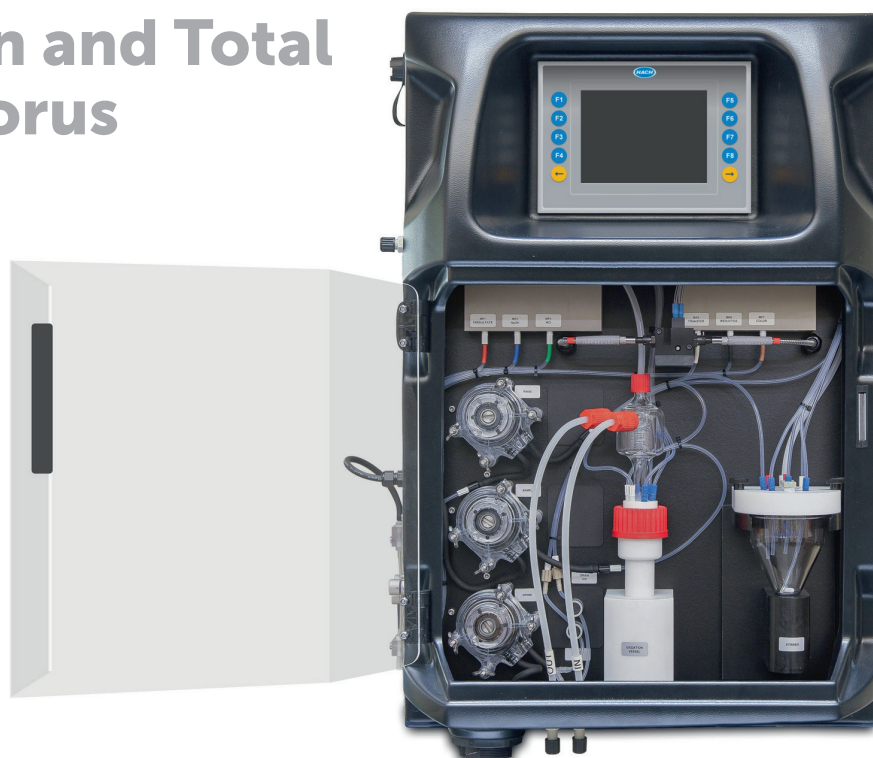


# EZ7600 Series Online Analyser for Total Nitrogen and Total Phosphorus

## Applications

- Wastewater
- Surface water



## Online, automatic monitoring of Total Nitrogen (TN) and Total Phosphorus (TP) in wastewater and general water applications

Similar to the EZ7700 and EZ7800 Series, the EZ7600 Series of Total TN + TP Analysers assure fast, convenient and reliable monitoring of both nutrient sum parameters Total Nitrogen and Total Phosphorus in wastewater and surface water applications.

Traditionally, compliance of waste water effluent with local discharge regulations is assessed by a number of well-known nutrient parameters, such as nitrate ( $\text{NO}_3^-$ ) and soluble phosphate ( $\text{PO}_4^{3-}$ ) concentrations. However, the dynamic nature of nitrogen speciation and phosphorus fractions in treated waste waters and natural waters cannot be underestimated as it may contribute significantly to the total nutrient load of the water body. In addition to regulatory compliance of nutrient levels, online monitoring of either TN or TP may provide deeper insight into the biochemical processes of water treatment operations.

The EZ7600 Series use an analytical mainframe specifically developed for the combined, automatic measurement of Total N and P in water samples. Key to this measurement is the use of AppliTek's proprietary sample digestion technique and a new spectrometer with low drift and excellent signal-to-noise ratio:

