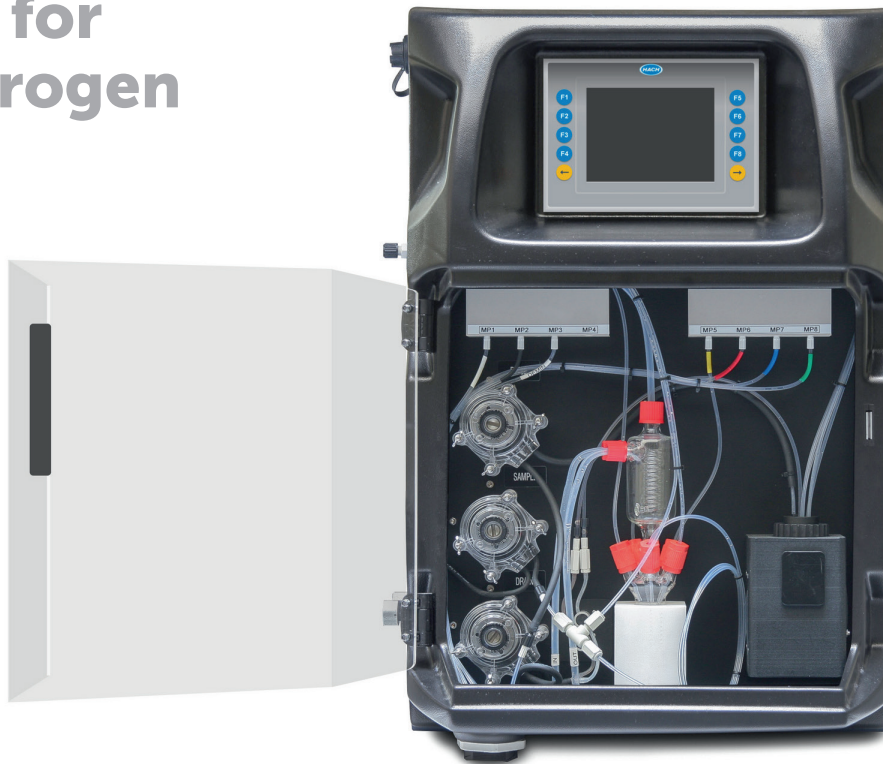


# EZ7700 Series Online Colorimetric Analyser for Total Nitrogen

## Applications

- Wastewater
- Surface water



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

The EZ7700 Series of Online TN Analysers meet the needs for fast, convenient and reliable monitoring of the regulatory sum parameter Total Nitrogen in wastewater and surface water applications.

Ammonia, nitrate and nitrite are three key nitrogen species that play an important role in decomposition of organic material in water and biological water treatment in particular. While data on individual levels of these provide operators of WWTP's insight in the biochemical processes, other organic and inorganic forms of nitrogen may also be of significance. Total Kjeldahl Nitrogen (TKN) was originally developed as a measure of organic nitrogen but in practice it was often considered as synonymous with Total Nitrogen (TN) due to the lack of other available technologies. Still today, TN is often confused with TKN.

The EZ7700 Series of Online TN Analysers were developed in the framework of a research project to provide operators and utilities a viable alternative for the complex and time-consuming TKN method. TN as measured by the EZ7700 comprises all components, organic and inorganic, of the nitrogen cycle by the analyser's proprietary sample digestion technique, now available in an industrial mainframe with a compact footprint:

