



## HI3890

## Total Hardness Control Kit

Hardness, or TH, gives the total concentration of calcium and magnesium salts on: 1°fH / 0.562°dH hardness corresponds to 10 mg/L (ppm) calcium carbonate.

The harder the water, the bigger the risk of calcium and magnesium salt deposits on the walls of pools and spas. On the other hand, water that is too soft can be corrosive.

	°fH	°dH
very soft	0–7	0–4
soft	7–15	4–8
slightly hard	15–25	8–14
medium hard	25–32	14–18
hard	32–42	18–23
very hard	>42	>23

The ideal TH for pool water is between 10 and 20°fH or 5 and 11°dH.

- **Complete setup**

- All required materials are included with the test kit, such as the sample beaker, indicator and buffer.

Specifications	HI3890 Total Hardness (*as CaCO <sub>3</sub> )
Type	titration
Range	0 - 80 TH **
Smallest Increment	1 TH **
Method	calmagite
Ordering Information	HI3890 test kit comes with 30 mL hardness buffer, 10 mL calmagite indicator and 50 mL plastic beaker with cap..

\*\*1°TH = 1°fH = 0.562°dH = 0.7°eH = 0.2 meq/l = 10 mg/l CaCO<sub>3</sub>



## HI3812

## Total Hardness Test Kit

The HI3812 is a titration-based chemical test kit that determines the total hardness concentration in two ranges: 0.0 to 30.0 mg/L and 0 to 300 mg/L. The HI3812 is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents for perform approximately 100 tests.

- **Complete setup**

- All required materials are included with the test kit, such as the sample beaker, indicator and reagent bottles, and plastic syringe.

- **High resolution**

- Readings from 0.0 to 30.0 mg/L are determined to 0.3 mg/L resolution.
- Readings from 0 to 300 mg/L are determined to 3 mg/L resolution.

- **Replacement reagents available**

- There is no need to buy a new kit when reagents are exhausted. The HI3812-100 can be ordered to replace the reagents supplied with the kit.

Specifications	HI3812 Total Hardness (*as CaCO <sub>3</sub> )
Type	titration
Range	0.0-30.0 mg/L (ppm) 0-300 mg/L (ppm)
Smallest Increment	0.3 mg/L (ppm) 3 mg/L (ppm)
Method	EDTA
Number of Tests	100 avg.
Ordering Information	HI3812 test kit comes with 30 mL hardness buffer, 10 mL calmagite indicator, 120 mL EDTA solution, 20 mL plastic beaker with cap, 50 mL plastic beaker with cap and 1 mL syringe with tip.
Reagent	HI3812-100 total hardness (*as CaCO <sub>3</sub> ), 100 tests avg.



## HI38033

## Total Hardness Test Kit

The HI38033 is a titration-based chemical test kit that determines the total hardness concentration within the 0 to 30 grains per gallon (gpg) range. The HI38033 is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents for perform approximately 100 tests.

- **Complete setup**

- All required materials are included with the test kit, such as the sample beaker, plastic pipette, and reagent dropper bottles.

- **High resolution**

- Readings from 0 to 30 gpg are determined to 1 gpg resolution.

- **Replacement reagents available**

- There is no need to buy a new kit when reagents are exhausted. The HI38033-100 can be ordered to replace the reagents supplied with the kit.

Specifications	HI38033 Total Hardness (*as CaCO <sub>3</sub> )
Type	titration
Range	0-30 gpg
Smallest Increment	1 gpg
Method	EDTA
Number of Tests	100 avg.
Ordering Information	HI38033 test kit comes with 30 mL buffer solution, 10 mL calmagite indicator, 75 mL EDTA solution (2), 20 mL plastic beaker with cap and 1 mL plastic pipette.
Reagent	HI38033-100 total hardness (*as CaCO <sub>3</sub> ), 100 tests avg.

\* 1 gpg = 17 ppm CaCO<sub>3</sub>