



## **EZ5011 Total Hardness + Total Alkalinity Analyser**

**Product #:** EZ5011.XXXXXXXXXX  
**ZAR Price:** Contact Hach

### **Online automatic titration of Total Hardness + Total Alkalinity in water**

EZ5000 Series Analysers are multi-parameter titrators that achieve excellent precision and accuracy. Depending on the parameter of interest, the measuring range and the water matrix the EZ5000 Series may use either potentiometry i.e. acid-base, redox or precipitation titration, where the endpoint is determined by a change in a specific variable, or photolorimetry, where colour change is used to determine the endpoint of the titration. The high precision dispenser for addition, robust peristaltic pumps for sampling and drain, and carefully designed liquid pathways all add up to the highest performance for industrial and environmental analysis needs.

#### **Results you can rely on**

Smart automatic features for validation, priming and cleaning are embedded in the controller software and contribute to analytical performance, maximised uptime and negligible operator intervention. Sample lines and analysis vessel are cleaned with demineralised water to eliminate cross contamination between samples. Electronic and wet-chemical part of the analyser are strictly separated. A transparent door allows for instant visual inspection of the wet part.

#### **Flexibility that meets your needs**

EZ Series Alkalinity and Hardness Analysers come in an attractive, ergonomic mainframe with a compact footprint. All hardware is controlled by the integrated industrial panel PC. The modular build allows for the analyser to match your application and operational needs.

- The standard measuring range can be narrowed by a different calibration range or extended via internal dilution options.
- Analogue and digital output options
- Multiple stream analysis for up to 8 sample streams

There are many additional options available. Please contact Hach for more details.

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### **Specifications**

|                      |   |
|----------------------|---|
| Alarm:               | 1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts |
| Ambient Temperature: | 10 - 30 °C ± 4 °C deviation at 5 - 95% relative humidity (non-condensing)             |
| Analogue Outputs:    | Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option)                       |
| Calibration:         | N.A.  |
| Certifications:      | CE compliant / UL certified   |
| Cycle Time:          | 20 - 30 minutes   |

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|---------------------------------|--|
|                                 | 40 minutes (+ Total Hardness Ca)   |
| Demineralised water:            | For rinsing  |
| Digital outputs:                | Optional: Modbus (TCP/IP, RS485)   |
| Dimensions (H x W x D):         | 690 mm x 465 mm x 330 mm   |
| Drain:                          | Atmospheric pressure, vented, min. Ø 32 mm   |
| Earth connection:               | Dry and clean earth pole with low impedance (< 1 Ohm) using an earth cable of > 2.5 mm <sup>2</sup>  |
| Instrument air:                 | Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air   |
| Interferences:                  | Hardness: Some metal ions interfere by causing fading or indistinct end points or by stoichiometric consumption of EDTA. Suspended or colloidal organic matter also may interfere with the end point. Large amounts of colour and turbidity interferes. Fats, oil, proteins, surfactants and tar.<br><br>Alkalinity: Soaps, oily matter, suspended solids or precipitates may coat the glass electrode and cause a sluggish response. Allow additional time between titrant additions to let the electrode come to equilibrium or clean the electrodes occasionally. |
| Lower Limit of Detection (LOD): | Hardness: ≤ 10 mg/L<br><br>Alkalinity: ≤ 10 mg/L   |
| Material:                       | Hinged part: Thermoform ABS, door: PMMA<br><br>Wall section: Galvanised steel, powder coated   |
| Measurement method:             | Acid-base titration (alkalinity only); Calmagite EDTA titration with LED dipping probe (combined)  |
| Measuring range:                | Total Hardness: 25 - 1000 mg/L CaCO <sub>3</sub><br><br>Alkalinity: 40 - 1000 mg/L CaCO <sub>3</sub><br><br>Optional:<br><br>Total Hardness: 10 - 250 mg/L CaCO <sub>3</sub><br><br>Alkalinity: 10 - 250 mg/L CaCO <sub>3</sub><br><br>Total Hardness: 25 - 500 mg/L CaCO <sub>3</sub><br><br>Alkalinity: 20 - 500 mg/L CaCO <sub>3</sub>  |
| Method:                         | Titrimetric  |
| Number of sample streams:       | 1, 2, 4 or 8   |
| Parameter:                      | Hardness, total; Alkalinity, total   |
| Power:                          | 100 - 240 VAC, 50/60 Hz<br><br>Max. power consumption: 120 VA  |
| Precision:                      | Better than 2% full scale range for standard test solutions  |
| Protection Class:               | Protection class: Analyser cabinet: IP44 / Panel PC: IP65  |
| Range:                          | TH: 25 - 1000 mg/L CaCO <sub>3</sub> ; Alk: 20 - 1000 mg/L CaCO <sub>3</sub>   |
| Reagent requirements:           | Keep between 10 - 30 °C  |
| Sample Flow Rate:               | 100 - 300 mL/min   |
| Sample Pressure:                | By external overflow vessel  |
| Sample Quality:                 | Maximum particle size 100 µm, < 0.1 g/L; Turbidity < 50 NTU  |
| Sample Temperature:             | 10 - 30 °C   |

|                   |  |
|-------------------|--|
| Validation:       | Automatic; frequency freely programmable   |
| Warranty:         | 12 months  |
| Weight:           | 25 kg  |
| What's included?: | EZ5011 Total Hardness and Total Alkalinity Analyser, Instruction Manual, 1 x Double Bit Door Key, 1 x Mounting Bracket, 1 x pH Electrode, Routine S7 Connection, 1 x Photometer Probe, 3 x empty 2.5L Reagent Containers with Fittings (Buffer, Acid & Colour Solution) and 2 x empty 10L Reagent Containers with Fittings (EDTA & HCl Solution) |



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