Karl Fischer titration is simply a means to measure water content of samples. Modern instruments, such as the Aquamax KF, 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, Aquamax KF 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 our patented “ACE” control system, (Patent No.GB2370641), the Aquamax KF 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.

Industry leading technology

The Aquamax KF provides an industry leading solution for companies interested in coulometric Karl Fischer titration analysis. Its efficient, user-friendly design and portability make the Aquamax KF unique from other such titration analysis instruments. The easy operation, high specifications and small footprint provide the versatility required by the laboratory, whilst the built-in battery and optional carry case enable the portability required by the field engineer.

The Aquamax KF offers many advantages

- Easy operation – single button to press after setting up programme, everything else is automatic.
- Portability – optional carry case
- Battery operation – allows use outside the laboratory
- Built in printer – everything in a single footprint, small space requirement.

Methods

Aquamax KF coulometric conform to, or can be used as an alternative instrument for the following methods:- ASTM D95, ASTM D1364, ASTM D1533, ASTM D3401, ASTM D4006, ASTM D4377, ASTM D4672, ASTM D4928, ASTM D6304, ASTM E202, ASTM E203, ASTM E1064, IP74, IP356, IP358, IP386, IP438, DIN 51777, IEC 60814, BS 148, BS 6470, BS EN 60814, ISO 3733, ISO 3734, ISO7201-1, ISO 10101-3, ISO 10337, ISO 12937.

Areas of application

Aquamax KF coulometric are widely used for measuring water content of samples including crude oils, petroleum products, electrical insulating oils, transformer oils, insulating liquids, natural gas, refrigerant gas, biodiesel, solvents, inks, mineral oil, ethylene glycols, polyols, aviation fuels, kerosene, brake fluids, hydraulic fluids, antifreeze, lubricating oils, organic liquids, naptha, paraffin wax, hydrocarbons, hexane, toluene, alcohols, ethanol, isopropanol, ethers, THF, liquid paraffin, hexane, petroleum ether, xylene, freons, gasoline, silicone oil, turbine oil, freeze dried powders, etc. The unique Low Drift Cell glassware design is by far the easiest to use and also the most robust. Ordinary ground glass joints used by other manufacturers require either grease or PTFE sleeve to ensure a good seal and to prevent jamming. The patented design used on our Low Drift Cell requires neither. Even without the use of grease or PTFE sleeves these joints will not stick or jam. Hassle free assembly and disassembly – assured.