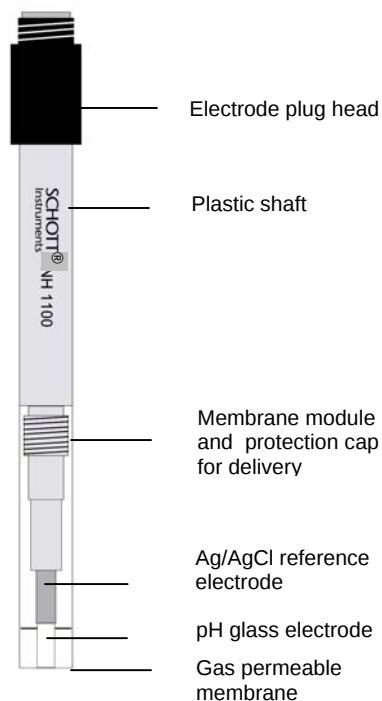


Instruction manual for SCHOTT® Instruments Ammonia electrode NH 1100



Preparation and general

Remove the electrode protection cap and rinse the electrode with deionised water. Fill approx. 1 ml electrolyte solution (L640 8) into the membrane module. Don't touch the membrane! Remove air bubbles in the electrolyte space by patting. Screw the membrane module onto the electrode and rinse the electrode with deionised water. Store the electrode for approx. 1 h in 0.1 M NaOH before calibration and measurement. The electrode is now ready for usage, but has to be calibrated at first.

In Preparation for calibration

Please also follow the instruction manual of the measuring device during calibration and measurement. The NH electrode is connected like a pH electrode to the pH meter. Switch the pH meter to the mV range. For the calibration procedure the following solutions are required:

Buffer solution :

1 M NaOH; 0.1 M EDTA

Dissolve 40 g NaOH and 29 g EDTA in 800 ml deionised water. After cooling down to room temperature, fill up to 1000 ml.

Main calibration solution:

1000 mg N/l NH_4^+

Dissolve 3.819 g NH_4Cl in deionised water and fill up to 1000 ml.

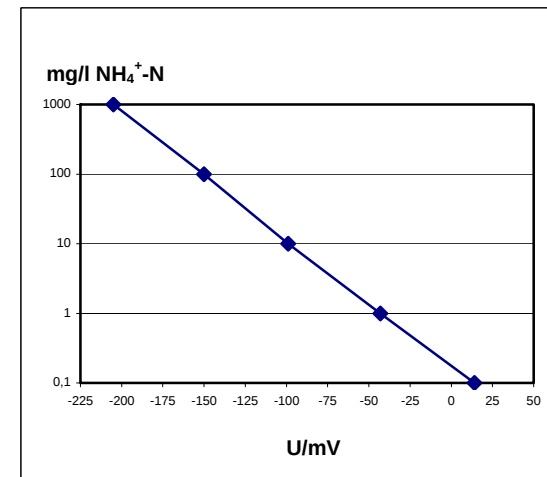
Dilution series:

Prepare different calibration solutions (for example 100, 10, 1 mg N/l) by diluting the main calibration solution.

Calibration

Take 100 ml of the calibration solution with the lowest NH_4Cl concentration and add 10 ml buffer solution. Stir the solution. Immerse the electrode and record the potential after the reading is constant (approx. 2 – 8 min). Repeat the procedure with the other calibration solutions in sequence of increasing concentration. The calibration curve is plotted half-logarithmic: the electrode potential linear against the logarithm of the concentration.

Diagram example: calibration curve



Measurement

Handle the samples like the calibration solutions. Take 100 ml of the sample and add 10 ml buffer solution. Stir the solution. Immerse the electrode and record the potential after the reading is constant (approx. 2 – 8 min). Read the concentration from the calibration curve.

Storage and maintenance

Electrodes should be stored at a temperature between 0 and 40 °C. For a short time (1 – 2 days): in 0.1 M NaOH, with exchange membrane module on. For more than 2 days: remove the membrane module and rinse the electrode. Screw on the protection cap.

Quality

Every electrode must meet the strict quality requirements of final testing. The working life strongly depends on the usage conditions. Extreme conditions include for example high or frequently changing temperatures and heavily polluted solutions.

Technical Data

Measuring range:	0.1 – 1000 mg/l $\text{NH}_4\text{-N}$
Temperature range :	0 – 50°C
Shaft material:	POM Copolymer
Membrane :	gas-permeable
Immersion depth:	10 – 50 mm

Order data

NH 995 : 3 membrane modules, 3 caps

NH 998 : 50 ml electrolyte, 3 membrane modules

L 6408 : 50 ml electrolyte

Subject to technical amendment.