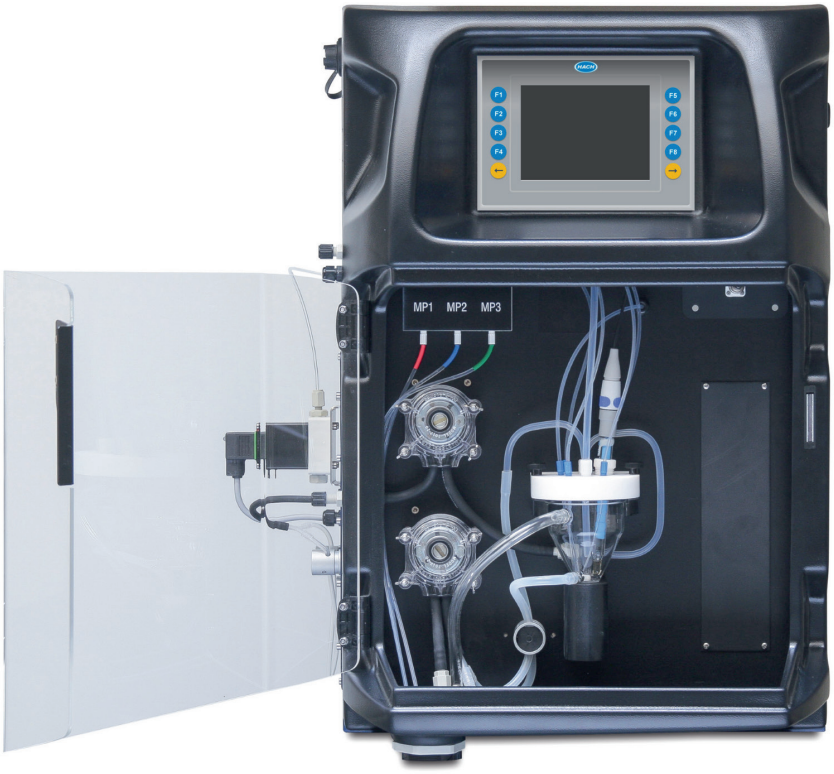
EZ7200 Series
Volatile Fatty Acids Analyser

Applications

- Anaerobic wastewater treatment
- Anaerobic sludge treatment
- Pilot scale anaerobic reactors



Online, automatic monitoring of critical process parameters and process efficiency in anaerobic digesters

A new control alternative for anaerobic digestion

Due to the expensive or time-consuming character of most analysis methods for anaerobic processes, industrial digesters are sometimes not adequately monitored. Developed specifically for monitoring anaerobic digesters, the EZ7200 Series bring the possibility of implementing new control alternatives to typical operating problems in mid to large scale digesters.

Critical parameter monitoring, online and automatic

Anaerobic digesters require monitoring of a specific set of critical parameters in order to obtain optimal production efficiency, compliance and biogas yield. The primary parameter is volatile fatty acids (VFAs), representing the metabolic condition of the anaerobic digester and responding quickly to stress induced changes, combined with bicarbonate and alkalinity.

The EZ7200 Series are easy-to-operate online titrators using a unique and robust method for measuring the critical process parameters in one single run, enabling insight as well as full control over the anaerobic process:

- Direct titration with minimum volatilisation
- Continuous monitoring of the anaerobic process
- Enabling higher loading rate for maximum methane production
- Prevention of digester failure due to VFA accumulation
- Easy implementation within a dynamic control strategy
- Easy integration into corporate networks
- Multiple stream analysis (up to 8 streams)

