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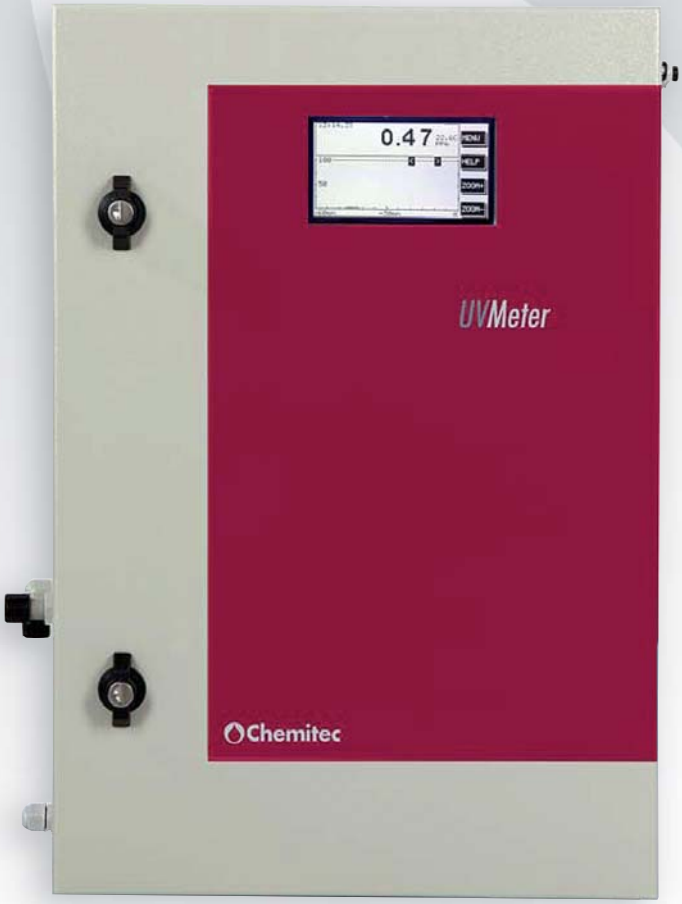


Analysers

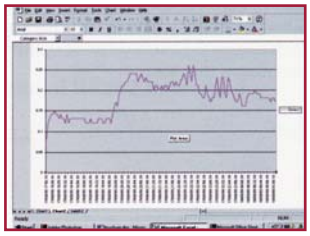
UV meter

On-line Analysers

General Features

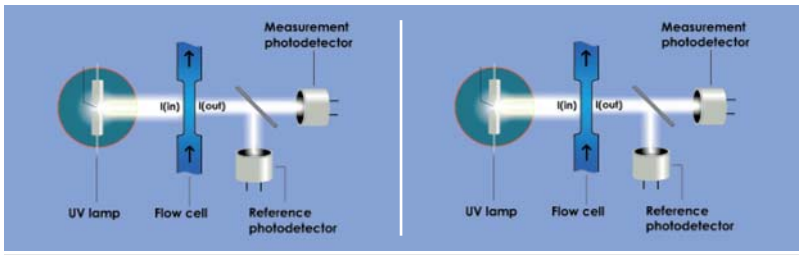
- Touch-Screen Display Control

- "Long life" UV lamp with 10 years operation

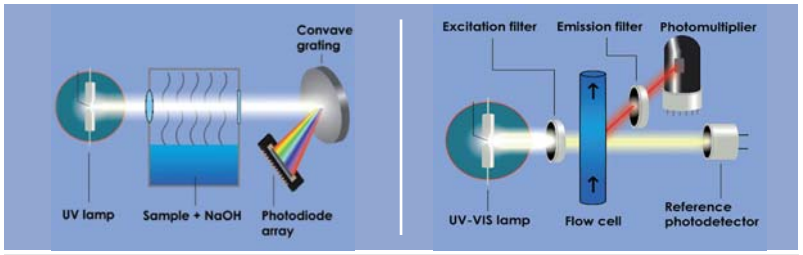


- Internal Datalogger with RS 232 port (Optional)

