


Select LAQUAtwin from 7 parameters depending on your sample or application

*1 Measurement value may affected by other ions contained in the sample. Refer to the table below for details.
*2 A sample pretreatment may be needed for measurement for total Calcium concentration.




pH Meter
B-711/B-712/B-713 (US only)

Feature

pH flat sensor with temperature compensation offers a reliable and quick direct measurement of a micro-sample from 100 µL.

Applications include

Fresh water testing (rain, rivers, lakes); aquaria; drainage treatment solutions; soil testing; foods testing; research laboratories; QC of medical supplies and cosmetics;school education, etc.




Conductivity (EC) Meter
B-771

Feature

Conductivity reading converted into Salt concentration and TDS. Autoranging & temperature compensation feature allows accuracy on a measurements wide range.

Applications include

Fresh water testing (rain, rivers, lakes); aquaria; soil testing; salt water damage testing; surface cleanliness testing and improved paint adhesion.




Sodium Ion Meter
B-722

Feature

Unique compact meter for quick, on-site and reliable measurement of sodium ion using ion selective electrode (ISE).

Applications include

Health management; food quality control; environmental measurement; salt water damage testing.




Potassium Ion Meter
B-731

Feature

Unique compact meter for quick, on-site and reliable measurement of potassium ion using ion selective electrode (ISE).

Applications include

Soil testing; food quality control; cultivation management; health management; food quality control




Nitrate Ion Meter
B-743 (for general use)

Feature

Unique compact meter for quick, on-site and reliable measurement of nitrate ion. Special application kits for crop (B-741) and soil (B-742) are also available.

Applications include

Soil testing; food quality control; cultivation management; food quality control; Growth management of crops.




Calcium Ion Meter
B-751

Feature

Unique compact meter for quick, on-site and reliable measurement of ionized calcium using ion selective electrode (ISE).

Applications include

Soil testing; food quality control; cultivation management; food quality control; breeding water of coral; water hardness measurement



Salt Meter
B-721

Feature

Unique compact meter using a sodium ion electrode to measure salt content (NaCl) when conventional meters generally convert the conductivity value.

