

# LAQUA

LAQUA<sup>tw</sup>in Meter Kits - Your lab on the go



[www.horiba-laqua.com](http://www.horiba-laqua.com)

# LAQUAtwin

# 4M meter kit

## Your lab on the go!

9 Water Quality Parameters: pH, Conductivity, Total Dissolved Solids (TDS), Na+, K+, NO<sub>3</sub><sup>-</sup>, Ca<sup>2+</sup>, iCa and Salt

Designed to give you optimal configuration options. Create your own kit based on your application requirements.

Employing the same test principle as laboratory electrodes, LAQUAtwin compact meters provide a reliable and accurate measurement. Select your meter that best suits your application from 13 colorful models.

### Storage box

The carrying case contains a storage box with 8 calibration solutions for K<sup>+</sup>, Na<sup>+</sup>, Ca<sup>+</sup> and NO<sub>3</sub><sup>+</sup> (2 x 14ml each), 2 pipettes, 8 CR2032 batteries and the instruction manual.

### 60 ML wash bottle

Always have your DI water or cleaning solution at hand when performing measurements in the field.

### Flexibility

The inlay has a removable cut for storage of a cleaning solution bottle.

Take out the complete foam and it makes place for another storage box for solutions or plant sap kit.

### Removable inlays

Ensuring a good presentation even if not all 7 meters slots are used.

### Store up to 7 meters

The kit has 7 removable cut out inlays enabling you to configure the kit to your needs and application. Add pH, EC, Salt or even iCa bovine meter to suit your application.

### Standard with 4 Ion Meters

- 1 x NO<sub>3</sub>-11
- 1 x NA-11
- 1 x CA-11
- 1 x K-11



### Press to remove

Pressing the sensor part will lift the meter up from the foam, making it easy to remove the meter from the case.

## Specifications of all LAQUAtwin meters

Model Part Number	pH			CONDUCTIVITY & TDS			SALINITY	
	pH-11 3999960122	pH-22 3999960123	pH-33 3999960124	EC-11 39999601245	EC-22 3999960126	EC-33 3999960127	Salt-11 3999960128	Salt-22 3200689158
Measurement Principle	Glass Electrode			2 Electrode Bipolar			ISE	
Min Sample Volume	0.1ml (0.05ml with Sampling Sheet B)			0.12			0.3ml	
Range	0.0 - 14.0pH	0.00 - 14.00pH ± 650 mV		0 to 199 µS/cmml 200 to 1999 µS/cm 2.00 to 19.99 mS/cm	20.00 to 199.9 mS/cm		0 to 100.0 g/L (ppt) 0.00 to 10.00%	0.01 to 25% by weight
Resolution	0.1 pH	0.01 pH 1 mV		0 to 1999 µS/cm 2.00 to 19.99 mS/cm: 0.01	20 to 199.9mS: 0.1 mS/cm		0.1 g/L / 0.01%	< 1%: 0.01% 1 to 10%: 0.1% > 10%: ± 10% of value
Accuracy	±0.1 pH	±0.01 pH		±2% full scale (0 to 19.99 mS/cm)			±2% full scale	± 10% of value
Calibration Points	2	3	5	2	3	3	2	2
Temperature Display			•			•	0 to 50.0 °C / 0.1 °C	





# Ionized Calcium in Blood

Calcium is an important macro mineral for dairy cows. Measurement of iCa (ionized Calcium) on site can be of great value to veterinarians and producers. An innovative and lower cost instrument could help with more timely decisions and avoid submission of blood samples to a laboratory. The dairy veterinary field is progressively studying subclinical Hypocalcemia. To detect this condition real time using the iCa Checker can make a significant improvement in an animal's health.

## Standard kit

**LAQUAtwin Ca-11C-2**  
includes 2 x Y052H, 2 x Y052L calibration solutions and 1 x #251 protein cleaning solution.



## On Site Measurements

Take your sample from the animal, place a drop of blood (or serum) on the sensor and read of the Ionized Calcium value.

## Whole Blood or Serum

It does not matter. The meter has been designed to measure whole blood but will do well with serum as well.

## Instant Results

The measured Calcium value should give a good indication about the animals' health and probability of Hypocalcemia or Hypercalcemia.

