

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.

### Significance of Use

Water hardness has traditionally been defined as the capacity of water to precipitate soap. The ionic species in the water causing the precipitation was later found to be primarily calcium and magnesium. Thus, water hardness is actually a quantitative measure of these ions in the water. It is also now known that certain other ion species, such as iron, zinc, and manganese contribute to the overall water hardness. The measure and subsequent control of water hardness is essential to prevent scaling and clogging in water pipes.



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.
<b>Ordering Information</b>	<b>HI3812</b> 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.
<b>Reagent</b>	<b>HI3812-100</b> 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.

### Significance of Use

Water hardness has traditionally been defined as the capacity of water to precipitate soap. The ionic species in the water causing the precipitation was later found to be primarily calcium and magnesium. Thus, water hardness is actually a quantitative measure of these ions in the water. It is also now known that certain other ion species, such as iron, zinc, and manganese contribute to the overall water hardness. The measure and subsequent control of water hardness is essential to prevent scaling and clogging in water pipes.



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.
<b>Ordering Information</b>	<b>HI38033</b> 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.
<b>Reagent</b>	<b>HI38033-100</b> total hardness (*as CaCO <sub>3</sub> ), 100 tests avg.

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HI3840

## Total Hardness Test Kit

### Low Range

The HI3840 is a titration-based chemical test kit that determines the total hardness concentration within the 0 to 150 mg/L range. The HI3840 is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents to perform approximately 50 tests.

- **Complete setup**
  - All required materials are included with the test kit, such as the sample beaker and reagent dropper bottle.
- **High resolution**
  - Readings from 0 to 150 mg/L are determined to 5 mg/L resolution.
- **Replacement reagents available**
  - There is no need to buy a new kit when reagents are exhausted. The HI3840-050 can be ordered to replace the reagents supplied with the kit.

### Significance of Use

Water hardness has traditionally been defined as the capacity of water to precipitate soap. The ionic species in the water causing the precipitation was later found to be primarily calcium and magnesium. Thus, water hardness is actually a quantitative measure of these ions in the water. It is also now known that certain other ion species, such as iron, zinc, and manganese contribute to the overall water hardness. The measure and subsequent control of water hardness is essential to prevent scaling and clogging in water pipes.

Specifications	HI3840 Total Hardness (*as CaCO <sub>3</sub> )
Type	titration
Range	0-150 mg/L (ppm)
Smallest Increment	5 mg/L (ppm)
Method	EDTA
Number of Tests	50 avg.
<b>Ordering Information</b>	<b>HI3840</b> test kit comes with 30 mL hardness LR reagent and 50 mL calibrated vessel.
<b>Reagent</b>	<b>HI3840-050</b> total hardness LR (*as CaCO <sub>3</sub> ), 50 tests avg.

HI3841

## Total Hardness Test Kit

### Medium Range

The HI3841 is a titration-based chemical test kit that determines the total hardness concentration within the 40 to 500 mg/L range. The HI3841 is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents to perform approximately 50 tests.

- **Complete setup**
  - All required materials are included with the test kit, such as the sample beaker and reagent dropper bottle.
- **High resolution**
  - Readings from 40 to 500 mg/L are determined to 20 mg/L resolution.
- **Replacement reagents available**
  - There is no need to buy a new kit when reagents are exhausted. The HI3841-050 can be ordered to replace the reagents supplied with the kit.

### Significance of Use

Water hardness has traditionally been defined as the capacity of water to precipitate soap. The ionic species in the water causing the precipitation was later found to be primarily calcium and magnesium. Thus, water hardness is actually a quantitative measure of these ions in the water. It is also now known that certain other ion species, such as iron, zinc, and manganese contribute to the overall water hardness. The measure and subsequent control of water hardness is essential to prevent scaling and clogging in water pipes.

Specifications	HI3841 Total Hardness (*as CaCO <sub>3</sub> )
Type	titration
Range	40-500 mg/L (ppm)
Smallest Increment	20 mg/L (ppm)
Method	EDTA
Number of Tests	50 avg.
<b>Ordering Information</b>	<b>HI3841</b> test kit comes with 30 mL hardness MR reagent and 50 mL calibrated vessel.
<b>Reagent</b>	<b>HI3841-050</b> total hardness MR (*as CaCO <sub>3</sub> ), 50 tests avg.

HI3842

## Total Hardness Test Kit

### High Range

The HI3842 is a titration-based chemical test kit that determines the total hardness concentration within the 400 to 3000 mg/L range. The HI3842 is supplied with all of the necessary reagents and equipment to perform the analysis. The test kit contains enough reagents to perform approximately 50 tests.

- **Complete setup**
  - All required materials are included with the test kit, such as the sample beaker and reagent dropper bottle.
- **High resolution**
  - Readings from 400 to 3000 mg/L are determined to 100 mg/L resolution.
- **Replacement reagents available**
  - There is no need to buy a new kit when reagents are exhausted. The HI3842-050 can be ordered to replace the reagents supplied with the kit.

### Significance of Use

Water hardness has traditionally been defined as the capacity of water to precipitate soap. The ionic species in the water causing the precipitation was later found to be primarily calcium and magnesium. Thus, water hardness is actually a quantitative measure of these ions in the water. It is also now known that certain other ion species, such as iron, zinc, and manganese contribute to the overall water hardness. The measure and subsequent control of water hardness is essential to prevent scaling and clogging in water pipes.

Specifications	HI3842 Total Hardness (*as CaCO <sub>3</sub> )
Type	titration
Range	400-3000 mg/L (ppm)
Smallest Increment	100 mg/L (ppm)
Method	EDTA
Number of Tests	50 avg.
<b>Ordering Information</b>	<b>HI3842</b> test kit comes with 30 mL hardness HR reagent and 50 mL calibrated vessel.
<b>Reagent</b>	<b>HI3842-050</b> total hardness HR (*as CaCO <sub>3</sub> ), 50 tests avg.

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