Applications include

health management; food quality control; Dietary instruction

	pH		Conductivity (EC)		Sodium Ion (Na ⁺)	Potassium Ion (K ⁺)	Nitrate Ion (NO ₃ ⁻)	Calcium Ion (Ca ²⁺)	Salt (NaCl)
Model	B-711 B-712/B-713 ^{*1}		B-771		B-722	B-731	B-743 ^{*2} (for general use)	B-751	B-721
Measurement principle	Glass electrode method		2 AC bipolar		Ion electrode method				
Minimum sample volume	0.05 mL ^{*3} , 0.1 mL or more		0.12 mL or more		0.05 mL ^{*3} , 0.3 mL or more				
Measurement range	2 to 12 pH		Conductivity: 0 to 19.9 mS/cm (0 to 1.99 S/m) Salt: 0 to 1.1% TDS: 0 to 9900 ppm		23 to 2300 ppm (mg/L) (10 ⁻³ to 10 ⁻¹ mol/L)	39 to 3900 ppm (mg/L) (10 ⁻³ to 10 ⁻¹ mol/L) 20 to 2000 kg/10a ^{*4}	NO ₃ ⁻ : 62 to 6200 ppm (mg/L) (10 ⁻³ to 10 ⁻¹ mol/L) NO ₃ ⁻ -N: 14 to 1400 ppm (mg/L)	40 to 4000 ppm (mg/L) (10 ⁻³ to 10 ⁻¹ mol/L)	0.1 to 10% by weight
Display range ^{*5}	0 to 14 pH		0 to 199 mS/cm (0 to 19.9 S/m)		0 to 9900 ppm (mg/L)			0 to 9900 ppm (mg/L)	
Range and Resolution (Valid numbers)	0.1 pH	0.1/0.01 pH (Selectable)	① 0 to 199 μS/cm: 1 μS/cm ② 0.20 to 1.99 mS/cm: 0.01 mS/cm ③ 2.0 to 19.9 mS/cm: 0.1 mS/cm ④ 20 to 199 mS/cm: 1 mS/cm		① 0 to 1.0 ppm: 0.1 ppm ② 0 to 99 ppm: 1 ppm ③ 100 to 990 ppm: 10 ppm ④ 1000 to 9900 ppm: 100 ppm				① 0.00 to 0.99%: 0.01% by weight ② 1.0 to 9.9%: 0.1% by weight ③ 10 to 25%: 1% by weight
Calibration	One-point	Two-point ^{*6}	Two-point ^{*6}		Two-point ^{*6}				
Accuracy ^{*7}	±0.1 pH		±2% F.S. ±1digit (for each range) ^{*8}		±10% of reading value			±20% of reading value	±10% of reading value
Functions	Temperature compensation • IP67 Water/Dust proof ^{*9} • Auto hold • Automatic power off (30 minutes)		Salt/TDS Measurement • Auto range change • Temperature conversion (2%/°C fixed) • IP67 Water/Dust proof ^{*9} • Auto hold • Automatic power off (15 minutes)		Auto range change • Temperature compensation • IP67 Water/Dust proof ^{*9} • Auto hold • Automatic power off (30 minutes)				
Display	Custom (monochrome) Digital LCD								
Operating temperature/humidity	5 to 40°C, 85% or less in relative humidity (no condensation)								
Power	CR2032 batteries (x2)								
Battery life	Approx. 400 hours in continuous use								
Main Material	ABS epoxy								
Dimensions/Mass	164 mm x 29 mm x 20 mm (excluding projections)/Approx. 50 g (meter only, without batteries, B-771 approx. 45 g)								
Accessories included	2 CR2032 batteries/1 Pipette/Instruction manual/Quick manual/Storage case								
	Standard solution (pH 7) (14 mL), 5 pieces of Sampling sheet B	Standard solution (pH 4 & pH 7 ^{*10}) (14 mL), 5 pieces of Sampling sheet B	Standard solution (1.41 mS/cm) (14 mL), Treatment reagent (14 mL) * For the high conductivity standard solution (12.9 mS/cm) is sold separately.	Standard solution (150 ppm & 2000 ppm) (14 mL), 5 pieces of Sampling sheet B	Standard solution (150 ppm & 2000 ppm) (14 mL), 5 pieces of Sampling sheet B	Standard solution (150 ppm & 2000 ppm) (14 mL), 5 pieces of Sampling sheet	Standard solution (150 ppm & 2000 ppm) (14 mL), 5 pieces of Sampling sheet	Standard solution (0.5%, 5%) (14 mL), 5 pieces of Sampling sheet	

*1 For US market only.

*2 Special application packages for crop measurement (B-741) and soil measurement (B-742) are also available.

*3 Smaller amount (0.05 mL or more) can be measured with the sampling sheet B. (Please close the light shield cover. If a sample that contain particulate, please use "Sampling sheet holder" (sold separately))

*4 With soil/water sampling ratio of 1:5.

*5 When the measured value is out of the measurement range, the displayed value blinks. It should be used only as a guide.

*6 Selectable between one-point and two-point calibrations. High conductivity standard solution (12.9 mS/cm) is sold separately.

*7 Repeatability in measurement of a standard solution after calibration using it.

*8 ①±5 µS/cm (0 to 199 µS/cm) ②±0.05 mS/cm (0.20 to 1.99 mS/cm) ③±0.5 mS/cm (2.0 to 19.9 mS/cm) ④±5 mS/cm (20 to 199 mS/cm)

*9 IP67: no failure when immersed in water at a depth of 1 meter for 30 minutes. But the product can not be used underwater.

*10 B-712: pH 6.86/B-713: pH 7.00 for US market.

