

# EZ4000 Series Online Titrimetric Hardness Analyser

## Applications

- Wastewater
- Drinking water
- Power
- Surface water



## Online, automatic titration of chemical parameters in various water monitoring applications

The EZ4000 Series are state of the art titrators built on an industrial analytical platform run by AppliTek's proprietary controller-database software. From 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.

Each and every application starts with the basics: the right titrimetric technique in function of the parameter(s) of interest, the measuring range and the water matrix. The EZ4000 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 photocolourimetry, where colour change is used to determine the endpoint of the titration.

The single-parameter EZ4000 Series combines an unparalleled expertise in online titration with a set of unique analysis, control and communication features in a compact footprint:

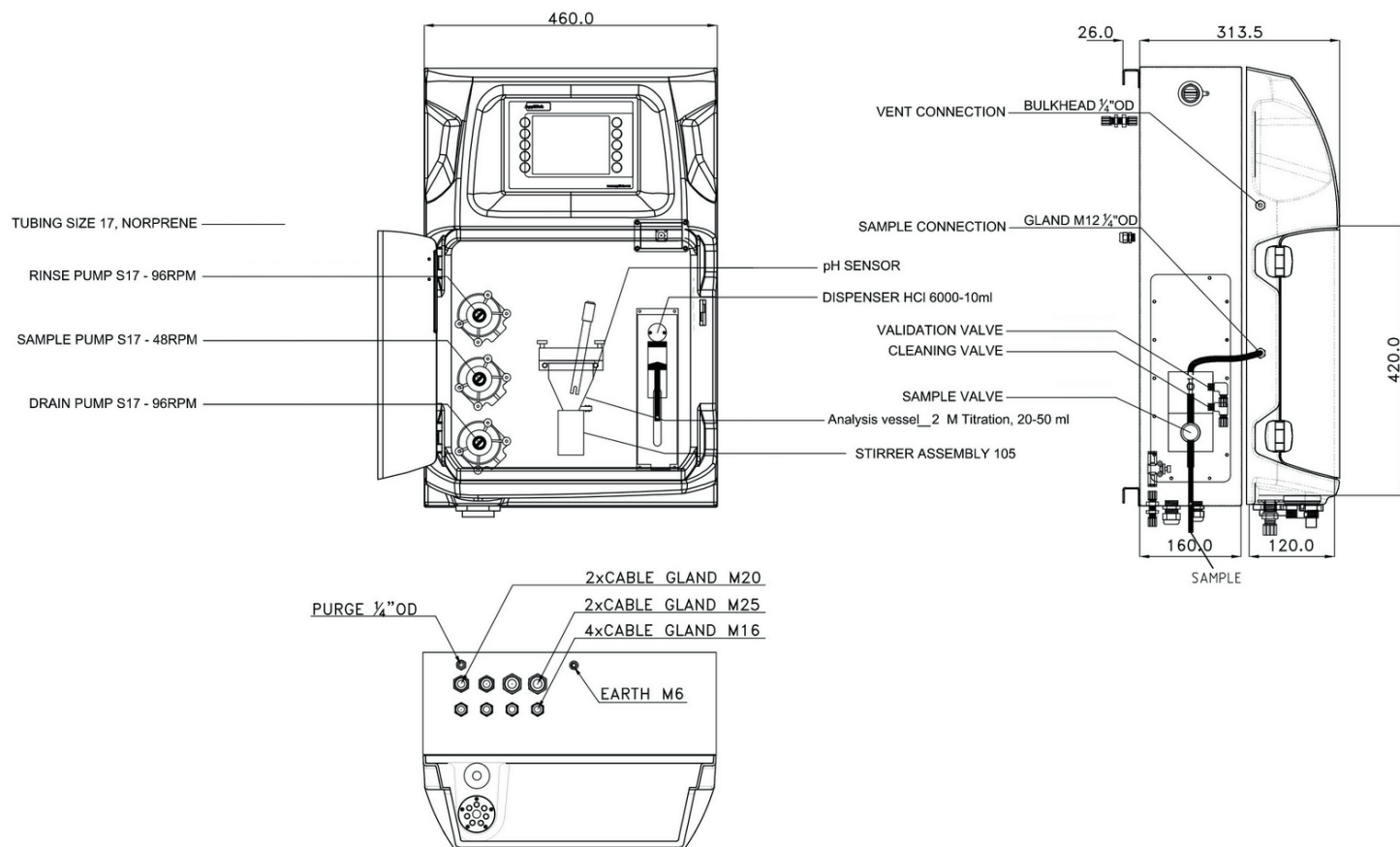
- Unique flexibility in titration methods
- Smart automatic features
- Control and communication via industrial panel PC
- Standard 4 - 20 mA signal output with alarm processing
- Communication supporting Ethernet connectivity to Modbus TCP/IP
- Multiple stream analysis