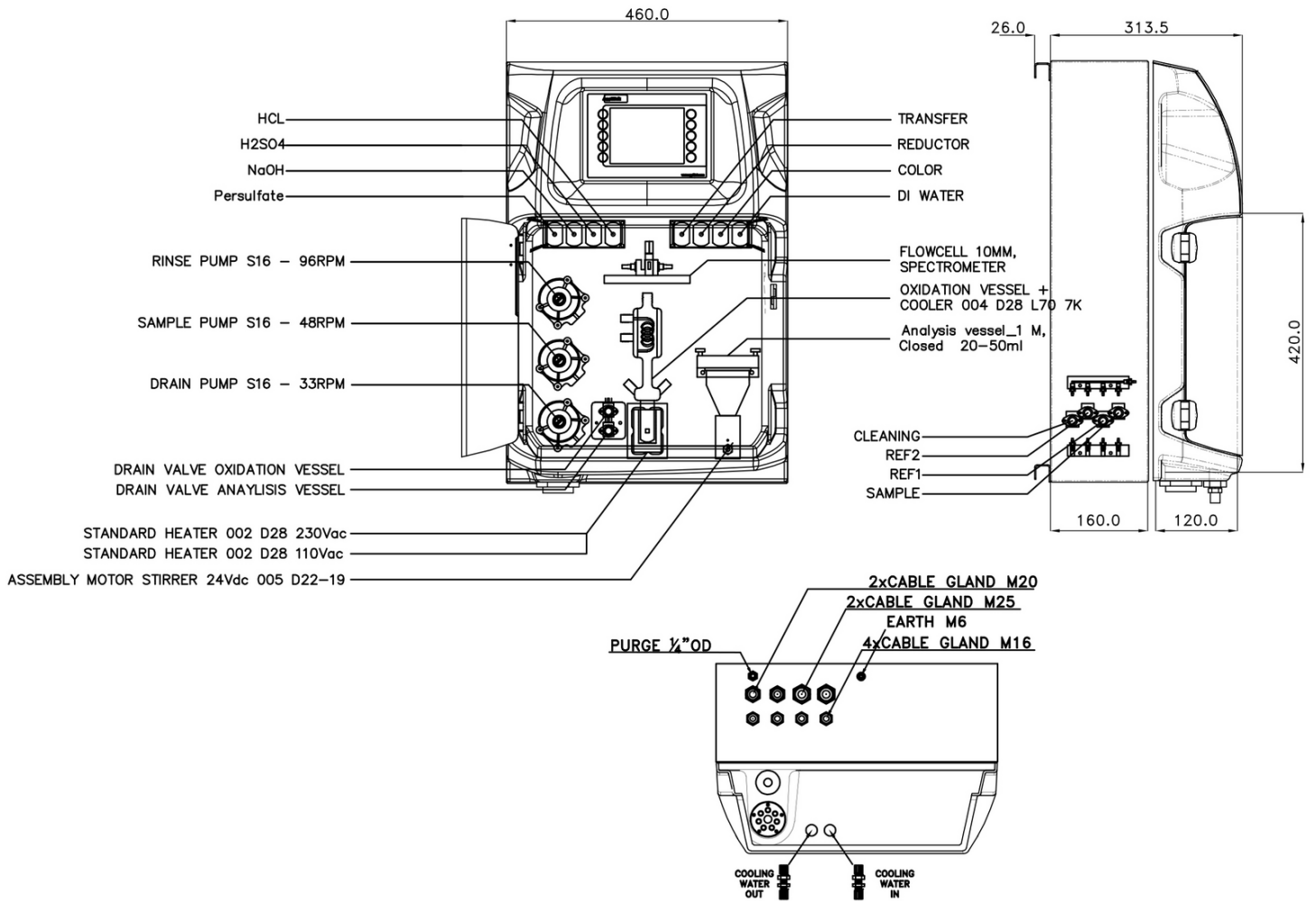
- Combined measurement of all nitrogen components and complexed phosphate
- Compact high-performance spectrometer
- Smart automatic features
- Control and communication via industrial panel PC
- Standard 4 - 20 mA signal output with alarm processing
- Communication supporting Ethernet connectivity to Modbus TCP/IP
- Multiple stream analysis

## Technical Data\*

<b>Parameter</b>	Total N and Total P
<b>Measurement method</b>	TN: UV photometric measurement at 220 nm after persulphate digestion in alkaline medium, conform with APHA 4500-NO <sub>3</sub> (B) TP: Colorimetric measurement at 630 nm using ascorbic acid reduction and molybdate colour solution after persulphate digestion in acidic medium, conform with APHA 4500-P
<b>Measuring range</b>	4 predefined combinations starting from 0 - 2 mg/L TN / 0 - 1 mg/L TP (see page 4)
<b>Precision</b>	Better than 4% (TN) and 2% (TP) full scale range for standard test solutions
<b>Detection limit</b>	TN: ≤ 100 µg/L TP: ≤ 5 µg/L
<b>Interferences</b>	TN: Dissolved organic matter, surfactants, Nitrite, and Chromium (VI) interfere. Various inorganic substances not normally found in natural water, such as Chlorite and Chlorate, may interfere. Turbidity can be compensated by 0.45 µm filtration. TP: Arsenicum (V), Chromium (VI), Copper (II) > 10 mg/L, Iron (III) > 10 mg/L, Sulphide > 2 mg/L, and Vanadium (V), Silica > 60 mg/L. Large amounts of colour and turbidity interfere. Fats, oil, proteins, surfactants and tar.
<b>Cycle time</b>	80 min including digestion of 60 min (standard)
<b>Automatic cleaning</b>	Yes
<b>Calibration</b>	Automatic, 2-point; frequency freely programmable
<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: 440 VA Other voltages available on request
<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
<b>Drain</b>	Atmospheric pressure, vented, min. Ø 64 mm
<b>Cooling water</b>	Flow rate approx. 5 L/h; temperature max. 30 °C; pressure max. 0.5 bar
<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: Modbus RS232, 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 - Part Number Configurator

Total Nitrogen, 0-2 mg/L TN, Total Phosphorus, 0-1 mg/L TP	EZ7600.99						
Total Nitrogen, 0-5 mg/L TN, Total Phosphorus, 0-2 mg/L TP	EZ7601.99	X	X	X	X	X	2
Total Nitrogen, 0-10 mg/L TN, Total Phosphorus, 0-5 mg/L TP	EZ7602.99						
Total Nitrogen, 0-50 mg/L TN, Total Phosphorus, 0-10 mg/L TP	EZ7603.99						
<b>Measurement range settings / Dilution options</b>							
Standard range		0					
Customised		Z					
<b>Power supply</b>							
220 VAC / 50 Hz			A				
110 VAC / 60 Hz			B				
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>							
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	
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