

# HI 93719 • HI 93720

Hardness



## Hardness Meters (Mg & Ca)

Water, with exception of distilled water, contains dissolved salts (magnesium and calcium carbonates). The concentration of these salts determines the water hardness, which can be expressed in calcium carbonate or in magnesium carbonate. The sum of these two represents the total hardness level.

The presence of dissolved salts is due to the fact that water often comes from underground sources which are in turn made up of rain water filtered through deep ground layers. Rain water eventually reaches a waterproof flooring and forms a natural tank which is also called the water bearing stratum.

By passing through the various layers of soil and rock, rain water dissolves some of the mineral substances. Hardness is a consequence of the type of rock layers which the water passes through and of its permanence in the water bearing stratum.

In addition, this parameter is also related to the phenomenon of pipe rusting in water heating and cooling systems, reverse osmosis and demineralization plants.

HANNA instruments® offers two different meters to measure magnesium and calcium, results are expressed in CaCO<sub>3</sub> equivalent.

### Specifications

	HI 93719 (Mg Hardness)	HI 93720 (Ca Hardness)
Range	0.00 to 2.00 mg/L	0.00 to 2.70 mg/L
Resolution	0.01 mg/L	0.01 mg/L
Accuracy (@20°C/68°F)	±0.11 mg/L ±5% of reading	±0.11 ±5% of reading
Light Source	LED (Light Emitting Diode) 555 nm	
Light Life	Life of the instrument	
Light Detector	Silicon Photocell	
Battery Type / Life	1 x 9V / approx. 40 hours of continuous use; Auto-off after 10 minutes of non-use	
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing	
Dimensions	180 x 83 x 46 mm (7.1 x 3.3 x 1.8")	
Weight	290 g (10 oz.)	
Method	Adaptation of the Standard Methods for the Examination of Water and Wastewater, 18 <sup>th</sup> ed.	
	EDTA colorimetric method.	Calmagite method. The reaction between Ca and the reagents causes a red tint in the sample
	The reaction between Mg and the reagents causes a violet tint in the sample	

### Accessories

HI 710009	Shockproof rubber boot, blue	HI 93719-01	Reagent kit for 100 tests (Mg Hardness)
HI 710010	Shockproof rubber boot, orange	HI 93719-03	Reagent kit for 300 tests (Mg Hardness)
HI 731318	Tissue for wiping cuvetts (4 pcs)	HI 93720-01	Reagent kit for 100 tests (Ca Hardness)
HI 731321	Measuring cuvet (4 pcs)	HI 93720-03	Reagent kit for 300 tests (Ca Hardness)
HI 93703-50	Cuvet cleaning solution (230 mL)		
HI 731325	Cuvet cap (4 pcs)		

### Ordering Information

HI 93719 is supplied complete with 2 cuvetts, battery and instructions.

HI 93720 is supplied complete with 2 cuvetts, battery and instructions.

For a comprehensive list of accessories, see sections U and V