



# EZ5000 Series Online Volumetric Alkalinity and Hardness Analyzers

## Applications

- Wastewater
- Drinking Water
- Power
- Surface Water



## Online automatic titration of Hardness and Alkalinity in water

### Results you can rely on

EZ5000 Series Analyzers 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 color 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.

Smart automatic features for validation, priming and cleaning are embedded in the controller software and contribute to analytical performance, maximized uptime and negligible operator intervention. Sample lines and analysis vessel are cleaned with demineralized water to eliminate cross contamination between samples. Electronic and wet-chemical part of the analyzer 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 Analyzers 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 analyzer 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.
- Analog and digital output options
- Multiple stream analysis for up to 8 sample streams

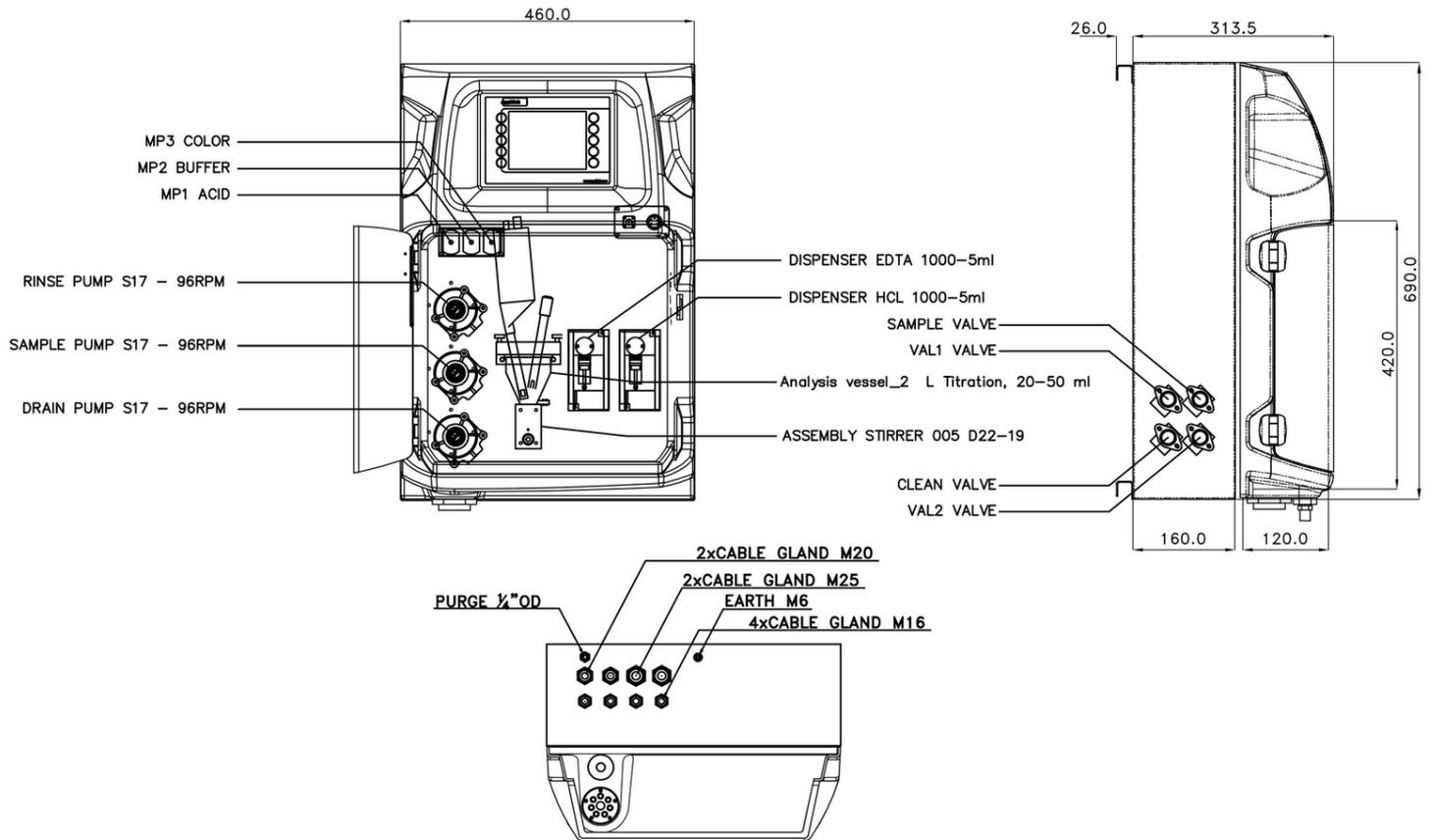
Options for the determination of Alkalinity and Hardness include: Free + Total Alkalinity; Total + Calcium Hardness; Free Alkalinity + Total Hardness; Total Alkalinity + Total Hardness; Free + Total Alkalinity + Total Hardness; Free + Total Alkalinity + Total + Calcium Hardness; Calcium Hardness + Total Alkalinity

