

Wolfson Electrostatics

for technology in electrostatic hazard control

Liquid Conductivity Meter Model L40



The Liquid Conductivity Meter model L40 - an essential diagnostic instrument for electrostatic hazard control

The motion of low conductivity liquids, such as fuels and solvents, can result in the generation of hazardous levels of static electricity. Stirring, pouring and in particular flow through metal or plastic pipes are all examples of industrial operations, which can produce ignition, fires and explosions.

These operations and others are covered in International Safety Standards. In these Standards, a number of references are made to conductivity values and the importance of routine liquid conductivity measurement in controlling ignition hazards is emphasised.

Liquid conductivity is an important parameter particularly when assessing the electrostatic hazard associated with liquid handling processes. Liquid conductivity is inversely related to the time it takes for charge on the liquid to dissipate to earth and a low conductivity implies a long charge relaxation time. This in turn leads to a higher risk of producing an ignition.

It is essential when dealing with flammable fuels and solvents of conductivity less than 500 pS.m^{-1} to consider measures to combat electrostatic ignition hazards. Such measures should not be necessary with relatively conductive liquids greater than 500 pS.m^{-1} .

The model L40 Liquid Conductivity Meter out-performs many instruments by measuring electrical conductivity to below 1 pS.m^{-1} ; this is an essential requirement for determination of ignition hazard. The instrument is easy to use with a direct readout of conductivity on a back-lit digital display and is auto-ranging covering $0.1 \text{ pS.m}^{-1} - 1.0 \times 10^8 \text{ pS.m}^{-1}$. High precision is achieved by an inbuilt microprocessor-controlled auto-zeroing function before every measurement. The metering cell takes only 36 ml of liquid and is connected to the body of the instrument by short signal cables. This avoids damage to the instrument facia panel in the event of liquid spillage. The stainless steel cell can be detached from its PTFE base for sample collection and ease of cleaning. Additional cells are available enabling multiple sample collection.

An integral rechargeable battery is built into the instrument and mains (110-240V) or battery operation are possible. The instrument is supplied with a carrying case, mains lead and operators manual with a guide to interpretation of results.



Instrument supplied in carrying case

For further details on instrumentation from Wolfson Electrostatics please contact:

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