

EZ2000 Series Online Colorimetric Analyzers for Total Manganese

Applications

- Wastewater
- Drinking Water
- Power
- Surface Water



Online colorimetric analysis of Total Manganese in water

Results you can rely on

EZ2000 Total Manganese Analyzers achieve excellent precision and accuracy. At the heart of the colorimeter there is a compact photometer assembly developed especially for the EZ Series. Consumption of reagents is reduced by low volume analysis, yet high sensitivity is assured by a long optical path length. The limit of detection is in the low $\mu\text{g/L}$ range.

EZ2000 Total Manganese Analyzers have an internal digestion unit. This additional step prior to analysis allows to measure non-soluble or complexed metal species.

Smart automatic features for calibration, validation, priming and cleaning are embedded in the controller software and contribute to analytical performance, maximized uptime and negligible operator intervention. Precision micropumps dose all reagents. 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 Manganese 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

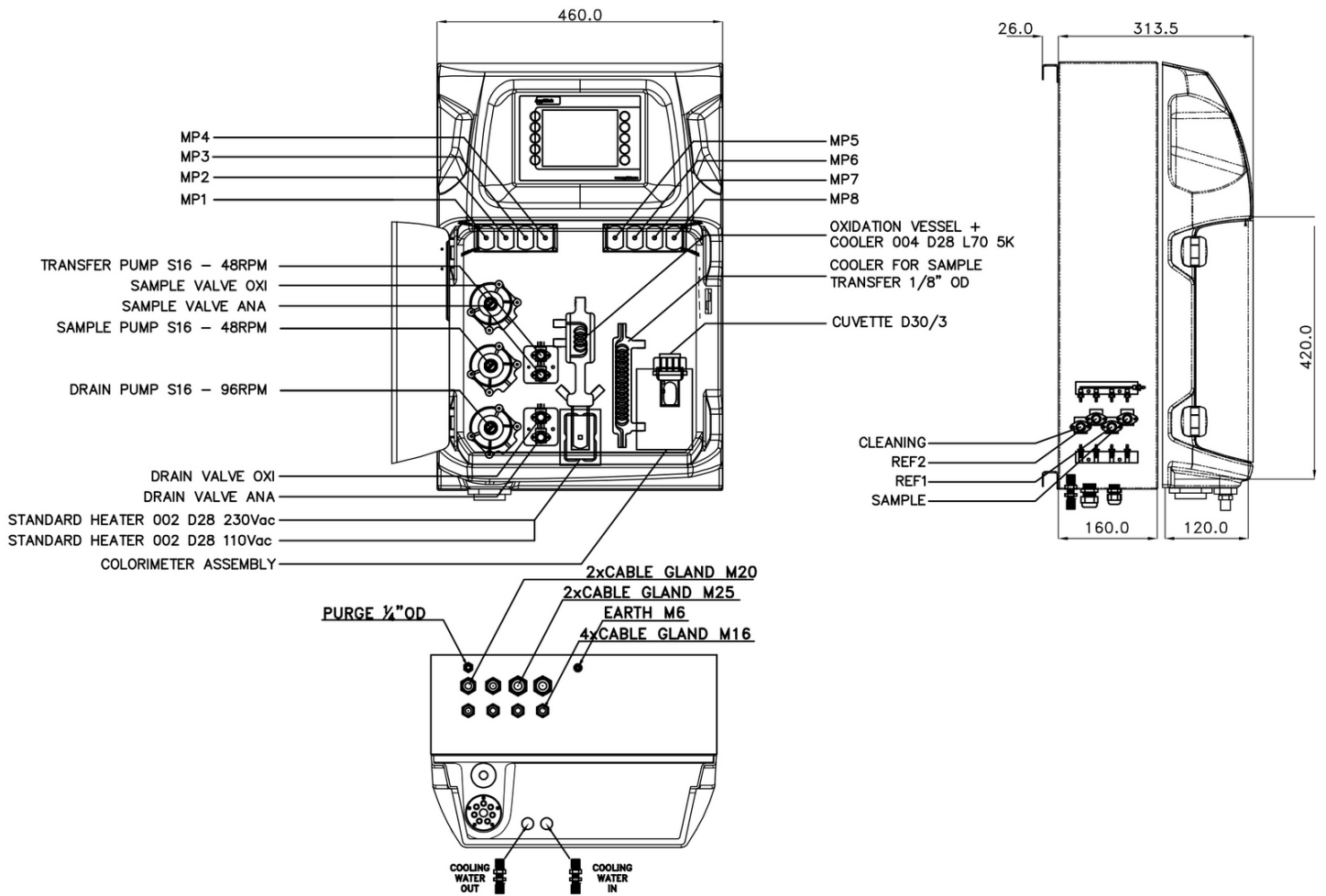
Options for the determination of Manganese include: Total Manganese, Total Manganese & Manganese Mn(II), dissolved