## Fast screening

Perform a quick screening without having to send your sample to the lab. Saving time ensures a quicker response to the animal's healthcare.

## Economical

Analyze the animal's health at a fraction of the cost compared to a Blood Gas Analyzer or other available methods.



Watch the measurement procedure on YouTube.

## Add more meters to your Vet kit

- pH for blood, milk, urine and water
- Conductivity for water, milk, urine and mastitis
- Sodium for blood, milk, urine and water
- Nitrate for grass quality
- Calcium for feed
- Potassium for urine, feed and water



# Nitrate Plant Sap Kit

*Plant sap analysis* has been used by growers to manage crop nutrient content and fertilization strategies. A plant sap test gives a view of the nutrients available for the plant, at that time, for growth or development. It directly shows if a crop suffers from a nutrient deficiency or an excess.



Results in 3 steps



1. Cut the petioles or leaves



2. Squeeze out the sap with the Sap Press



3. Pour the sap on the meter and measure.

Find out more in our application notes.

## Nutrient concentrations in Tomato plant sap

Fertigation management requires rapid and accurate methods to determine nutrient concentrations in soil solution and plant sap. Folegatti et al (2005) found that the concentrations of  $\text{NO}_3^-$ ,  $\text{K}^+$ , and  $\text{Na}^+$  in soil solution and tomato plant sap determined by LAQUAtwin ion pocket meters showed good correlations with those obtained in soil solution and in leaf dry matter [scan the QR code to read more].....

## Potassium Determination in Plant Tissue

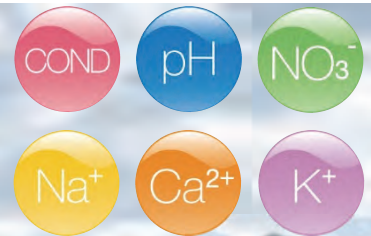
The pocket-sized LAQUAtwin Potassium Ion meter is ideal for on-site testing as it provides quick result with just a few drops of sample that doesn't require tedious preparation. It eliminates the need to transport samples to a laboratory for costly and time-consuming ICP spectrometry analysis.

Scan the QR code to find more applications



# Create your own LAQUA Agri kit

The 4M LAQUAtwin standard kit can be transformed into a powerful tool for the agriculture market, having all essential measurement parameters in one, easy to carry, case.



