

# METTLER TOLEDO

## Operating Instructions for InLab® Nano



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**Mettler-Toledo AG**, Analytical, Sonnenbergstrasse 74,  
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[www.mt.com](http://www.mt.com)

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# Operating Instructions for InLab<sup>®</sup> Nano

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

## Safety precautions

The electrode is to be used only for pH measurement in the laboratory or field at ambient pressure. It is advisable to wear safety glasses when handling cleaning agents. The electrode contains glass parts.

## Getting ready

The electrode is delivered ready to use. Carefully unwind the tape and remove the electrode from the protective glass tube. Please check visually for broken parts. The clear sleeve which covers the fill hole should be moved down the glass barrel slightly to ventilate the reference chamber and replaced after use. Connect the electrode to the meter and rinse it with distilled water. The electrode is now ready for calibration. Please follow the detailed calibration procedure, described in the manual of your pH meter. After calibration the electrode is ready for measurement.

Practical hint: After rinsing do not rub the membrane glass, since this can increase response time or damage the electrode.

## Maintenance

When necessary, the outer reference chamber of the electrode can be refilled using the KCL 3 mol/L AgCl sat. Electrolyte dispensing bottle and bulb pipette provided with the probe. Fill the pipette with the filling solution. Hold the electrode at a 60 degree angle (approx.) and slowly insert the tip of the pipette into the fill hole of the electrode. Slowly fill the reference chamber. If filling is done too quickly, air may be trapped in the chamber, causing the reference solution to squirt out of the fill hole instead of entering and filling the reference chamber.

Practical hint: Be careful not to apply pressure against the inner glass capillary tube.

## Cleaning

Rinse the electrode after every use. When using the electrode in solutions containing protein, the electrode should be soaked in a Pepsin-HCl solution. This will prolong the useful life of the electrode.

## Storing

Always rinse the electrode before storing.

Long-term (over 2 weeks): Return the electrode to its original container and prepare it in the same condition in which you received it. Usually this means moistening the sponge located in the bottom of the protective glass tube with distilled water.

Short-term: The electrode can be left in an acid pH buffer solution, e.g. pH 4.

## Troubleshooting

- Check all connectors
- For tips go to [www.electrodes.net](http://www.electrodes.net)

## Little or No Response

Inspect the electrode for visible cracks (usually occurring around the tip of the electrode). If any exist, the electrode cannot be repaired and must be replaced. The slightest crack in or around the glass will cause the electrode to give similar readings in all solutions.

## Response out off Scale

1. Visually inspect the electrode for broken or dissolving internal elements or for inadequate volume of filling solution. Filling solution level should be above the internal elements.
2. Blocked or clogged liquid junction (reference) – soak the tip of the electrode in warm (50°C) distilled water for 5 to 10 minutes. If still clogged, soak overnight in distilled water.

## Order no.

30092990

51343184

51350100

InLab Nano

KCl 3 mol/L AgCl sat. Electrolyte

Pepsin -HCl

## Specifications

pH range: 0-14 pH

Temperature range: 0-80 °C

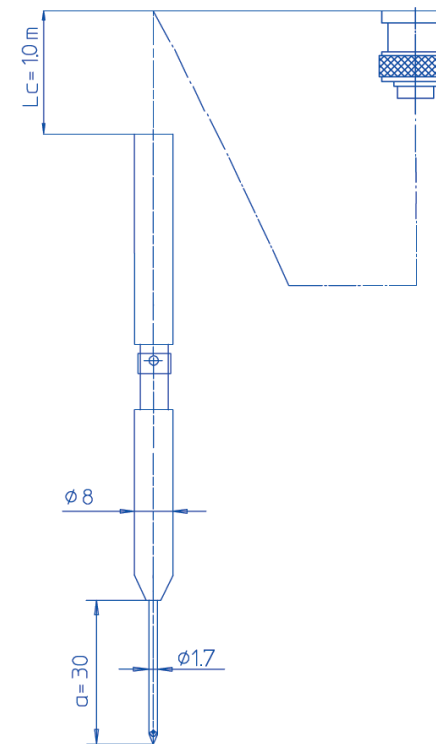
Type of junction: ceramic

Cable: 1 m

Connector: BNC

Lower shaft length: 30 mm

Lower shaft diameter: 1.7 mm



For further reading we recommend our booklet "Guide to pH Measurement" or [www.mt.com/pH](http://www.mt.com/pH) or [www.electrodes.net](http://www.electrodes.net)