

# 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  $\text{mg/L N-NO}_3$  (80  $\text{mg/L NO}_3$ ) 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.

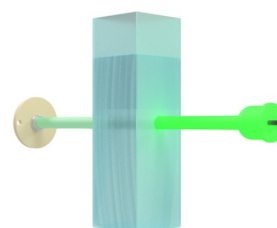


### • Factory tested, ready for installation and operation

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

### • Measurement principle

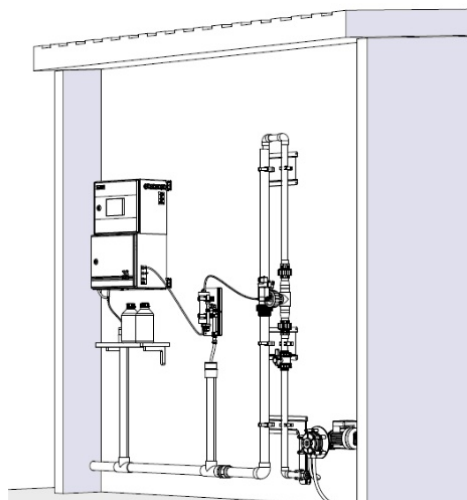
Both hydrazine and copper catalyst reagents are used to reduce nitrate to nitrite in a basic medium inside a heated reaction cell. A sulfanilamide and N-(1-naphthyl)-ethylene diammonium dichloride reagent is added to react with the Nitrite to form a purple colored complex. The absorbance intensity is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



## TECHNICAL SPECIFICATIONS

Measured parameter	NO <sub>3</sub> / N-NO <sub>3</sub> (ppb, ppm, mg/l).
Measuring	Differential colorimetric absorbance.
Measuring range	4 - 650 ppb N-NO <sub>3</sub> (2.08 ppm NO <sub>3</sub> , 16 mm cell) 2 - 400 ppb N-NO <sub>3</sub> (1.28 ppm NO <sub>3</sub> , 26 mm cell) Up to 25 ppm N-NO <sub>3</sub> (80 ppm NO <sub>3</sub> ) 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 3, 4 with external sequencer
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.

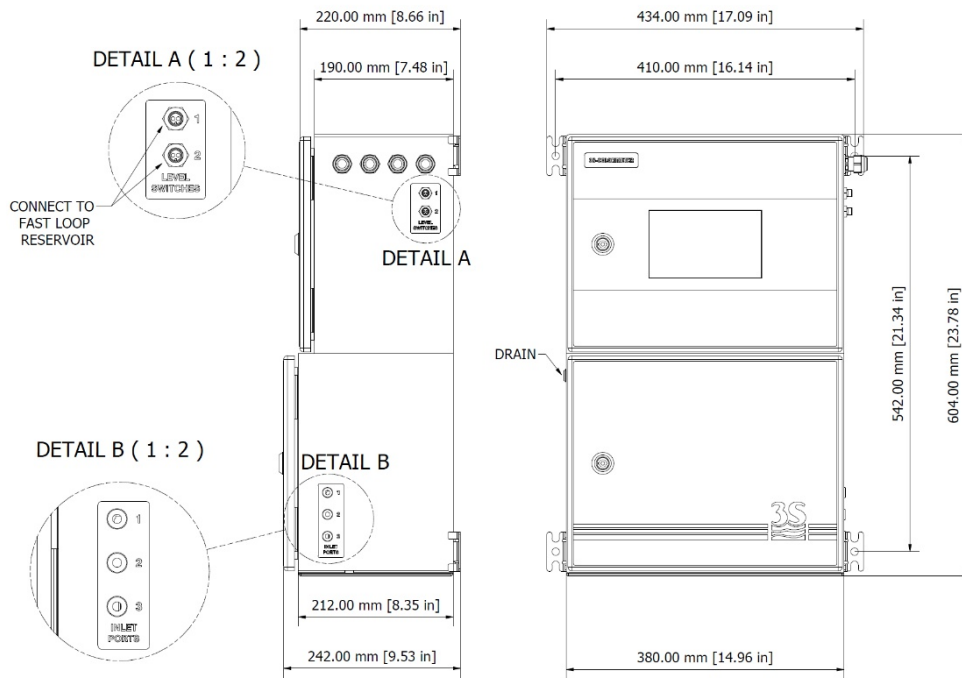
In the picture are included the optional accessories:

- 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

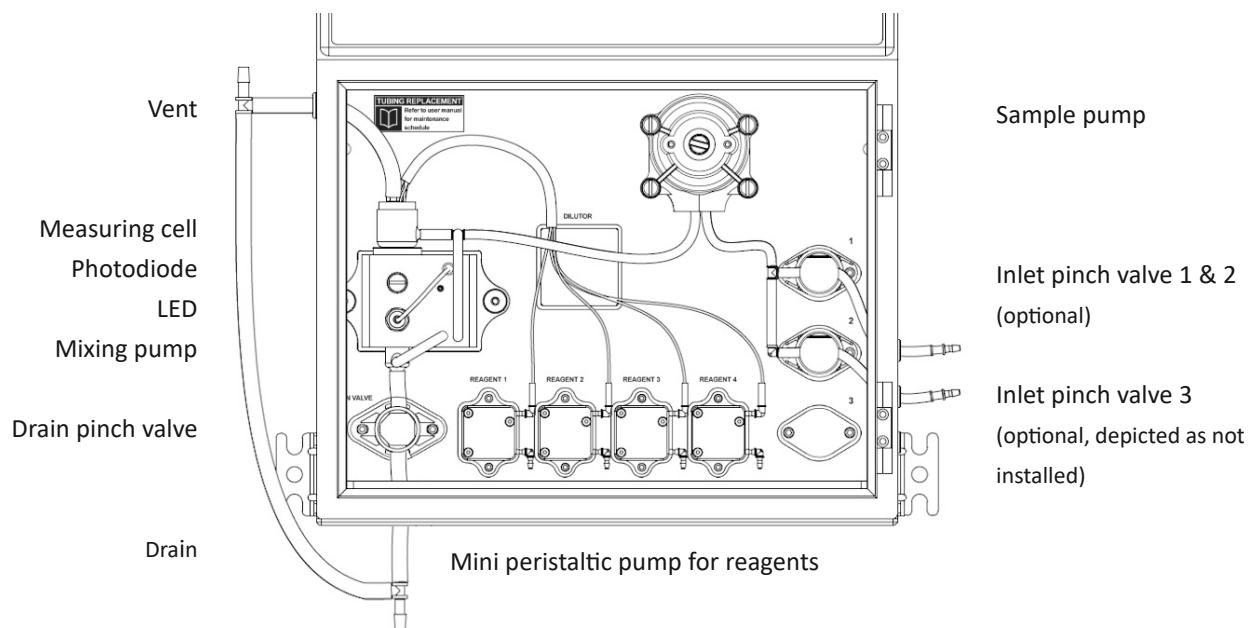
Other accessories, including external dilutors to increase the analyzer range and different kind of sample reservoirs are also available. See our website for more info.



## TECHNICAL DRAWING



## HYDRAULIC COMPARTMENT VIEW



## PRODUCT CODES

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