Measure



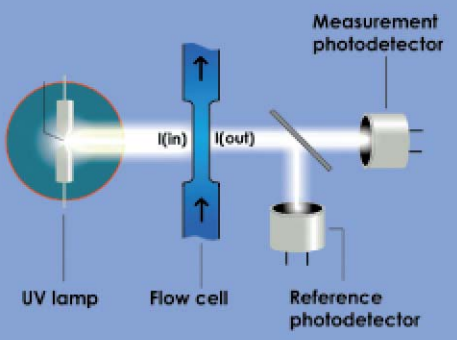
COD | Nitrate



Ammonia | Hydrocarbon Oil in Water

- Compact size
- No reagents require (except for NaOH for ammonia)
- Built-in automatic washing system
- Fast responce time
- Operating costs are very low because the UV spectrophotometric measurement principle does not require the use of analytical reagents
- Very simple hydraulic system with large diameter pipes
- The automatic cleaning system keeps the measuring cell clean for long periods without intervention. Only the filling of the tank with cleaning solution (sulfuric acid 5%) is required once per month
- In-built Peristaltic pump for sampling

Nitrate On-line Analyser



The measuring principle is based on the UV light absorption by unsaturated organic molecules at 254nm according to the Beer-Lambert law:

[C]= k log (Iin/Iout)

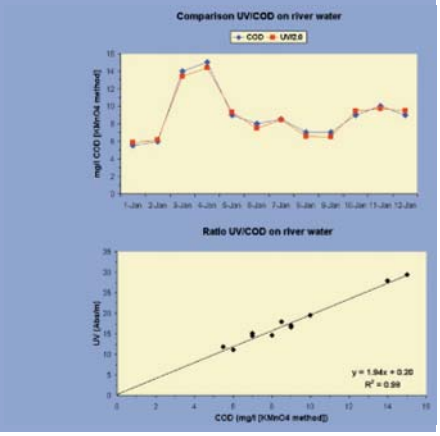
[C]: concentration of the sample

k: absorption coefficient

I_{in}: light intensity at the input of the sample

I_{out}: light intensity at the output of the sample

Turbidity, suspended solids or dirt on the flow cell is automatically compensate by a differential measurement with a second detector at a reference wavelength. This method is in accordance with AFNOR X PT 90- 210 – DIN38404-C3.



Applications

- Surface water monitoring
- Drinking water
- Water treatment plant

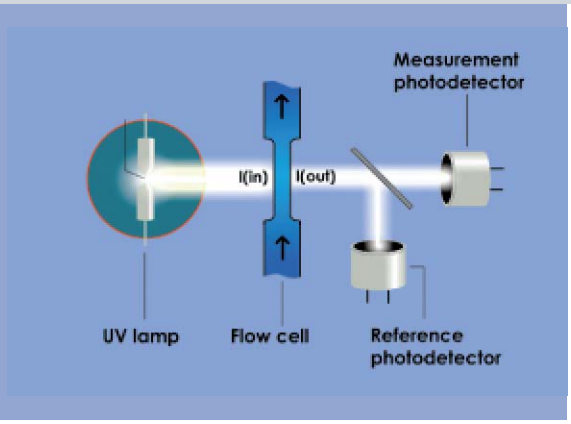
Range
0-200 mg/l
0-800 mg/l
0-2.000 mg/l
0-5.000 mg/l
0-20.000 mg/l