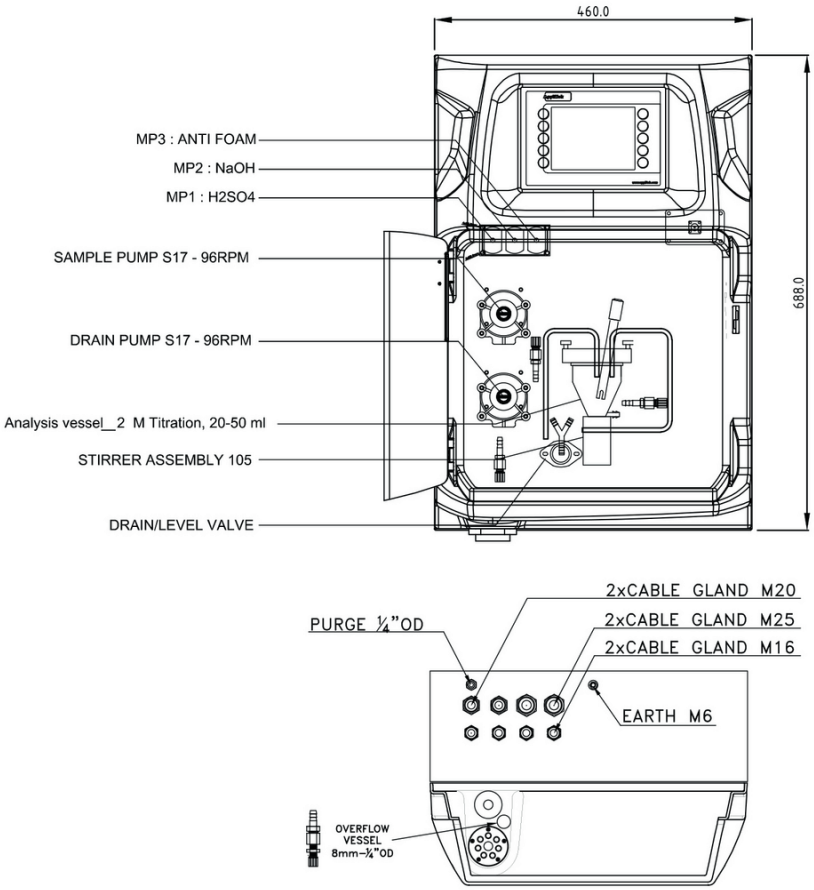
HACH®
Be Right™

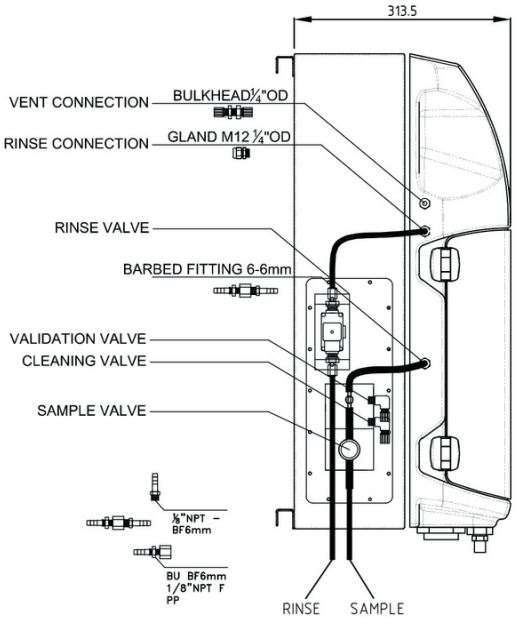
Technical Data*

Parameter	Volatile fatty acids (VFAs), bicarbonate, total alkalinity, partial alkalinity
Measurement method	Acid-base titration
Measuring range	VFA: 10 - 10,000 mg/L as acetate equivalent Bicarbonate: 0 - 100 meq/L or 10,000 mg/L as $CaCO_3$ Total and partial alkalinity: 0 - 100 meq/L or 10,000 mg/L as $CaCO_3$
Precision	Better than 3% full scale range for standard test solutions
Detection limit	≤ 10 mg/L (range 10 - 500 mg/L VFA)
Interferences	Phosphates and similar dissociating ions and non-fatty acids which on acidification from undissociated acids may cause interference. Sulphide may deteriorate some types of pH electrodes. Fats, oil, proteins, surfactants and tar.
Cycle time	10 - 15 minutes
Automatic cleaning	Yes
Calibration	Automatic; frequency freely programmable
Validation	Automatic; frequency freely programmable
Ambient temperature	10 - 30 °C ±4 °C deviation at 5 - 95% relative humidity (non-condensing)
Reagent requirements	Keep between 10 - 30 °C
Sample pressure	By external overflow vessel
Flow rate	100 - 300 mL/min
Sample temperature	10 - 30 °C
Sample quality	Maximum particle size 500 µm, < 0.1 g/L Most applications require the use of an EZ9130 sampling/filtration system.
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
Rinsing	With tap water
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	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	Analyser cabinet: IP55 / Panel PC: IP65
Material	Hinged part: Thermoform ABS, door: plexiglass Wall section: Galvanised steel, powder coated
Dimensions (H x W x D)	690 mm x 465 mm x 330 mm
Weight	25 kg
Certifications	CE compliant / UL certified

**Subject to change without notice.*

Dimensions - Drawings





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

VFA 10-500 mg/L	**EZ7200.99**						
VFA 20-1,000 mg/L	**EZ7201.99**						
VFA 100-5,000 mg/L	**EZ7202.99**						
VFA 500-10,000 mg/L	**EZ7203.99**	**X**	**X**	**X**	**X**	**X**	**2**
VFA 10-500 mg/L; bicarbonate/total & partial alkalinity 0-50 meq/L or 0-5,000 mg/L $CaCO_3$	**EZ7250.99**						
VFA 20-1,000 mg/L; bicarbonate/total & partial alkalinity 0-50 meq/L or 0-5,000 mg/L $CaCO_3$	**EZ7251.99**						
VFA 100-5,000 mg/L; bicarbonate/total & partial alkalinity 0-100 meq/L or 0-10,000 mg/L $CaCO_3$	**EZ7252.99**						
VFA 500-10,000 mg/L; bicarbonate/total & partial alkalinity 0-100 meq/L or 0-10,000 mg/L $CaCO_3$	**EZ7253.99**						

Measurement range settings / Dilution options	
Standard range	0
Customised	Z

Power supply	
Standard 110 - 240 VAC; 50/60 Hz	0
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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