## Technical Data\*

<b>Parameter</b>	Total Hardness or Calcium Hardness (THCa)
<b>Measurement method</b>	Colorimetric titration by EDTA using colour indicator calmagite at 620 nm (for Total Hardness) Colorimetric titration by EDTA using colour indicator hydroxynaphthol blue at 620 nm (for Ca Hardness)
<b>Measuring range</b>	10 - 1000 mg/L CaCO <sub>3</sub> (TH or THCa) 0.05 - 10 mg/L CaCO <sub>3</sub> (TH)
<b>Precision</b>	Better than 2% full scale range for standard test solutions
<b>Detection limit</b>	≤ 10 mg/L; ≤ 0.05 mg/L (by LED dipping probe)
<b>Interferences</b>	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 interfere. Fats, oil, proteins, surfactants and tar.
<b>Cycle time</b>	10 - 15 minutes
<b>Automatic cleaning</b>	Yes
<b>Calibration</b>	N.A.
<b>Validation</b>	Automatic; frequency freely programmable
<b>Ambient temperature</b>	10 - 30 °C ± 4 °C deviation at 5 - 95% relative humidity (non-condensing)
<b>Reagent requirements</b>	Keep between 10 - 30 °C
<b>Sample pressure</b>	By external overflow vessel
<b>Flow rate</b>	100 - 300 mL/min
<b>Sample temperature</b>	10 - 30 °C
<b>Sample quality</b>	Maximum particle size 100 µm, < 0.1 g/L; Turbidity < 50 NTU
<b>Power</b>	110 - 240 VAC, 4 A, 50/60 Hz Max. power consumption: 150 VA
<b>Instrument air</b>	Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air
<b>Demineralised water</b>	For rinsing purposes (application depending)
<b>Drain</b>	Atmospheric pressure, vented, min. Ø 64 mm
<b>Earth connection</b>	Dry and clean earth pole with low impedance (< 1 Ohm) using an earth cable of > 2.5 mm <sup>2</sup>
<b>Analogue outputs</b>	Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option)
<b>Digital outputs</b>	Optional: RS232, Modbus (TCP/IP, RS485)
<b>Alarm</b>	1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts
<b>Protection class</b>	Analyser cabinet: IP55 / Panel PC: IP65
<b>Material</b>	Hinged part: Thermoform ABS, door: plexiglass Wall section: Galvanised steel, powder coated
<b>Dimensions (H x W x D)</b>	690 mm x 465 mm x 330 mm
<b>Weight</b>	25 kg
<b>Certifications</b>	CE compliant / UL certified

\*Subject to change without notice.

## Dimensions



## Be confident with Hach Service

**Start-Up/Commissioning:** Our service technicians visit your site and setup instrumentation, provide basic end-user training on operations and maintenance, and validate settings and performance to get you started.

**Service Agreement:** Hach provides on-site and in-factory repair, preventive maintenance, and calibration programs for your instruments to ensure reliability and instrument up-time. We have services to fit your specific needs.

## Order Information - Part Number Configurator

Total Hardness, Calmagite/EDTA, 10-1000 mg/L CaCO <sub>3</sub>	EZ4041.99						
Total Hardness, Calmagite/EDTA with LED dipping probe, 0.05-10 mg/L CaCO <sub>3</sub>	EZ4043.99	X	X	X	X	X	2
Calcium Hardness, Hydroxynaphtol Blue/EDTA, 10-1000 mg/L CaCO <sub>3</sub>	EZ4044.99						
<b>Measurement range settings</b>							
10% of standard range		A					
25% of standard range		B					
50% of standard range		C					
Standard range		0					
Customised		Z					
<b>Power supply</b>							
Standard 110 - 240 VAC; 50/60 Hz						0	
Customised						Z	
<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>							
1x mA							1
2x mA							2
3x mA							3
4x mA							4
5x mA							5
6x mA							6
7x mA							7
8x mA							8
RS232							A
Modbus TCP/IP							B
Modbus RS485							C
1x mA + Modbus RS485							E
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
Customised / combined							Z
<b>Specials</b>							
No adaption, standard version							0
Customer specific adaptations required, to specify							S