Acidity, Alkalinity, Ascorbic Acid

HI 3820 - *Acidity*

HI 3811 - *Alkalinity*

HI 3850 - *Ascorbic Acid*

Parameter	Code	Method	Range*	Smallest Increment	Chemical Method	Number of Tests	Weight
Acidity	**HI 3820**	Titration	0-100 mg/L	1 mg/L	Methyl-orange/	approx. 110	910 g
(as $CaCO_3$)			0-500 mg/L	5 mg/L	Phenolphthalein		
Acidity	**HI 38084**	Titration	0.0-2.5 meq/100 g	0.1 meq/100 g	Potassium Chloride	100	1027 g
Total Exchangeable							
Alkalinity (as $CaCO_3$)							
Phenolphthalein	**HI 3811**	Titration	0-100 mg/L	1 mg/L	Phenolphthalein/	approx. 110	460 g
and Total			0-300 mg/L	3 mg/L	Bromphenol blue		
Total	**HI 38014**	Titration	0-500 gpg	5 gpg	Bromphenol blue	100	363 g
Phenolphthalein	**HI 38013**	Titration	0.0-10.0 gpg	0.1 gpg	Phenolphthalein/	200	865 g
and Total			0.0-20.0 gpg	0.2 gpg	Bromphenol blue		
Ascorbic Acid	**HI 3850**	Titration	10-200 mg/L	10 mg/L	Iodometric	approx. 100	519 g

* 1 mg/L = 1 ppm; 1 gpg = 17 ppm $CaCO_3$

For spare reagents, see section V. For accessories, see section U.

Acidity

Acidity can be caused by mineral or organic acids, or by carbon dioxide as carbonic acid. Acidity of aqueous solutions contributes to corrosiveness and influences the rates of biological processes. For these reasons acidity is monitored in fish farming, soil testing, environmental testing, treated wastewater discharge, lakes and rivers.
The Total Exchangeable Acidity (TEA) measures the total amount of soil acidifiers (hydrogen, aluminum, iron and manganese) in meq/100 g unit, equivalent to 1000 parts per 100 g of soil. A high value of total exchangeable acidity means a low soil pH level. Soil with high acidity can damage some crops.

Alkalinity

This parameter is important in determining the corrosive properties of water, caused by carbonates, bicarbonates and dissolved salts, such as phosphates, silicates and salts of some organic acids.
Testing alkalinity is important in the treatment of drinking water, wastewater, pools, heating and cooling, food and beverage cleaning systems, soil and environmental testing, as well as in agriculture, farming and fish farming.

Ascorbic Acid

Ascorbic Acid - vitamin C - is used in the food and beverage industry as a supplement in fruit juice, both for its flavor and preservative qualities.
HI 3850 has been specifically designed for analysis of beverages and can be used in drinks with a high content of color, such as fruit juices. The kit uses a titration method. Common interferences in this test are introduced by reducing agents present in the beverage.