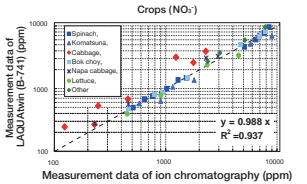
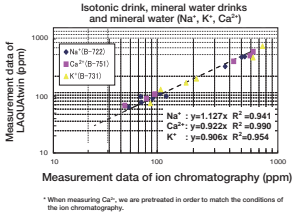
Interfering ion influence

	Sodium Ion (Na ⁺)	Potassium Ion (K ⁺)	Nitrate Ion (NO ₃ ⁻)	Calcium Ion (Ca ²⁺)
Selectivity coefficient	K ⁺ , Rb ⁺ = 1 × 10 ⁻² Ba ²⁺ , Sr ²⁺ , Ca ²⁺ , Mg ²⁺ = 1 × 10 ⁻⁴ Li ⁺ = 1 × 10 ⁻³ Cs ⁺ = 3 × 10 ⁻³ NH ₄ ⁺ = 6 × 10 ⁻³	Rb ⁺ = 1 × 10 ⁻¹ Mg ²⁺ = 1 × 10 ⁻⁵ NH ₄ ⁺ = 7 × 10 ⁻³ Ca ²⁺ = 7 × 10 ⁻² Cs ⁺ = 4 × 10 ⁻³ Na ⁺ = 3 × 10 ⁻⁴	I ⁻ = 10 Cl ⁻ = 4 × 10 ⁻² Br ⁻ = 9 × 10 ⁻¹ Ca ²⁺ = 3 × 10 ⁻³ NO ₂ ⁻ = 7 × 10 ⁻¹	Na ⁺ , K ⁺ , Mg ²⁺ = 1 × 10 ⁻³ Fe ³⁺ , Zn ²⁺ = 1 Fe ³⁺ = 10 Cu ²⁺ = 1 × 10 ⁻²
pH range	pH 3-9 (at 10 ⁻³ mol/L Na ⁺)	pH 2-9 (at 10 ⁻³ mol/L K ⁺)	pH 2-9 (at 10 ⁻³ mol/L NO ₃ ⁻)	pH 4-12 (at 10 ⁻³ mol/L Ca ²⁺)
pH range	pH 3-9 (at 10 ⁻³ mol/L Na ⁺)	pH 2-9 (at 10 ⁻³ mol/L K ⁺)	pH 2-9 (at 10 ⁻³ mol/L NO ₃ ⁻)	pH 4-12 (at 10 ⁻³ mol/L Ca ²⁺)

* Selectivity coefficient is a concentration ratio of the interfering ion against the target ion, which affects the target ion measurement value. For example, selectivity coefficient of potassium ion against sodium ion is 1×10⁻⁵, which means for the same concentration of potassium ion and sodium ion coexisting in a sample, the sodium measurement shows approximately 1×10⁻²(1%) higher result.

Examples for Ion measurement

The graph below depicts the correlation between LAQUAtwin and ion chromatography.



Nitrate Ion Meter for crop B-741



■ Measurement range: 100~9,900 ppm (NO₃⁻), 23~2,200 ppm (NO₃⁻-N)

[Accessories included]
Standard solution for crops(300 ppm & 5000 ppm) (14 mL),
2 CR2032 batteries/Instruction manual/5 Pipettes,
Cleaning solution bottle (250 mL),
Crop sample press, 3 Medical cups, Quick manual, Carrying case

Nitrate Ion Meter for soil B-742



■ Measurement range: 30~600 ppm (NO₃⁻), 6.8~140 ppm (NO₃⁻-N), 3.4~68 mg/10a (NO₃⁻-N)

[Accessories included]
Standard solution for soil (30 ppm, 300 ppm) (14 mL),
2 CR2032 batteries,Instruction manual/5 Pipettes,
Cleaning solution bottle (250 mL),
3 Extraction bottles (100 mL),
2 sets of spoon for soil sampling, Tweezers,
Sampling sheetB, 2 Sampling sheet holders,
Quick manual, Carrying case