Specifications

Measuring principle	UV Spectrophotometer
Analysis Time	< 10 seconds
Frequency Analysis	Settable
Accuratezza	10% Full Scale
Zero Drift	5%
Full Range Drift	10%
Interference in the presence of Chlorides	no
Reagents or Consumables	no
Alarms / Analog Output / Serial	4 relays / 4÷20 mA / RS232
Maintenance	Extremely limited
Filtration	Not required
Auto clean	Integrated
Ambient Temperature	>0-50°C
Sample Temperature	>0-80°C
Datalogger	Integrated – download data via RS232
Power supply	110-130 Vac or 220-240 Vac/30 VA/ 50-60 Hz; 12-15 Vdc 3A
Operating costs	Extremely limited
Dimensions	600mm x 420mm x 230mm
Weight	approximately 20 kg

UV meter

Nitrate On-line Analyser



The measuring principle is based on the UV light absorption by unsaturated organic molecules at 254nm according to the Beer-Lambert law:

[C]= k log (I in/I out)

[C]: concentration of the sample

k: absorption coefficient

I_{in}: light intensity at the input of the sample

I_{out}: light intensity at the output of the sample

An automatic internal linearization compensates the inherent non-linearity of Beer-Lambert law for high concentrations. The measurement is the weighted sum of NO3 concentration, but in most application the NO2 concentration is negligible regarding NO2 concentration. Turbidity, organic matter, suspended solids or dirt on the flow cell is automatically compensate by a differential measurement with a second detector at a reference wavelength.

Applications

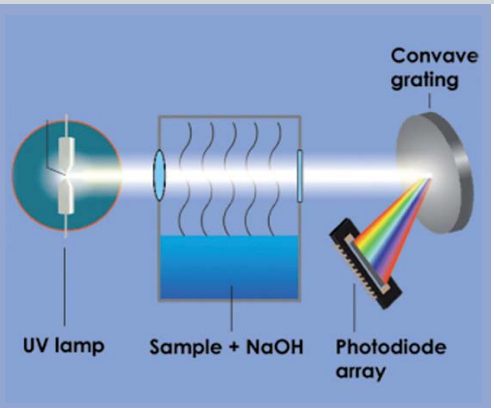
- Surface water monitoring
- Drinking water
- Water treatment plant

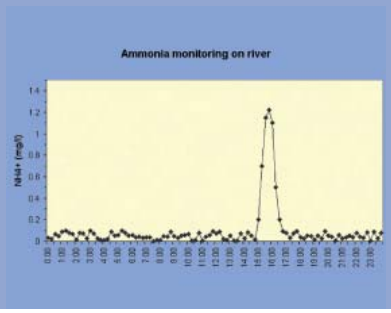
Range
0-30 mg/l
0-100 mg/l
0-250 mg/l

Specifications

Measuring principle	UV Spectrophotometer
Tempo di analisi	< 10 seconds
Frequency Analysis	Settable
Accuracy	5% Full Scale
Zero Drift	5%
Full Range Drift	10%
Interference in the presence of Chlorides	no
Reagents or Consumables	no
Alarms / Analog Output / Serial	4 relais / 4÷20 mA / RS232
Maintenance	Extremely limited
Filtration	Not required
Auto clean	Integrated
Ambient Temperature	>0-50°C
Sample Temperature	>0-80°C
Datalogger	Integrated – download data via RS232
Power supply	110-130 Vac or 220-240 Vac/30 VA/ 50-60 Hz
Operating costs	Extremely limited
Dimensions	600mm x 420mm x 230mm
Weight	approximately 23 kg

Ammonia On-line Analyzer





The measuring principle is based on the UV light absorption spectrum of ammoniac gas NH3 in equilibrium with dissolved ammoniac gas in the water sample. A small quantity of sodium hydroxide (NaOH) is added to the sample to increase the pH for transforming NH4+ to NH3. A fast Fourier Transform (FFT) is applied on the spectrum to extract the absorption signal typical to ammoniac gas. This method is very selective and no interference is known on river or waste water. Turbidity or color in the water has no influence as the measurement is performed in the gaseous phase. Wastewater with suspended solids as activated sludge can be admitted without filtering thanking to the use of a large bore tubing that also make possible the measurement on activated sludge. The automatic cleaning system maintains the tubing clean. Measure stability (as difference from the electrodes system) eliminates the need for expensive calibration solutions. An auto-zero cycle is performed for each determination.

