

# PHOSPHATE YELLOW COLORIMETRIC ANALYZER

Compact online analyzer for measurement of phosphate in water

## APPLICATION FIELDS

- Power Utility
- Cooling water
- Drinking water
- Boiler feedwater
- Industrial and municipal wastewater
- Surface water



## ADVANTAGES / FEATURES

### • Different compartments

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

### • One reagent configuration, low reagent consumption

Minimum operating cost by small reagent consumption, only 2.5 L (0.66 US.gal) for the 16 mm cell / 5 L (1.32 US.gal) for the 26 mm cell of each reagent every 90 days with 15 minute analysis frequency.

### • 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 Phosphate Analyzer vary from trace  $\mu\text{g/L}$  to 2000  $\text{mg/L PO}_4$  using 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.

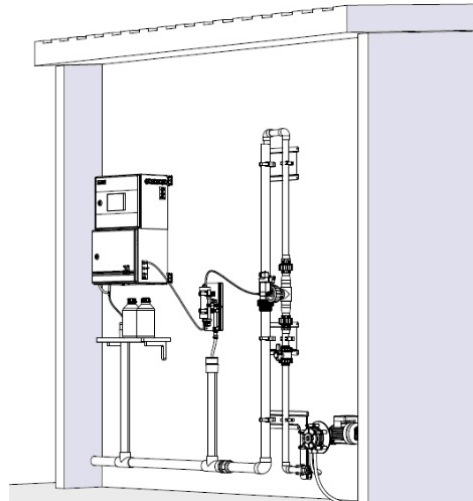
### • Measurement principle

The reagent, containing sodium molybdate and ammonium meta-vanadate in an acid medium, reacts with the orthophosphate to form a yellow coloured phospho-vanado-molybdate compound. The absorbance intensity is proportional to the phosphate concentration in the sample and is determined at 430 nm.

## TECHNICAL SPECIFICATIONS

Measured parameter	PO <sub>4</sub> / P-PO <sub>4</sub> (ppb, ppm, mg/l). Phosphates / reactive phosphorus
Measuring principle	Differential colorimetric absorbance. Yellow method.
Measuring range	0.05 to 10 ppm P-PO <sub>4</sub> (30 ppm PO <sub>4</sub> ) for the 26 mm cell 0.1 to 16 ppm P-PO <sub>4</sub> (50 ppm PO <sub>4</sub> ) for the 16 mm cell Up to 640 ppm P-PO <sub>4</sub> (2000 ppm PO <sub>4</sub> ) with internal dilution.
Reproducibility	± 200 ppb or ± 5%, whichever is greater (26 mm cell) ± 500 ppb or ± 5%, whichever is greater (16 mm cell).
Analysis Frequency	Freely programmable, batch near-continuous analysis.
Cycle time	8-10 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.

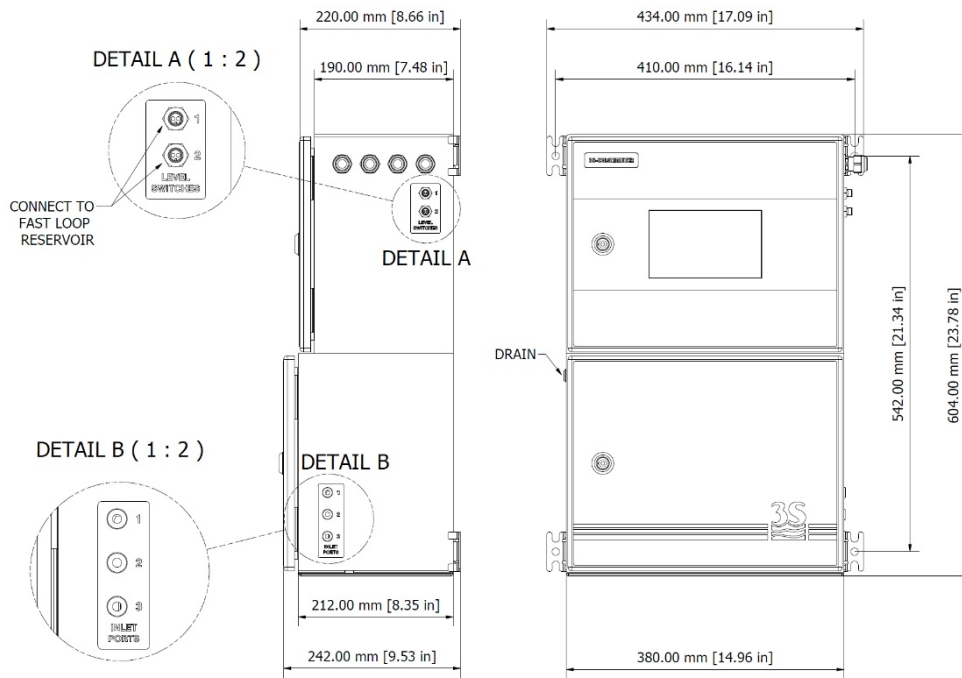
In the picture are included the optional accessories:

- 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

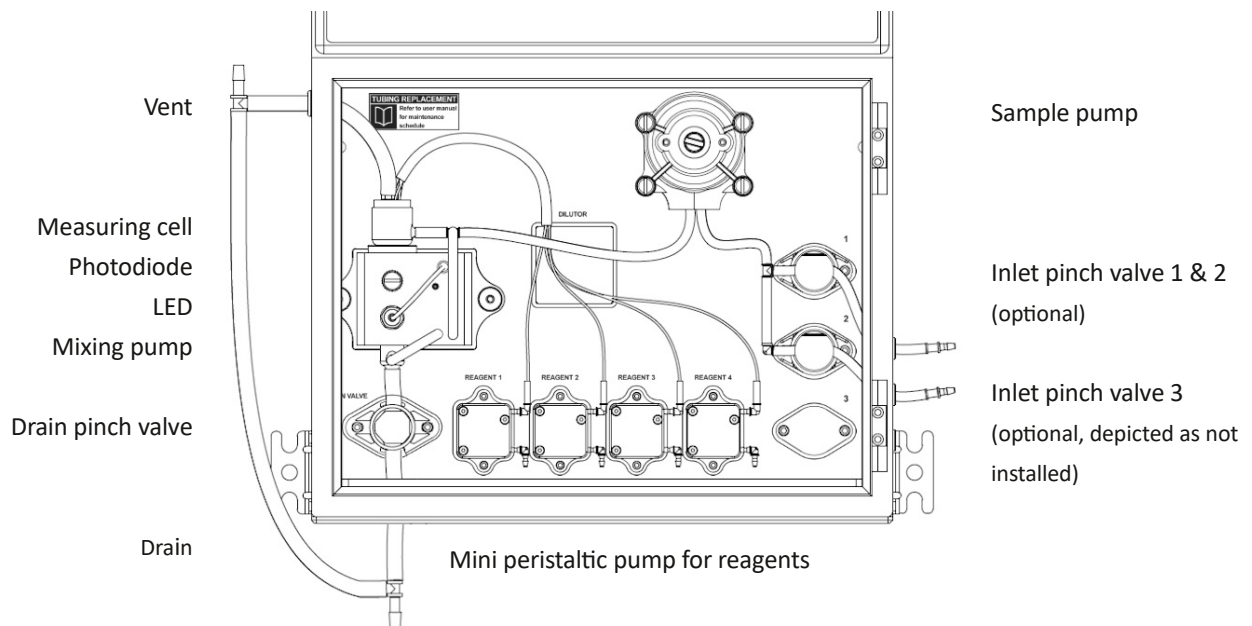
Other accessories, including external dilutors to increase the analyzer range and different kind of sample reservoirs are also available. See our website for more info.



## TECHNICAL DRAWING



## HYDRAULIC COMPARTMENT VIEW



## PRODUCT CODES

CL3-1-430-0-16-PO4	Colorimeter Phosphate Yellow, one inlet port, 16 mm cell
CL3-1-430-2-16-PO4	Colorimeter Phosphate Yellow, two inlet ports, 16 mm cell
CL3-1-430-3-16-PO4	Colorimeter Phosphate Yellow, three inlet ports, 16 mm cell
CL3-1-430-0-26-PO4	Colorimeter Phosphate Yellow, one inlet port, 26 mm cell
CL3-1-430-2-26-PO4	Colorimeter Phosphate Yellow, two inlet port, 26 mm cell
CL3-1-430-3-26-PO4	Colorimeter Phosphate Yellow, three inlet port, 26 mm cell