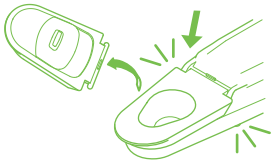
LAQUAtwin NO_3^- LAQUAtwin-NO3-11S Measurement Procedure

CODE : GZ0000478671
March, 2017

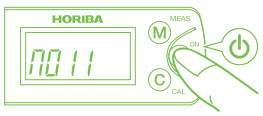
① When using the meter for the first time.

Replace the light shield cover with the sampling sheet holder cover.



② Turn ON

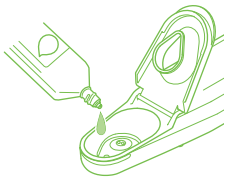
Press the ON/OFF button.



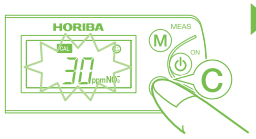
③ Calibration

Perform calibration at least once a day for accurate measurement.

① Pour the 30 ppm standard solution.



② Press the CAL switch 0.5 seconds.
CAL and ☺ is displayed, and the calibration value blinks.



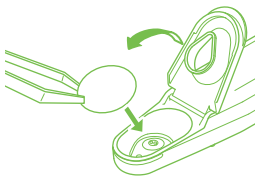
③ Press the MEAS switch 0.5 seconds.
The other calibration value blinks.

④ Measurement

④ Press the CAL switch 0.5 seconds.
CAL and ☺ blink, and the calibration value is displayed.
CAL and ☺ light up and the measured value is displayed, the calibration is completed.

⑤ Clean the sensor with water.

① Put a piece of sampling sheet.



Place the sampling sheet in the sensor unit, and close the sampling sheet holder cover.

② Add the soil sample to water.

Add enough of the sample to 60 mL of water to bring the total volume to 70 mL.

③ Shake the soil-water mixture for 1 minute.

⑤ After use

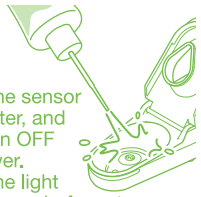
④ Sample the clear fluid on top.

⑤ Add some drops of the sample to the sampling sheet.

Guideline: 4 or 5 drops.

⑥ When ☺ lights up, the measurement is completed.

Clean the sensor with water, and then turn OFF the power.
Close the light shield cover before storage.
Make sure to store the sensor without any moisture.



The following settings can be changed.

- Measurement unit
- Calibration value
- Measurement mode
- Multiplying compensation
- Backlight mode
- Temperature sensor

Two-point calibration is recommended for accurate measurement.
Prewashing the sensor with the sample may provide accurate measurement.

Note: Read the Instruction Manual in addition to this procedure.

• Soil Measurement (Supplementary Information)

- The measurement procedure printed is just an example. Soil with a moisture content of 25% has a soil-to-water ratio of about 1:5. Measurement results are affected by the actual soil moisture concentration.
- To eliminate the effect of the soil's moisture concentration, allow the soil to air-dry, mix it with water in a ratio of 1 part soil to 5 parts water, and sample the water from the top after the mixture has settled.
- Accurate measurements can't be obtained from measuring fluid soil suspensions (turbid samples). Use the dedicated filter paper to perform measurement. You don't need the dedicated filter paper when you have created your own method of removing suspended particles using equipment such as a centrifugal separator or general-purpose filter paper.
- The sensor is affected by light, so avoid direct sunlight.
- Measurement may be impeded in soil with significantly high electrical conductivity, chloride ion (Cl^-) concentration or oil concentration.
- An ion chromatography precolumn (e.g. OnGuard II Ag precolumn manufactured by Thermo Fisher Scientific Inc.) is helpful to remove chloride ion (Cl^-).

• Consumable parts sold separately

Items	Specifications	Part No.
Sensor	S040, NO_3^-	3200459870
Standard solution	Y044, NO_3^- 30ppm	3200053535
	Y042, NO_3^- 300ppm	3200053514
Sampling sheet holder cover	Y048	3200459736
Sampling sheet B	Y046, 100 sheet pack	3200053858

• Procedure for Two-point Calibration (For More Accurate Measurement)

Perform two-point calibration when you want high-accuracy measurment.

1. Set the concentrations of standard solution for calibration. The 1st point is set to 30 ppm and the 2nd point is set to 300 ppm by the default.
2. Open the light shield cover and place some drops of the standard solution on the flat sensor taking care to cover the entire flat sensor.
3. Close the light shield cover and press the CAL switch.
4. With the set concentration of the 1st point displayed, press the CAL switch.
   CAL and ☺ blink, and the calibration value is displayed.
   After the calibration is complete, CAL and ☺ stop blinking and the measured value is displayed.
   The calibration value at 25℃ is displayed for 1s and the display returns to the measurement mode automatically.
5. Open the light shield cover and remove the standard solution. Then remove moisture on the sensor by gently dabbing with a soft tissue.
6. To perform 2nd point calibration, repeat steps 2 to 5.