Applications

- Surface water monitoring
- Drinking water
- Water treatment plant

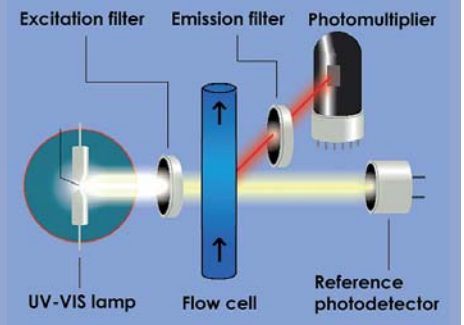
Range
0-10 mg/l
0-30 mg/l
0-100 mg/l
0-300 mg/l
0-1.000 mg/l

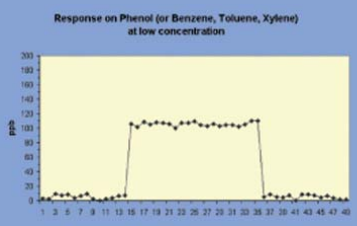
Specifications

Measuring principle	UV Spectrophotometer
Tempo di analisi	< 10 seconds
Frequency Analysis	Settable
Accuracy	10% Full Scale
Zero Drift	5%
Full Range Drift	10%
Measuring Interval	Ca. 15 minutes
Reagents or Consumables	Sodium Hydroxide (NaOH)
Alarms / Analog Output / Serial	4 relais / 4÷20 mA / RS232
Maintenance	Extremely limited
Filtration	Not required
Auto clean	Integrated
Ambient Temperature	>0-50°C
Sample Temperature	>0-80°C
Datalogger	Integrated – download data via RS232
Power supply	110-130 Vac or 220-240 Vac/30 VA/ 50-60 Hz
Operating costs	Extremely limited
Dimensions	600mm x 420mm x 230mm
Weight	approximately 20 kg

UV meter

OIW Hydrocarbons in Water On-line Analyser





The measuring principle is based on fluorescence when lighted at a specific wavelenght (excitation), some chemicals re-emit light (emission) at a longer wavelength. Very few chemicals are flourescent living a highly selective measurement. The table below gives the relative intensity of some aromatic hydrocarbons.

Anthracene	42
Benzene	10
Biphenyl	20
Chlorobenzene	7
Fluorobenzene	10
Naphtalene	35
Phenanthrene	25
Phenol	18
Propybenzene	17
Styrene	10
Toluene	17
Xylene	22

Applications

- Aromatic hydrocarbons in water (BTEX, phenol, oil, fuel...).
- Surface water
- Effluent water
- Ground water
- Underground water
- Cooling water
- Drinking water
- Process water

... ...

Range
0-1 mg/l
0-10 mg/l
0-100 mg/l
0-1.000 mg/l
altri su richiesta

Specifications

Measuring principle	Fluorescence
Analysis Time	< 10 seconds
Frequency Analysis	Settable
Repeatability	+/- 0.1ppm to +/- 1ppm range dependent
Accuracy	10% Full Scale
Zero Drift	5%
Full Range Drift	10%
Interference in the presence of Chlorides	no
Reagents or Consumables	no
Alarms / Analog Output / Serial	4 relais / 4÷20 mA / RS232
Maintenance	Extremely limited
Filtration	Not required
Auto clean	Integrated
Ambient Temperature	>0-50°C
Sample Temperature	>0-80°C
Datalogger	Integrated – download data via RS232
Power supply	110-130 Vac or 220-240 Vac/30 VA/ 50-60 Hz; 12-15 Vdc 3A
Operating costs	Extremely limited
Dimensions	600mm x 420mm x 230mm
Weight	14-18 Kg

