

EZ4000 SERIES

On-line Titrimetric Analyzers Analysis of Hardness

Applications

- Waste water
- Drinking water
- Power
- Surface water



On-line, 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 photolorimetry, where color change is used to determine the endpoint of the titration.

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

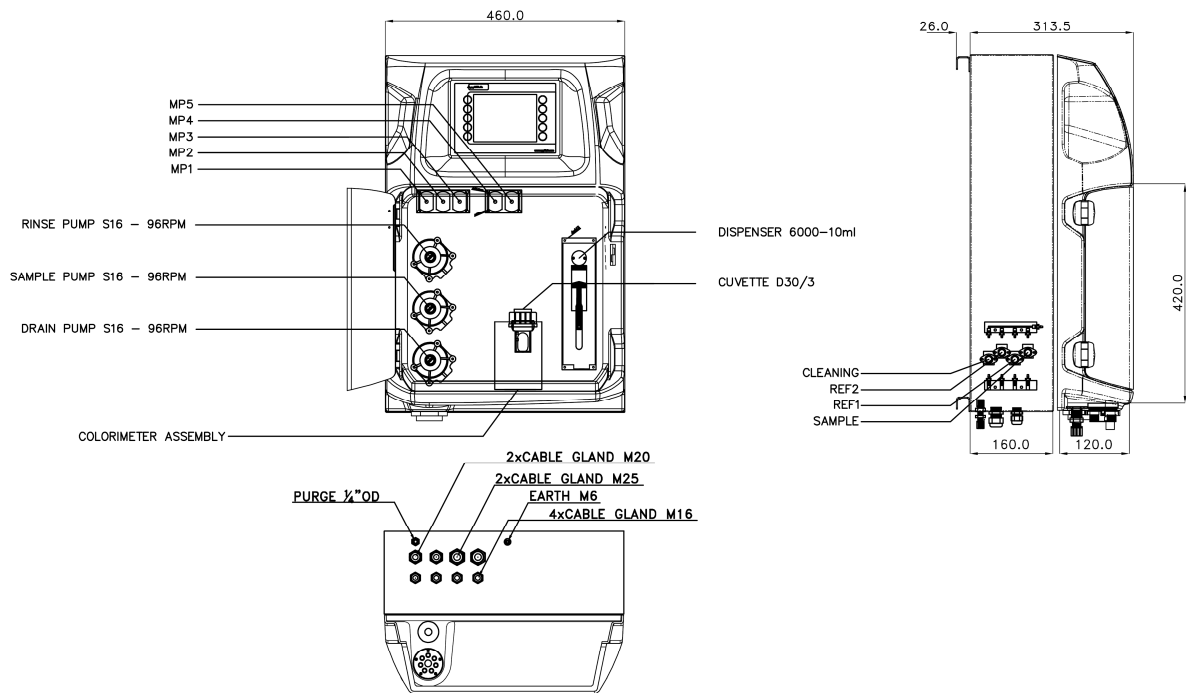
- Unique flexibility in titration methods
- Smart automatic features
- Control and communication via industrial panel PC
- Standard 4 - 20 mA signal output with alarm processing
- Communication ports supporting connectivity to Modbus
- Multiple stream analysis

Technical data*

Analysis method	Colorimetric titration by EDTA using colour indicators calmagite at 610 nm or hydroxynaphthol blue at 620 nm
Parameter	Total hardness (TH) or calcium hardness (THCa)
Measuring range	10 – 1000 mg/L CaCO ₃ (as TH or THCa)
Cycle time	10 – 15 minutes
Limit of quantification (LOQ)	≤ 10 mg/L; ≤ 0.05 mg/L (by LED dipping probe)
Precision/Repeatability	Better than 2% full scale range for standard test solutions
Cleaning	Automatic; frequency freely programmable
Calibration	N.A.
Validation	Automatic; frequency freely programmable
Interferences	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.
Ambient operating conditions	10 °C – 30 °C +/- 4 °C deviation (50 °F – 86 °F +/- 7.2 °F deviation) at 5 - 95% relative humidity non-condensing
Reagent temperature	Keep between 10 °C - 30 °C (50 °F - 86°F)
Sample pressure	By external overflow vessel
Sample flow rate	100 - 300 ml per minute
Other sample requirements	Temperature: 10 °C – 30 °C (50 °F – 86 °F); Maximum size 100 µm, < 0.1 g/l; Turbidity < 50 NTU
Power	220 - 240 VAC, 2 A, 50/60 Hz Max. power consumption: 150 VA; Other voltages available on request
Instrument air	Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air
Demineralized water	For rinsing purposes (application depending)
Drain	Atmospheric pressure, vented, min. Ø 64 mm
Earth connection	Dry and clean earth pole with low impedance (< 1 ohm) using an earth cable of > 2.5 mm ²
Analogue outputs	Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option)
Digital outputs (option)	MODBUS, RS232, RS485
Alarms	1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts
Protection class	Analyzer cabinet: IP55 / Panel PC: IP65
Materials, hinged part	Thermoform ABS, Door: plexiglass
Materials, wall section	Galvanized steel, powder coated
Dimensions (H X W X D)	69 cm (27.2") x 46.5 cm (18.3") x 33 cm (13")
Total weight	25 kg (55 lbs.)
Certification	CE compliant / UL certified
Warranty	2 years

* Subject to change without further notice.

Dimensions - Drawings



Service packages

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.

Contact us to learn about what Hach Service option is right for you.

Order information

EZ4041.99XXXXX	EZ4000 Series, Total hardness, calmagite / EDTA, 0 - 1000 mg/L
EZ4042.99XXXXX	EZ4000 Series, Total hardness, hydroxynaphthol blue / EDTA, 0 - 1000 mg/L
EZ4043.99XXXXX	EZ4000 Series, Total hardness, calmagite / EDTA with LED dipping probe, 0.05 - 10 mg/L
EZ4044.99XXXXX	EZ4000 Series, Calcium hardness, calmagite / EDTA, 0 - 1000 mg/L
EZ4045.99XXXXX	EZ4000 Series, Calcium hardness, hydroxynaphthol blue / EDTA, 0 - 1000 mg/L

All options (see Configurator)

E	Z	4	0	X	X	.	9	9	X	X	X	X	X	2
Measurement range settings / Dilution options														
10% of standard range														
A														
25% of standard range														
B														
50% of standard range														
C														
standard range														
0														
customized														
Z														
power supply														
Standard 110 - 220 VAC ; 50/60 Hz														
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Customized														
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number of sample streams														
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8 streams														
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RS232														
A														
Modbus TCP/IP														
B														
Modbus RS485														
C														
AnaCommDa														
D														
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														
Customized / combined														
Z														
Specials														
no adaption, standard version														
0														
customer specific adaptations required, to specify														
S														