

NITRATE COLORIMETRIC ANALYZER

Compact online analyzer for measurement of nitrate in water

APPLICATION FIELDS

- Drinking water
- Process optimisation of wastewater treatment plants
- Industrial and municipal wastewater
- Mineral water monitoring
- Surface water

ADVANTAGES / FEATURES

• Different compartments

To ensure complete separation between the electronics (upper case) and the wet part (lower case).

• High sensitivity for very low measurements

The limit of detection of the analyzer is in the low ppb range.

• Automatic calibration / validation / cleaning

Validation, cleaning and calibration are standard features which significantly reduce downtime and operator intervention ensuring the most accurate results are obtained. Free selectable validation, cleaning and calibration intervals.

• Wide measuring range

The determination ranges of the Nitrate Analyzer vary from trace $\mu\text{g/L}$ to 25.0 mg/L N-NO_3 (80 mg/L NO_3) using an internal dilution module.

• Large color touchscreen

The colorimeter is equipped with a graphic touchscreen interface showing measured values and status information. Easy access to menus and functions. Integrated datalogger with USB download.

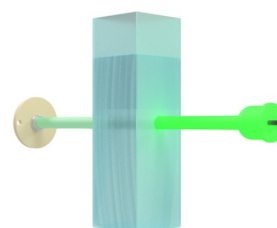


• Factory tested, ready for installation and operation

Just connect the power, sample, and reagent lines and the analyzer is fully operational.

• Measurement principle

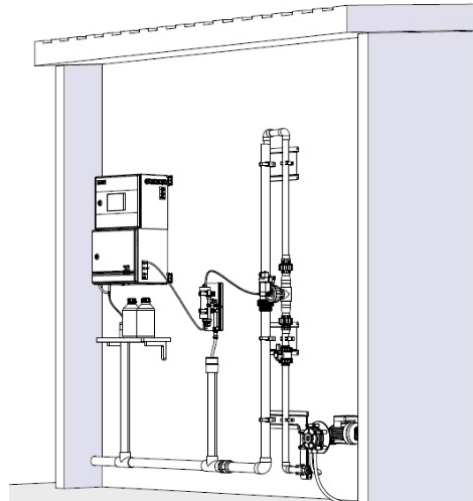
Both hydrazine and copper catalyst reagents are used to reduce nitrate to nitrite in a basic medium inside a heated reaction cell. A sulfanilamide and N-(1-naphthyl)-ethylene diammonium dichloride reagent is added to react with the Nitrite to form a purple colored complex. The absorbance intensity is proportional to the nitrate concentration in the sample and is measured at 525 nm.



TECHNICAL SPECIFICATIONS

Measured parameter	NO ₃ / N-NO ₃ (ppb, ppm, mg/l).
Measuring principle	Differential colorimetric absorbance.
Measuring range	4 - 650 ppb N-NO ₃ (2.2 ppm NO ₃ , 16 mm cell) 2 - 400 ppb N-NO ₃ (1.8 ppm NO ₃ , 26 mm cell) Up to 25 ppm N-NO ₃ (110 ppm NO ₃) with internal dilution
Reproducibility	± 2 ppb or ± 5% whichever is greater (26 mm cell, configuration without dilution) ± 5 ppb or ± 5% whichever is greater (16 mm cell, configuration without dilution)
Analysis Frequency	Freely programmable, batch near-continuous analysis.
Cycle time	13 - 14 minutes, including conditioning before analysis cycle and rinsing after measuring.
Reaction cell	Temperature heated
Sample	Pressure-free vessel Temperature: 5 - 50 °C (41 - 122 °F) Flow Rate: 80 to 500 mL/min Connection: 6 mm (¼-in.)
Drain	Pressure-free, atmospheric drain Connection: 12 mm (½-in.)
N° of streams	1, 2 with integrated switching valve
Dimensions (H x W x D)	604 x 380 x 242 mm (23.6 x 14.8 x 9.4 in)
Weight	Approx. 20 Kg (44 lbs)
Power Supply	Voltage: 100 - 240 VAC 50/60 Hz standard or 24 VDC (option) Power consumption: max. 80 VA
Outputs	2 x 4-20 mA outputs for measured data Modbus RTU RS485
Alarms	2 SPDT programmable potential free relays
Digital Input	Remote start/stop, start extra cycle, skip idle time, emergency stop
Working Temperature	5 - 45 °C (41 - 113 °F)
Humidity	10 to 90% RH (indoor use only)
Installation	Wall mount (standard), bench top support or panel mount (options).
Protection Grade	IP54

INSTALLATION EXAMPLE



The analyzer is easily installed in a minimum amount of wall space.

