EZ7000 Series

Chemical Oxygen Demand (COD) Analysers

Applications

- Wastewater
- Surface **water**

Online, automatic, wet-chemical determination of COD in wastewater and surface water applications

Bridging traditional chemistry with modern analytics

The **EZ7000 Series** are wet-chemical COD analysers bringing new levels of automation, reliability and performance in measuring COD values in wastewater and surface water. The superior analytical performance is exemplary of their build quality, thanks to the use of high quality components, state of the art wet chemistry and standard smart software features.

Prior to analysis, the sample is oxidised by means of either dichromate or permanganate solution and heat, in accordance with the standard method applied.

The **EZ7000 Series** of online COD Analysers are the answer to the needs of those users who require “true” COD values to quantify organic load in various water applications:

- Wet-chemical COD analysis conform standard methods for dichromate or permanganate destruction
- Built-in sample digestion/oxidation unit
- 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 (up to 8 streams)

DASTEC S.R.L.
Representantes / Distribuidores Autorizados
Argentina
Tel: (+54 11) 5352 2500
Email: info@dastecsrl.com.ar
Web: www.dastecsrl.com.ar
Uruguay www.dastecsrl.com.uy

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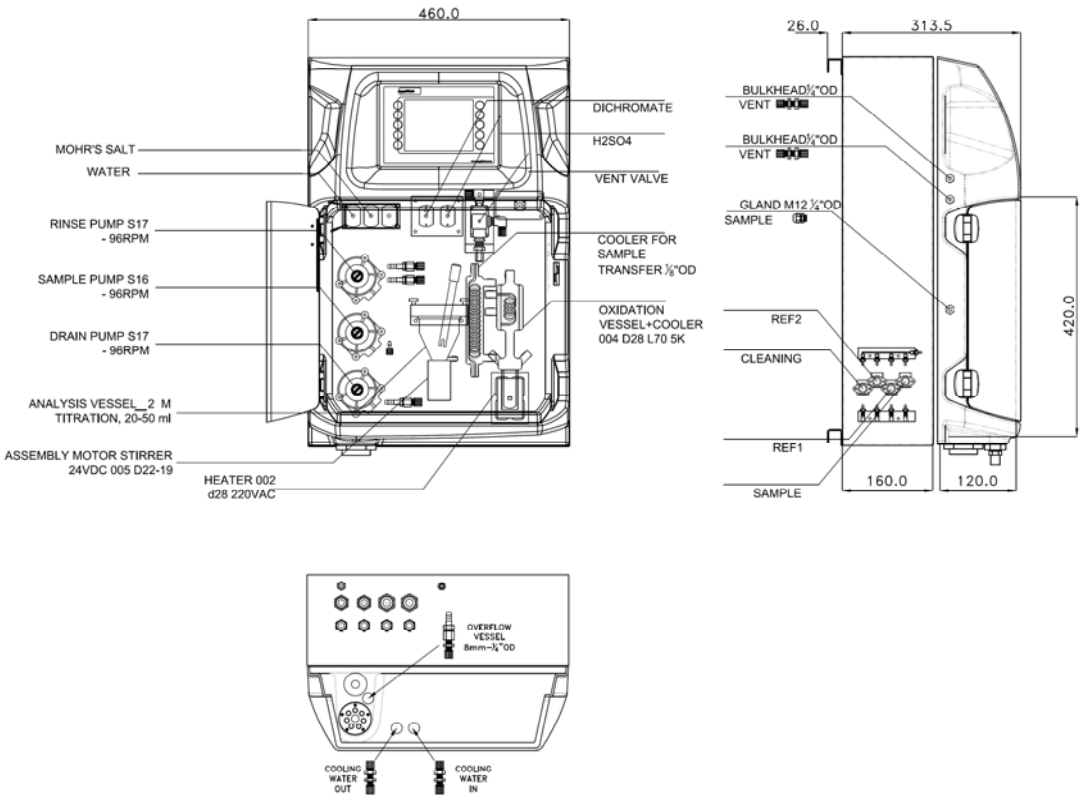
Technical data*

Analysis method	Redox titration after oxidation by acid-potassium dichromate solution, conform with ISO 6060 method or redox titration after oxidation by potassium permanganate solution, conform with ISO 8467 and JIS K0806 methods
Parameter	Chemical Oxygen Demand (COD)
Measuring ranges	Cr destruction: 5 – 100 mg/L; 40 – 500 mg/L; 60 – 1,000 mg/L; 80 – 1,500 mg/L; 100 – 10,000 mg/L O_2 Mn destruction: 0 – 20 mg/L; 20 – 200 mg/L O_2
Cycle time	40 minutes, including oxidation time of 30 minutes. Remark: standard method for Cr destruction requires 120 minutes.
Limit of detection (LOD)	Cr destruction: ≤20 mg/L (range 40 – 500 mg/L) Mn destruction: ≤5 mg/L (range 0 – 20 mg/L)
Precision/Repeatability	Better than 5% full scale range for standard test solutions
Cleaning	Automatic; frequency freely programmable
Calibration	Automatic 2-point; frequency freely programmable
Validation	Automatic; frequency freely programmable
Interferences	Chloride >3 g/L, inorganic reducing agents such as nitrites, sulphides and iron(II) will increase the result, aromatic hydrocarbons and pyridine are not oxidized to any appreciable extent. Some very volatile organic substances may escape the oxidation by evaporation. Straight chain aliphatic compounds are effectively oxidized by the silver sulphate/sulphuric acid solution. 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); particles: max. size 100 µm, <0.1 g/L; turbidity <50 NTU
Power	220 - 240 VAC, 4 A, 50/60 Hz, max. power consumption 440 VA; 110 VAC version also available (see configurator)
Instrument air	Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air
Demineralised water	For rinsing purposes
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	Analyser cabinet: IP55 / Panel PC: IP65
Materials, hinged part	Thermoform ABS, Door: plexiglass
Materials, wall section	Galvanised 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

** 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 – Part Number Configurator

EZ7000.99XXXXX COD, dichromate destruction, 5 – 100 mg/L O_2
EZ7001.99XXXXX COD, dichromate destruction, 40 – 500 mg/L O_2
EZ7002.99XXXXX COD, dichromate destruction, 60 – 1,000 mg/L O_2
EZ7003.99XXXXX COD, dichromate destruction, 80 – 1,500 mg/L O_2
EZ7004.99XXXXX COD, dichromate destruction, 100 – 10,000 mg/L O_2

EZ7050.99XXXXX COD, permanganate destruction, 0 – 20 mg/L O_2
EZ7051.99XXXXX COD, permanganate destruction, 20 – 200 mg/L O_2

E	Z	7	0	X	X	.	9	9	X	X	X	X	X	2

Measurement range settings / Dilution options														
Standard range									0					
Customised									Z					
Power supply														
220 VAC / 50 Hz										A				
110 VAC / 60 Hz										B				
Customised										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		
Customised / combined												Z		
Specials														
No adaption, standard version													0	
Customer specific adaptions required, to specify													S	

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