

# EZ4000 Series Sulphate Analysers

## Applications

- Wastewater
- Drinking water
- Surface water



## Online automatic titration of Sulphate in water monitoring applications

### State of the art titration platform

The EZ4000 Series Analysers are single-parameter titrators built on an industrial analytical platform. High precision dispensers, robust peristaltic pumps and carefully designed liquid pathways all add up to the highest performance for industrial and environmental analysis needs.

### Unique flexibility in titration methods

Every application starts with the basics: the right titrimetric technique for the parameter of interest, the measuring range and the water matrix. Depending on the change in the specific variables, the EZ4000 Series run either acid-base, redox, precipitation or photocolometric titration allowing for a unique flexibility.

The EZ4000 Series Sulphate Analysers use colorimetric titration. They combine unparalleled expertise in online titration with a set of unique analysis, control and communication features in a compact footprint:

- Wide standard measuring ranges
- Smart automatic features
- Control and communication via industrial panel PC
- Analogue and digital output options
- Multiple stream analysis (up to 8 streams)

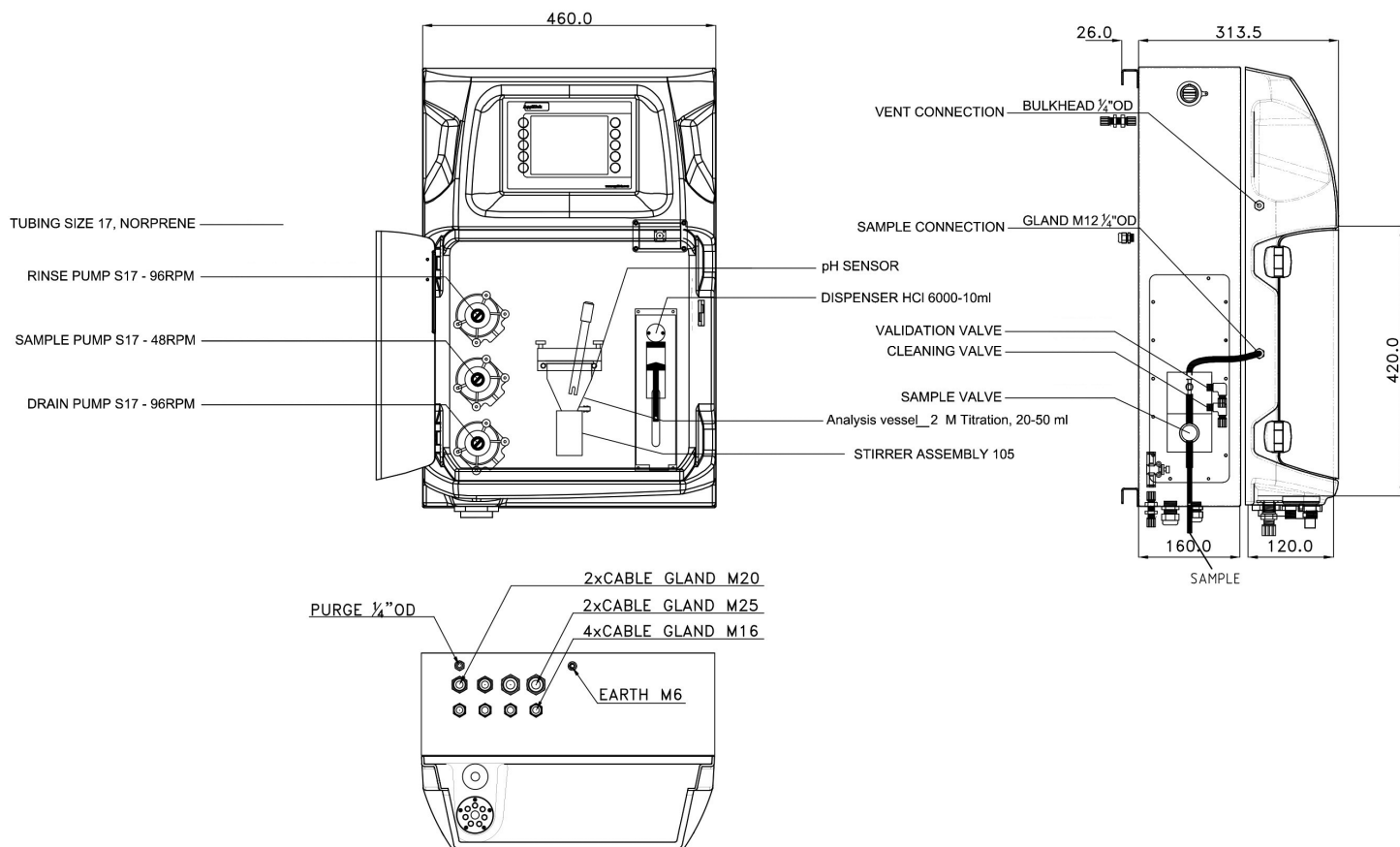
With the EZ4039 (0-200 mg/L) and the EZ4040 (0-2,000 mg/L) there is a selection of standard measuring ranges available to match your application needs.

## Technical Data\*

<b>Parameter</b>	Sulphate
<b>Measurement method</b>	Colorimetric titration by EDTA using colour indicator calmagite at 610 nm after barium sulphate precipitation
<b>Measuring range</b>	0 - 200 mg/L SO <sub>4</sub> <sup>2-</sup> 0 - 2,000 mg/L SO <sub>4</sub> <sup>2-</sup>
<b>Precision</b>	Better than 2% full scale range for standard test solutions
<b>Detection limit</b>	Range 0 - 200 mg/L: ≤ 5 mg/L Range 0 - 2,000 mg/L: ≤ 10 mg/L
<b>Interferences</b>	Some metal ions interfere by causing fading or indistinct end points or by stoichiometric consumption of EDTA. Silica > 500 mg/L interferes. 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>	1 point calibration – blank solution
<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

Standard range, 0-200 mg/L SO <sub>4</sub> <sup>2-</sup>	EZ4039.99	X	X	X	X	X	2
Standard range, 0-2,000 mg/L SO <sub>4</sub> <sup>2-</sup>	EZ4040.99						
<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					
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