Add the plant sap kit

Add a pH and conductivity meter

Add your own Brix meter



# Available LAQUAtwin kits



LAQUAtwin 4M kit



LAQUAtwin-Ca-11C-2



LAQUAtwin-NO3-11C



LAQUAtwin-NO3-11S



Product	Part number	Description	Quantity
LAQUAtwin 4M kit	1300083234	Includes all below parts	
LAQUAtwin Na-11	3200689159*	NA-11, Sodium Ion (Na+)	1
LAQUAtwin K-11	3200689160*	K-11, Potassium Ion (K+)	1
LAQUAtwin Ca-11	3200689161*	CA-11, Calcium Ion (Ca2+)	1
LAQUAtwin NO3-11	3200689162*	NO3-11, Nitrate Ion (NO3-)	1
Y022H	3200457723**	Na Sodium Standard solution 2000ppm	2
Y022L	3200457724**	Na Sodium Standard solution 150ppm	2
Y031H	3200457719**	K Potassium Standard solution 2000ppm	2
Y031L	3200457720**	K Potassium Standard solution 150ppm	2
Y051H	3200457727**	Ca Calcium Standard solution 2000ppm	2
Y051L	3200457728**	Ca Calcium Standard solution 150ppm	2
Y043	3200053532**	NO3 Nitrate Standard solution 2000 ppm	2
Y045	3200053536**	NO3 Nitrate Standard solution 150 ppm	2
CR2032	1000037625	CR2032 Batteries	8
Wash bottle	3200774604	60 ml Wash bottle	1
LAQUATWIN Pipette	1000121380	LAQUATWIN PIPETTE	1
Instruction manual	1000121379	Manual for CA-11, NA-11, NO3-11 and K-11	1
LAQUAtwin carrying case	1300077785	Carrying case for LAQUAtwin for 7 meters	1
LAQUAtwin-Ca-11C-2	TBD	Includes all below parts	
LAQUAtwin-Ca-11C-T	3200858466	CA-11C bovine blood meter	1
Y052L	3200774598	Y052L (25ml 1.25 mmol/L) calibration solution	2
Y052H	3200774599	Y052H (25ml 2.50 mmol/L) calibration solution	2
#251	3200774601	Cleaning solution #251 (250mL)	1
Wash bottle	3200774604	60 ml Wash bottle (empty)	1
CR2032	100003762	CR2032 Batteries	2
Instruction manual			1
LAQUAtwin carrying case	1300077785	Carrying case for LAQUAtwin for 7 meters	1
LAQUAtwin-NO3-11C	3200689163	Includes all below parts	
LAQUAtwin NO3-11	3200689162*	NO3-11, Nitrate Ion (NO3-)	1
Y043	3200053532**	NO3 Nitrate Standard solution 2000 ppm,	1
Y045	3200053536**	NO3 Nitrate Standard solution 150 ppm,	1
CR2032	1000037625	CR2032 Batteries	2
Wash bottle	3200774604	60 ml Wash bottle	1
LAQUATWIN Pipette	1000121380	LAQUATWIN PIPETTE	5
Crop Press Y049	3200469679	Crop sap press New	1
Instruction manual			1
LAQUAtwin carrying case	1300077785	Carrying case for LAQUAtwin for 7 meters	1
LAQUAtwin-NO3-11S	3200689164	Includes all below parts	
LAQUAtwin NO3-11	3200689162*	NO3-11, Nitrate Ion (NO3-)	1
Y042	3200053514**	NO3 Nitrate Standard solution 300 ppm	1
Y044	3200053535**	NO3 Nitrate Standard solution 30 ppm	1
CR2032	1000037625	CR2032 Batteries	2
Wash bottle		250 ml Wash bottle	1
LAQUATWIN Pipette	1000121380	LAQUATWIN PIPETTE	5
Sample Bottles		Sample Bottles	3
Tweezers		Tweezers	1
Sampling Spoon		Sampling Spoon	2
Y046	3200053858	Sampling sheet B - 100pcs	1
Y048	3200459736	Sample sheet holder for LAQUAtwin	1
Instruction manual			1
LAQUAtwin carrying case			1

\* Replacement LAQUAtwin meter with calibration solutions.  
 \*\* Part number for 6 x 14 ml each

## SportLyte Kit

Analyze athletes sweat to improve rapid recuperation and improve the overall performance. Measure Sodium and Potassium.



Product	Part number	Description	Quantity
<b>SportLyte Kit</b> 1000121267 Includes all below parts			
LAQUATwin Na-11	3200689159	NA-11, Sodium Ion (Na+)	1
Y022H	3200457723	Na Sodium Standard solution 2000ppm	2
Y022L	3200457724	Na Sodium Standard solution 150ppm	2
LAQUATwin K-11	3200689160	K-11, Potassium Ion (K+)	1
Y031H	3200457719	K Potassium Standard solution 2000ppm	2
Y031L	3200457720	K Potassium Standard solution 150ppm	2
Carry Case	1000121270	SPORTLYTE CARRYING CASE (EMPTY)	1
Syringe 10ML	1000121269	TERUMO SYRINGE 10ML	5
Alcohol Wipes	1000121268	ALCOHOL WIPES	25
HORIBA Marker Pen	1000121273	HORIBA MARKER PEN BLUE	1
HORIBA USB stick 4GB	1000121272	HORIBA USB STICK 4GB	1
PU Patch 90mm x 100mm	1000121271	PU Patch 90mm x 100mm	25
Microtube 1.5ML BLUE	1000121274	MICROTUBE 1.5ML BLUE	5
Microtube 1.5ML ORANGE	1300034446	MICROTUBE 1.5ML ORANGE	5
Microtube 1.5ML GREEN	1300034445	MICROTUBE 1.5ML GREEN	5
Microtube 1.5ML PURPLE	1300034443	MICROTUBE 1.5ML PURPLE	5
LAQUATWIN Pipette	1000121380	LAQUATWIN PIPETTE	1