TOC meter

T.O.C. Total Organic Carbon Measure

Measuring Principle

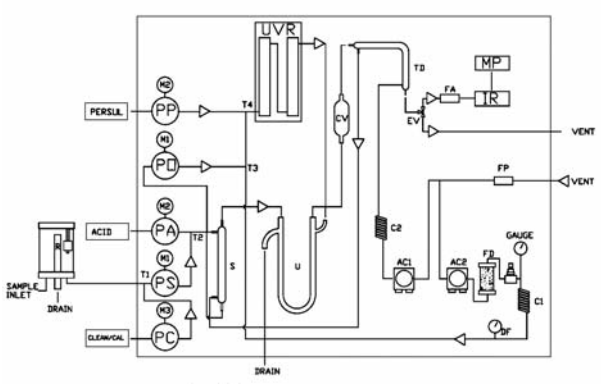
The analyser measures Total Organic carbon in liquid sample using the EPA approved method based on UV persulfate oxidation and detection of generated carbon dioxide using a Non Dispersive Infrared Analyser (NDIR). This method has been approved by the US EPA (Environment Protection Authority) and also comply with the requirements of European ISO/CEN guidelines. The analyser provides this measurements on liquid samples ranging from 0 - 5 mg/l to 10.000 mg/l (others on request). The analyser is conformed to EPA, DIN, CE , ASTM, NAMUR.

Applications

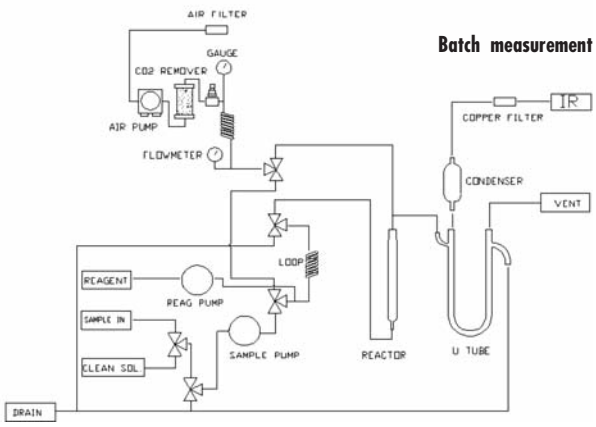
- Determination of organic matter input and output in a water treatment plant
- Industrial waste water
- Industrial process water
- Drinking water
- Condensate and cooling water
- Surface water
- Effluent and influent water
- Monitoring water contamination on airport sites

Flowchart

Continuos measurement



Batch measurement



TOC meter

TOCMETER

The "TOC Meter" continuously measure total organic carbon by oxidation with sodium persulphate and UV radiation, after elimination of inorganic carbon by acidification with phosphoric acid (method EPA 415.1, comply to EN1484, ISO 8245). CO2 detection is done by high stability in-built NDIR.

Features

- TOC analysis with high accuracy and repeatability.
- High stability NDIR detector.
- Internal system of generation and purification of carrier gas. No need for tanks and / or additional air treatment systems.
- User interface easy to use.
- Complete separation of the electronics from the hydraulic.
- Complete absence of valves in the hydraulic side.
- Controlling the Carrier gas flow through the digital flowmeter
- Reduced consumption of reagents for analysis.

