2026 Hardness Process Analyzer

From Metrohm Process Analytics

Hardness, which is the measurement of the calcium (Ca^{2+}) and magnesium (Mg^{2+}) content, is an important (industrial) application when analyzing water. This is not only to ensure that the water is not too «hard» when coming directly from the tap or a natural spring, but also when it is used in breweries and for other mass-produced beverages. In the production of carbonated beverages, hard water makes it difficult to hold enough CO_2 in solution, so the beverages goes flat more quickly. When tap water is too hard, this will cause scaling of pipes and problems with washing machines and water heaters. The same will happen to other machinery when the water is used in industrial processes.

To measure the hardness content in drinking or potable water, the ideal instrument is the **2026 Hardness process analyzer** from Metrohm Process Analytics. This process analyzer is compact enough to fit in tight spaces and relies on the well-known and proven analytical titration method.

About the Hardness application
Hardness is measured during an EDTA titration, with the inflection point determined via Cu-ISE. Concentrations can range from **mg/L to g/L**.

Benefits for online analysis

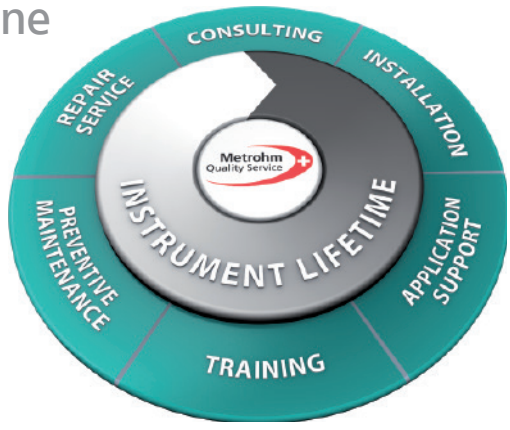
- Protect expensive company assets by monitoring your processes
- Process data available at your fingertips 24/7 means no waiting for slow, manual laboratory methods
- Increased safety for employees – no manual sampling necessary, no exposure to cramped or dangerous environments
- Save money by reducing downtime: analyzer sends alarms for out-of-specification values which inform the operator sooner

Applications for Ca^{2+}/Mg^{2+}

- … in well water / (food/beverages)
- … in drinking water treatment / (potable water)
- … in aluminum production / (steel/metals)
- … in reverse osmosis plants / (energy/power)
- … in cooling water / (chemical)
- … in water for production / (several industries)
- … in wafer production / (semiconductor)

Ca^{2+}/Mg^{2+} analysis performed safely online

- Hardness can be measured in 1 or 2 sample streams
- Compact footprint for tight industrial spaces: 326 × 273 mm
- Safe, rugged enclosure designed to IP66 specifications is ideal for process environments
- A 7" full color touchscreen shows trend graphs and allows action modifications
- Remote access and control via Ethernet and Modbus TCP/IP, with USB for data export
- Easy maintenance due to simplicity of the layout
- Automatic data and/or alarm transfer to a DCS system



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