# Solutions & Accessories

### LAQUATwin Replacement Sensors

Part No.	Model	Description
3200459834	S010	pH Sensor (for B-711, B-712, B-713, pH-11, pH-22 & pH-33)
3200459866	S021	Salt Sensor (for B-721)
3200459867	S022	Sodium Ion Sensor (for B-722 & Na-11)
3200459868	S030	Potassium Ion Sensor (for B-731 & K-11)
3200459870	S040	Nitrate Ion Sensor (for B-741, B-742, B-743, NO3-11, NO3-11C & NO3-11S)
3200459869	S050	Calcium Ion Sensor (for B-751 & Ca-11)
3200459672	S070	Conductivity Sensor (for B-771, EC-11, EC-22, & EC-33)
3200597237	S071	Salt EC Sensor (for Salt-11)
3200772945	S051	Calcium ion sensor (for Ca-11C)



LAQUATwin replacement sensors

### LAQUATwin Standard Solutions (6 x 14ml bottles per pack)

3999960108	514-4	pH 4.01 Buffer
3999960109	514-7	pH 7.00 Buffer
3999960110	514-22	1413 µS/cm Conductivity Standard Solution
3999960111	514-23	12.9 Conductivity Standard Solution
3999960112	514-05	0.5% NaCl Standard Solution
3999960113	514-50	5.0% NaCl Standard Solution
3999960114	514-20	Conditioning Solution (For Conductivity & Salt Sensors)
3200457723	Y022H	2000ppm Sodium Ion Standard Solution
3200457724	Y022L	150ppm Sodium Ion Standard Solution
3200457719	Y031H	2000ppm Potassium Ion Standard Solution
3200457720	Y031L	150ppm Potassium Ion Standard Solution
3200053433	Y041	5000ppm Nitrate Ion Standard Solution
3200053514	Y042	300ppm Nitrate Ion Standard Solution
3200053532	Y043	2000ppm Nitrate Ion Standard Solution
3200053535	Y044	30ppm Nitrate Ion Standard Solution
3200053536	Y045	150ppm Nitrate Ion Standard Solution
3200457727	Y051H	2000ppm Calcium Ion Standard Solution
3200457728	Y051L	150ppm Calcium Ion Standard Solution
3200774598	Y053L	Y053L (2 x 25ml 1.25 mmol/L) calibration solution
3200774599	Y053H	Y053H (2 x 25ml 2.50 mmol/L) calibration solution
3200774601	#251	Cleaning solution #251 (1 x 250mL)



pH buffers      Conductivity Standard Solutions      NaCl Standard Solutions



Sodium Standard Solutions      Potassium Standard Solutions      Calcium Standard Solutions



Nitrate Standard Solutions



Ionized Calcium Standard Solutions

Protein Cleaning Solution

### LAQUATwin Accessories

3200053858	Y046	Sampling Sheet B (100pcs) for minute samples (≥ 0.05ml)
3200459736	Y048	Sampling Sheet Holder (use with sampling sheet B)



Sampling sheet B



Sampling sheet Holder

With over 70 years of engineering excellence, HORIBA's diverse range of water quality analyzers and electrodes are ideal for everyday laboratory needs through to the most demanding of applications. Visit our website for a wealth of useful information and water quality measurement tips to help you obtain the best results in your work.



### Benchtop Meters

Developed using extensive feedback from users, our new LAQUA meters deliver the best solution for water quality analysis. Our LAQUA website features an online 'Selection Guide' to enable you to find the perfect LAQUA meter and electrode for your need.



### Handheld Meters

In the lab, in the field or anywhere you need it. LAQUA Handheld meters are designed for use with one hand and with an IP67 waterproof rating and shock-resistant casing. Meters can be used for long periods, even in dark places, making it ideal for field measurements in rivers and lakes.

### Electrodes & Solutions

Various electrodes to match any application. A wide range of products for both benchtop and portable systems are available, including easy and reliable standard models, application-focused models for small samples or large containers, and special electrodes for specific sample characteristics.




### LAQUAtwin meters and Kits

Analyzing water quality is simplified when using our LAQUAtwin range of meters. Designed to produce accurate and reliable results. Anyone, anywhere, at any time can measure samples easily with a LAQUAtwin meter. See just how good they are at our website.



### Application Notes

LAQUAtwin pocket meters offer quick and convenient alternative to analyze important parameters with high accuracy. Several application notes are available at (<http://goo.gl/znwE6j>) detailing the use of LAQUAtwin and the results achieved for the respective applications

 Please read the operation manual before using this product to assure safe and proper handling of the product.

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