METTLER TOLEDO

Operating Instructions for 3-in-1 pH Electrode LE438

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Subject to technical changes and to the availability of the accessories supplied with the instruments.

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The METTLER TOLEDO LE438 pH 3-in-1 electrode is intended for accurate pH measurement of aqueous media in general. Thanks to the integrated NTC30K temperature probe it is especially suited for media with changing temperatures.

The key information about the electrode is printed on the shaft of electrode, for example:

Type designation	LE438 combination
Type of integral Temp. sensor	NTC
pH range	0...14
Temperature range	0...80°C

It is necessary for customers to operate as follows:

1. When unpacking, please check electrode carefully for possible mechanical damage to the pH temperature sensor, the diaphragm or the membrane. Electrodes subject to complaints must be returned to us or to local dealer in the original box indication the invoice number.

2. Take off watering cap and rinse pH sensitive glass membrane, temperature sensor,diaphragm and electrode body with distilled water. Then wipe the electrode with a tissue. Do not rub to avoid the occurrence of electrostatic charges and an increase of the response time might result.

3. Eliminate any air bubbles inside the membrane space of the measuring electrode by smoothly shaking it the vertical plane.

4. Insert the plugs of BNC and NTC respectively in the correspondent sockets on pH meter. Connect the IP67 boot to the sockets, if necessary.

5. Follow the detailed calibration procedure described in the manual of pH meter with pH buffers. After calibration, flush pH sensitive glass membrane, temperature sensor, diaphragm and electrode body with distilled water. Then wipe the electrode with a tissue. Now the electrode is ready for measurement.

6. Rinse and clean electrode after use,replace the watering cap which is partly filled (1/3)with 3 mol/L KCl storage solution. Do not store the electrode in distilled water, otherwise the life time of electrode would be drastically shortened.

7. Trouble shooting:

A. Slow response/drift.
Clean open apertures with warm tap water.
After dry storage, soak for 24 hours in 3 mol/L KCl electrolyte.

B. Slope not adjustable.
Clean open aperture with warm tap water.
Clean connectors with anhydrous ethylalcohol.

C. Contamination by oil/organic liquids.
Rinse with acetone or ethanol.

Warning: Cleaning with strong acids (e.g. HCl) will decrease the life time of the electrode. Each time the electrode is cleaned, it must be recalibrated.

Order No. 51340242

Application

Aqueous media in general, emulsion (waterbased), suspension (water-based), paintings and inks (water-based), in aquariums, waste water treatment, field measurement, swimming pool and etc. Specially temperature changing media.