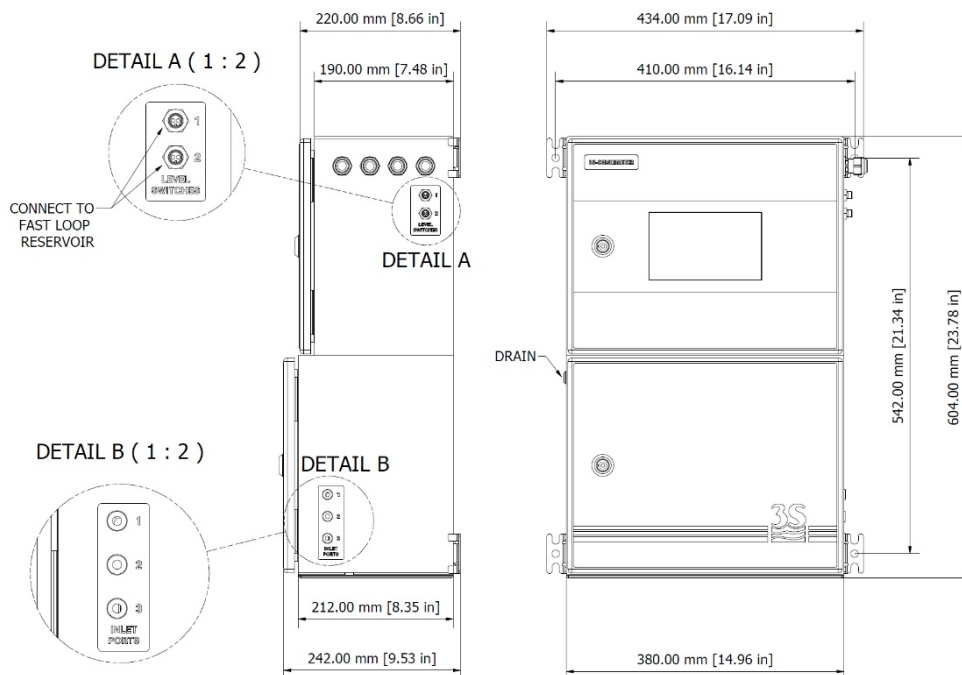
In the picture are included the optional accessories:

- a) A46ERLS000 - Fast Loop external reservoir with level switch
- b) A46SF10020 - Filtration unit 100 micron 230 VAC (other mesh size and input voltages available)
- c) A46SPP0000 - Sampling Pump

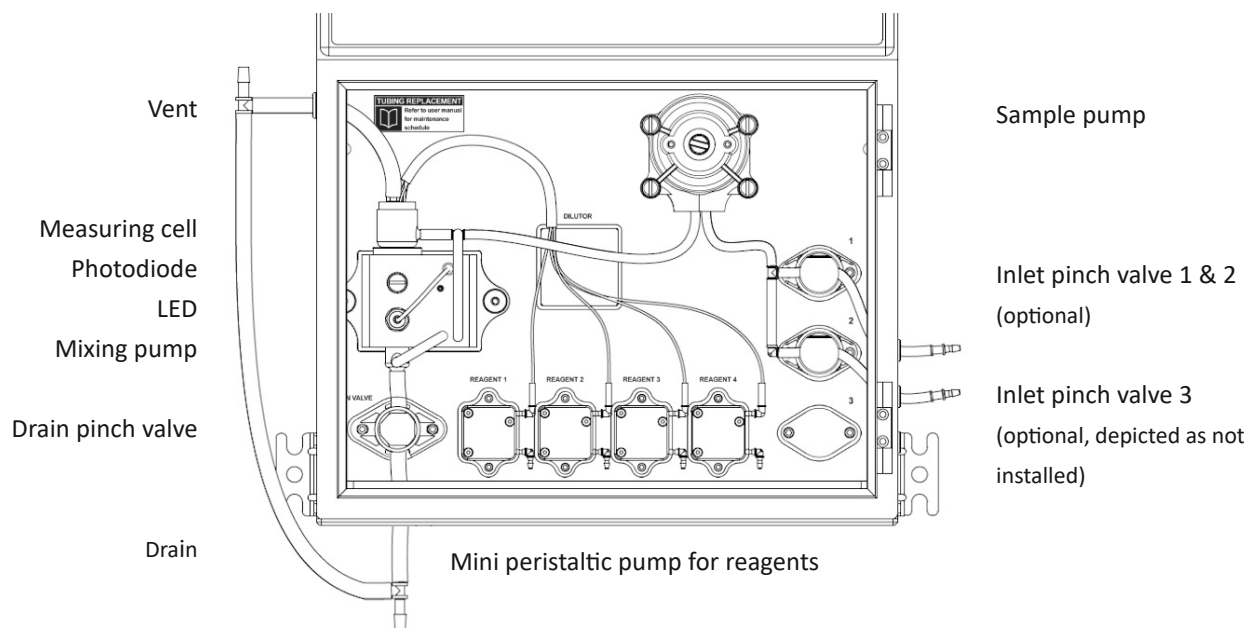
Other accessories, including external dilutors to increase the analyzer range and different kind of sample reservoirs are also available. See our website for more info.



TECHNICAL DRAWING



HYDRAULIC COMPARTMENT VIEW



PRODUCT CODES

CL3-3-525-0-16-NO3	Nitrate Colorimeter, one inlet port, 16 mm cell
CL3-3-525-2-16-NO3	Nitrate Colorimeter, two inlet ports, 16 mm cell
CL3-3-525-3-16-NO3	Nitrate Colorimeter, three inlet ports, 16 mm cell
CL3-3-525-0-26-NO3	Nitrate Colorimeter, one inlet port, 26 mm cell
CL3-3-525-2-26-NO3	Nitrate Colorimeter, two inlet ports, 26 mm cell
CL3-3-525-3-26-NO3	Nitrate Colorimeter, three inlet ports, 26 mm cell