

EZ4000 SERIES

On-line Titrimetric Analyzers

Analysis of Sulphide

Applications

- Waste water
- Drinking water
- Surface water



On-line, automatic titration of chemical parameters in various water monitoring applications

State of the art titration platform

The **EZ4000 Series** are built on an industrial analytical platform run by proprietary controller-database software. From the 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 in function of the parameter(s) of interest, the measuring range and the water matrix. Depending on the change in the specific variable, the **EZ4000 Series** run either acid-base, redox, precipitation or photolorimetric 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

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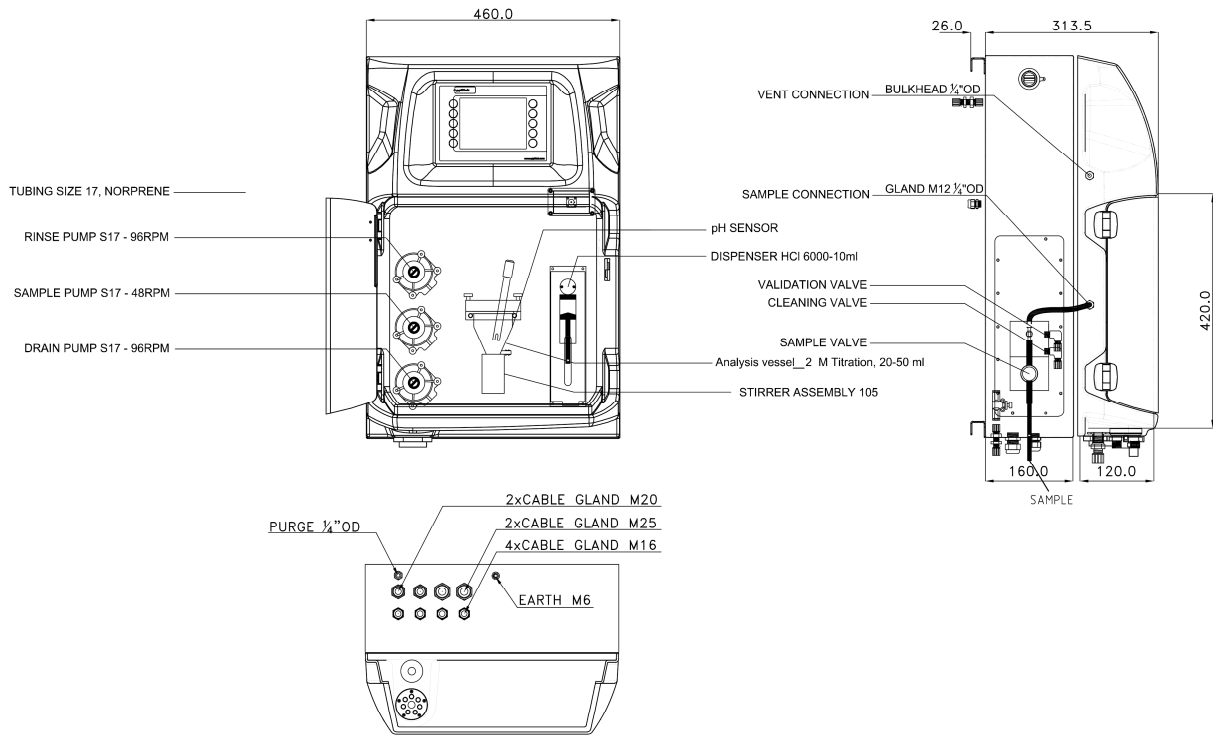
Be Right™

Technical data*

Analysis method	Precipitation titration with silver nitrate (AgNO ₃) or iodine, the latter conform with standard method APHA 4500-S2 (F)
Parameter	Sulphide
Measuring ranges	5 – 500 mg/L S ²⁻ ; 10 – 1,000 mg/L S ²⁻ ;
Cycle time	10 – 15 minutes
Limit of quantification (LOQ)	AgNO ₃ titration: ≤ 5 mg/L Iodine titration: ≤ 10 mg/L
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 (AgNO₃)	Bromide [(Br) ⁻], chloride [(Cl) ⁻], iodide [(I) ⁻] ions may interfere. Fats, oil, proteins, surfactants and tar.
Interferences (iodine)	Oxidized forms of manganese interfere. Strong oxidizing agents such as chlorine [Cl ₂], bromine [Br ₂], chlorine dioxide [ClO ₂], iodine [I ₂], permanganate [MnO ₄], hydrogen peroxide [H ₂ O ₂] and ozone [O ₃]. However reduced forms of these components – bromide [Br ⁻], chloride [Cl ⁻], iodide [I ⁻], manganous ion [Mn ²⁺] and oxygen [O ₂] – do not interfere. Reducing agents such as organic sulphites also interfere. 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	110 - 240 VAC, 4 A, 50/60 Hz Max. power consumption: 150 VA
Instrument air	Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air
Deminerlized 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

EZ4031.99XXXXX EZ4000 Series, Sulphide, 0 – 500 mg/L, AgNO₃ titration
EZ4032.99XXXXX EZ4000 Series, Sulphide, 0 – 1,000 mg/L, iodine titration

All options (see Configurator)

E	Z	4	0	X	X	.	9	9	X	X	X	X	X	2
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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	0
Customized	Z

number of sample streams

1 stream	1
2 streams	2
3 streams	3
4 streams	4
5 streams	5
6 streams	6
7 streams	7
8 streams	8

Outputs

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
Customized / combined	Z

Specials

no adaption, standard version	0
customer specific adaptations required, to specify	S

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