Technical Data*

Parameter	Total Manganese Manganese Mn(II), dissolved
Measurement Method	Colorimetric measurement using formaldoxime method at 450 nm
Range	0.02 - 1 mg/L Mn Optional: 0.004 - 0.1 mg/L 0.01 - 0.25 mg/L 0.01 - 0.5 mg/L 0.16 - 4 mg/L (with internal dilution) 0.32 - 10 mg/L (with internal dilution) 2 - 20 mg/L (with internal dilution) (only EZ2003)
Precision	Better than 2% full scale range for standard test solutions
Lower Limit of Detection (LOD)	≤ 4 µg/L
Interferences	Large amounts of color and turbidity interfere. Fats, oil, proteins, surfactants and tar.
Cycle Time	20 min Total Mn (dilution + 5 min) 30 min Total Mn & Mn(II)
Automatic cleaning	Yes
Calibration	Automatic, 2-point; frequency freely programmable
Validation	Automatic; frequency freely programmable
Ambient Temperature	10 - 30 °C ± 4 °C deviation (50 - 86 °F ± 7.2 °F deviation) at 5 - 95% relative humidity (non-condensing)
Reagent Requirements	Keep between 10 - 30 °C (50 - 86 °F)
Sample Pressure	By external overflow vessel
Sample Flow Rate	100 - 300 mL/min
Sample Temperature	10 - 30 °C (50 - 86 °F)
Sample Quality	Maximum particle size 100 µm, < 0.1 g/L; Turbidity < 50 NTU
Power	220 - 240 VAC, 4 A, 50/60 Hz Max. power consumption: 440 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 / dilution
Drain	Atmospheric pressure, vented, min. Ø 64 mm
Cooling Water	Flow rate approx. 5 L/h; temperature max. 30 °C; pressure max. 0.5 bar
Earth Connection	Dry and clean earth pole with low impedance (< 1 Ohm) using an earth cable of > 2.5 mm ²
Analog Outputs	Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option)
Digital Outputs	Optional: RS232, Modbus (TCP/IP, RS485)
Alarm	1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts
Protection Class	Analyzer cabinet: IP55 / Panel PC: IP65
Material	Hinged part: Thermoform ABS, door: plexiglass Wall section: Galvanized steel, powder coated
Dimensions (H x W x D)	690 mm x 465 mm x 330 mm
Weight	25 kg (55 lbs.)
Certifications	CE compliant / UL certified

*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 Mn, 0.02-1 mg/L	EZ2003.99	X	X	X	X	X	2
Total Mn / Mn(II), 0.02-1 mg/L	EZ2303.99						
Measurement range settings / Dilution options							
10% of standard range		A					
25% of standard range		B					
50% of standard range		C					
Standard range		0					
Internal micropump dilution (factor 4)		1					
Internal micropump dilution (factor 10)		3					
Internal micropump dilution (factor 20) (only EZ2003)		4					
Customized		Z					
Power supply							
220 VAC / 50 Hz			A				
110 VAC / 60 Hz			B				
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