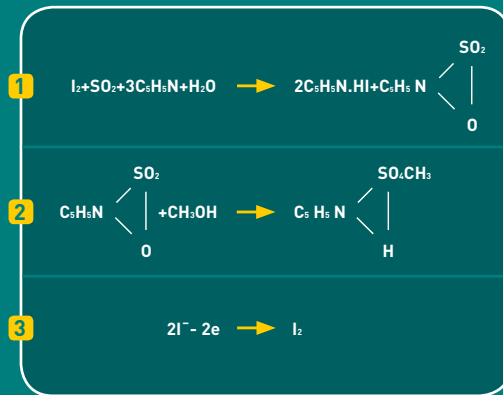
Though primarily used for assessing the water content in petroleum and petrochemical products the MINIHYD is able to measure the water content in virtually any liquid substance. Therefore the areas of application include industries such as:

- Petrochemical (oils, gasolines, solvents, fluids, ...)
- Power (electricity)
- Chemicals
- Gases
- Automotive
- Aviation
- Pharmaceuticals & Toiletries / Cosmetics
- Contract Laboratories
- Universities

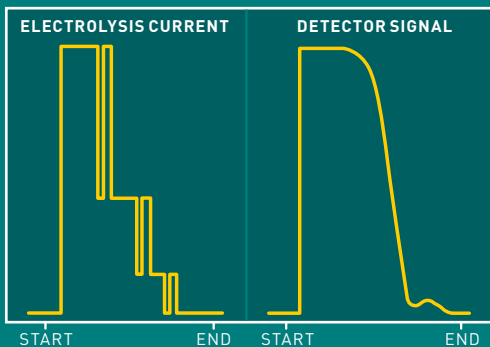
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MEASURING PRINCIPLE

Karl Fischer titration is simply a means to measure water content of samples. Modern instruments, such as the MINIHYD, use the coulometric principle, whereby the water present in the sample is coulometrically titrated to a predefined end point at which there is a minute excess of free iodine present. Stoichiometrically, 1 mole of water will react with 1 mole of iodine, so that 1 milligram of water is equivalent to 10.71 coulombs of electricity. Combining the coulometric technique with Karl Fischer titration, MINIHYD titrators determine the water content of the sample 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.



Using the latest pulse current technology and the patented "ACE" control system, (Patent No.GB2370641), the MINIHYD automatically selects the appropriate titration speed dependent upon the amount of water present in the sample. The titration speed is reduced as the end point is approached, and when the titration is completed the instrument prints out and displays the results.



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