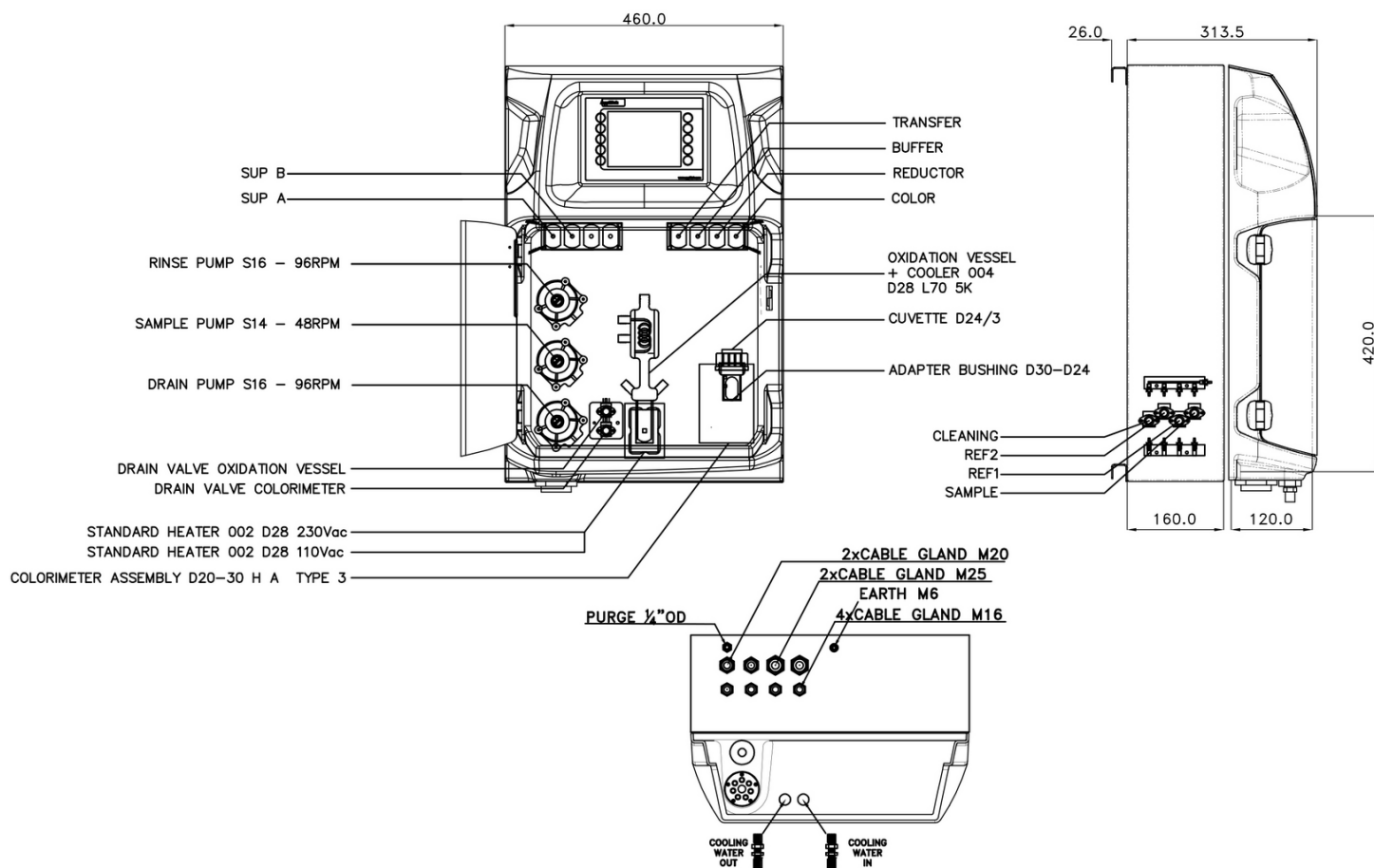
- Full oxidation of nitrogen species according to APHA method
- Smart automatic features
- Control and communication via industrial panel PC
- Standard 4 - 20 mA signal output with alarm processing
- Communication supporting Ethernet connectivity to Modbus TCP/IP
- Multiple stream analysis

## Technical Data\*

<b>Parameter</b>	Total N, NO <sub>3</sub> , NO <sub>2</sub>
<b>Measurement method</b>	Colorimetric measurement at 546 nm using hydrazine reduction and NEDD colour solution after persulphate digestion in alkaline medium, conform with APHA 4500-N
<b>Measuring range</b>	0 - 2 mg/L TN, 0 - 5 mg/L TN, 0 - 10 mg/L TN, 0 - 20 mg/L TN Optional: 0 - 800 µg/L NO <sub>3</sub> , 0 - 600 µg/L NO <sub>2</sub>
<b>Precision</b>	Better than 4% full scale range for standard test solutions
<b>Detection limit</b>	≤ 200 µg/L
<b>Interferences</b>	Antimony (III), Bismuth (III), Chloroplatinate, Gold (III), Iron (III), Lead (II), Mercury (II), Metavanadate, and Silver (I) can precipitate with Nitrate. The presence of Copper (II) may decompose the diazonium salt which results in a low result. Strong oxidising agents. NCl <sub>3</sub> results in a false red colour. Large amounts of colour and turbidity interfere. Fats, oil, proteins, surfactants and tar.
<b>Cycle time</b>	30 min including digestion of 10 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	EZ7700.99						
Total Nitrogen, 0-5 mg/L TN	EZ7701.99						
Total Nitrogen, 0-10 mg/L TN	EZ7702.99	X	X	X	X	X	2
Total Nitrogen, 0-20 mg/L TN	EZ7703.99						
Total Nitrogen, 0-2 mg/L TN / 0-800 µg/L NO <sub>3</sub> / 0-600 µg/L NO <sub>2</sub>	EZ7750.99						
<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>							
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	
<b>Specials</b>							
No adaption, standard version							0
Customer specific adaptations required, to specify							S