## Technical Data\*

<b>Parameter</b>	Total Hardness, Calcium Hardness, Free & Total Alkalinity	<b>Validation</b>	Automatic; frequency freely programmable
<b>Measurement Method</b>	Acid-base titration (alkalinity only); Calmagite EDTA titration with LED dipping probe (combined)	<b>Ambient Temperature</b>	10 - 30 °C ± 4 °C deviation (50 - 86 °F ± 7.2 °F deviation) at 5 - 95% relative humidity (non-condensing)
<b>Range</b>	<p><b>EZ5011</b></p> <p>Total Hardness: 25 - 1000 mg/L CaCO<sub>3</sub> Alkalinity: 40 - 1000 mg/L CaCO<sub>3</sub></p> <p>Optional: Total Hardness: 10 - 250 mg/L CaCO<sub>3</sub> Alkalinity: 10 - 250 mg/L CaCO<sub>3</sub> Total Hardness: 25 - 500 mg/L CaCO<sub>3</sub> Alkalinity: 20 - 500 mg/L CaCO<sub>3</sub></p> <p><b>All other EZ50xx variants</b></p> <p>Total / Calcium Hardness: 25 - 1000 mg/L CaCO<sub>3</sub> Total / Free Alkalinity: 100 - 5000 mg/L CaCO<sub>3</sub></p> <p>Optional: Total / Calcium Hardness: 10 - 100 mg/L CaCO<sub>3</sub> Total / Free Alkalinity: 10 - 500 mg/L CaCO<sub>3</sub> Total / Calcium Hardness: 10 - 250 mg/L CaCO<sub>3</sub> Total / Free Alkalinity: 25 - 1250 mg/L CaCO<sub>3</sub> Total / Calcium Hardness: 25 - 500 mg/L CaCO<sub>3</sub> Total / Free Alkalinity: 50 - 2500 mg/L CaCO<sub>3</sub></p>	<p><b>Reagent Requirements</b></p> <p>Keep between 10 - 30 °C (50 - 86 °F)</p> <p><b>Sample Pressure</b></p> <p>By external overflow vessel</p> <p><b>Sample Flow Rate</b></p> <p>100 - 300 mL/min</p> <p><b>Sample Temperature</b></p> <p>10 - 30 °C (50 - 86 °F)</p> <p><b>Sample Quality</b></p> <p>Maximum particle size 100 µm, &lt; 0.1 g/L; Turbidity &lt; 50 NTU</p> <p><b>Power</b></p> <p>100 - 240 VAC, 50/60 Hz Max. power consumption: 120 VA</p> <p><b>Instrument Air</b></p> <p>Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air</p> <p><b>Demineralized Water</b></p> <p>For rinsing / dilution</p> <p><b>Drain</b></p> <p>Atmospheric pressure, vented, min. Ø 64 mm</p> <p><b>Earth Connection</b></p> <p>Dry and clean earth pole with low impedance (&lt; 1 Ohm) using an earth cable of &gt; 2.5 mm<sup>2</sup></p> <p><b>Analog Outputs</b></p> <p>Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option)</p> <p><b>Digital Outputs</b></p> <p>Optional: Modbus (TCP/IP, RS485)</p> <p><b>Alarm</b></p> <p>1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts</p> <p><b>Protection Class</b></p> <p>Analyzer cabinet: IP55 / Panel PC: IP65</p> <p><b>Material</b></p> <p>Hinged part: Thermoform ABS, door: plexiglass</p> <p>Wall section: Galvanized steel, powder coated</p> <p><b>Dimensions (H x W x D)</b></p> <p>690 mm x 465 mm x 330 mm</p> <p><b>Weight</b></p> <p>25 kg (55 lbs.)</p> <p><b>Certifications</b></p> <p>CE compliant / UL certified</p>	
<b>Precision</b>	Better than 2% full scale range for standard test solutions		
<b>Lower Limit of Detection (LOD)</b>	Hardness: ≤ 10 mg/L Alkalinity: ≤ 10 mg/L		
<b>Interferences</b>	<p>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 color and turbidity interferes. Fats, oil, proteins, surfactants and tar.</p> <p>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.</p>		
<b>Cycle Time</b>	20 - 30 minutes 40 minutes (+ Total Hardness Ca)		
<b>Automatic cleaning</b>	Yes		
<b>Calibration</b>	N.A.		

\*Subject to change without notice.

## Dimensions



## Hach Service

With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.

## Order Information - Part Number Configurator

Total/Free Alkalinity, 100-5000 mg/L	EZ5001.99							
Total Hardness/TH Ca, 100-1000 mg/L	EZ5002.99							
Total Hardness, 25-1000 mg/L, & Free Alkalinity, 100-5000 mg/L	EZ5003.99							
Total Hardness, 25-1000 mg/L, & Total Alkalinity, 100-5000 mg/L	EZ5004.99							
Total Hardness, 25-1000 mg/L, & Total/Free Alkalinity, 100-5000 mg/L	EZ5005.99	X	X	X	X	X		2
Total Hardness/TH Ca, 25-1000 mg/L, & Total/Free Alkalinity, 100-5000 mg/L	EZ5006.99							
Calcium Hardness, 25-1000 mg/L & Total Alkalinity, 100-5000 mg/L	EZ5010.99							
Total Hardness, 25-1000 mg/L, & Total Alkalinity 40-1000 mg/L	EZ5011.99							
<b>Measurement range settings / Dilution options</b>								
10% of standard range		A						
25% of standard range		B						
50% of standard range		C						
Standard range		0						
Internal dispenser dilution (max. factor 100) (only EZ5001, EZ5002)		5						
<b>Power supply</b>								
Standard 100 - 240 VAC, 50/60 Hz							0	
<b>Number of sample streams</b>								
1 stream							1	
2 streams							2	
3 streams							3	
4 streams							4	
5 streams							5	
6 streams							6	
7 streams							7	
8 streams							8	
<b>Outputs</b>								
2x mA								2
3x mA								3
4x mA								4
5x mA								5
6x mA								6
7x mA								7
8x mA								8
Modbus TCP/IP								B
Modbus RS485								C
2x mA + Modbus RS485								F
3x mA + Modbus RS485								G
4x mA + Modbus RS485*								H
1x mA + Modbus TCP/IP								I
2x mA + Modbus TCP/IP								J
3x mA + Modbus TCP/IP								K
4x mA + Modbus TCP/IP*								L
<i>*Combinations of up to 8x mA + Modbus are available.</i>								
No adaption, standard version								0