Specifications

Type of analysis	Total Organic Carbon TOC
Method	with sodium persulphate and UV radiation, after elimination of inorganic carbon by acidification with phosphoric acid. Method comply with ISO 8245, EN 1484, EPA 415.1 ASTM D4839-88, 4779-88, standard methods 5310 C/D
Measuring range	0-5 mg/l to 0-10000 mg/l (others on request)
Sampling mode	continuos
Low detectable limit	0,2 mg/l
Precision	± 2 % f.s.
Responce time	6-8 minutes (range depending)
Ambient temperature	5 ÷ 40°C
Sample temperature	5 ÷ 50°C
Input sample pressure	Atmospheric (suction sempling)
External dimentions	760 x 600 x 210 mm
Weight	approximately 45 kg
Power supply	230 Vac (optional 115 Vac)
Gas carrier	Compressed air free of CO2 internally generated
Reagents	Sulfuric acid and sodium persulfate (concentrations range dependent)
Analog output	4 ÷ 20 mA
Alarms	2 SPDT contact threshold and malfunction; optional sending SMS alarm threshold / malfunction via integrated GSM modem
Self-cleaning/auto-calibration/auto-validation	Integrated with dedicate peristaltic pump
Degree protection	IP 54
Comply	EN610004-2 / EN610004-4 / C 46-022 / EN55022 / EN61326 (EMC compatible)

COMPACTOC

The "TOC Meter" continuously measure total organic carbon by oxidation with sodium persulphate and UV radiation, after elimination of inorganic carbon by acidification with phosphoric acid (method EPA 415.1, comply to EN1484, ISO 8245). CO2 detection is done by high stability in-built NDIR.

Features

- TOC analysis with high accuracy and repeatability, high stability NDIR detector without moving parts.
- Sampling method: discontinuous frequency settable.
- The only analyzer that can be powered at low voltage (12 Vdc - mod. Compactoc-LV).
- Internal system of generation and purification of carrier gas. No need for tanks and / or additional air treatment systems.
- User interface easy to use. chart recorder.
- High autonomy, low maintenance, low operating costs.
- VOC (Volatile Organic Compounds) with optional integrated PID sensor. 4
- Software for COD, BOD correlation with laboratory analysis.
- Rugged and Reliable. Design for the industrial and environmental on-line applications , ensures highest levels of robustness in the electronics, mechanics and hydraulics components.
- Easy to install, the analyzer is delivered after a long series of positive tests made at the factory, comes with a start up kit ready for installation. To start measurement is enough to power the analyzer and connect reagents, sample and waste line.
- Reduced consumption of reagents for analysis.

Specifications

Type of analysis	Total Organic Carbon TOC
Method	with sodium persulphate and UV radiation, after elimination of inorganic carbon by acidification with phosphoric acid. Method comply with ISO 8245, EN 1484, EPA 415.1 ASTM D4839-88, 4779-88, standard methods 5310 C/D
Measuring range	from 0-5 mg/l to 0-10000 mg/l (others on request)
Sampling mode	discontinuous frequency set
Low detectable limit	0,2 mg/l
Precision	± 2 % f.s.
Responce time	8 minutes (range dependent)
Ambient temperature	5 ÷ 40°C
Sample temperature	5 ÷ 50°C
Input sample pressure	Atmospheric (suction sempling)
External dimentions	210 x 600 x 380 mm
Weight	25 kg approx. (without reagent bottle)
Power supply	**Compactoc** :220 Vac / **Compactoc LV**: 12 Vdc
Gas carrier	Compressed air free of CO2 internally generated
Reagents	Sulphuric acid, sodium persulfate (concentrations depending on range)
Analog output/Serial port	4 ÷ 20 mA / RS232
Alarms	2 SPDT contact threshold and malfunction;
User Interface	Touchscreen
Degree protection	IP 54

Color meter

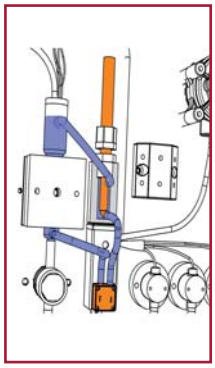
Online Compact Colorimetric analyzer

Measures

- ALUMINIUM
- AMMONIA
- BORON
- CYANIDE
- CHLORINE
- CHLORIDE
- CHROMIUM VI
- HARDNESS
- FENOLO
- IRON
- PHOSPHATE
- MANGANESE
- NICKEL
- NITRATES
- NITRITES
- COPPER-SILICA
- SULPHATES
- SULPHIDES
- TP
- ZINC

General Features

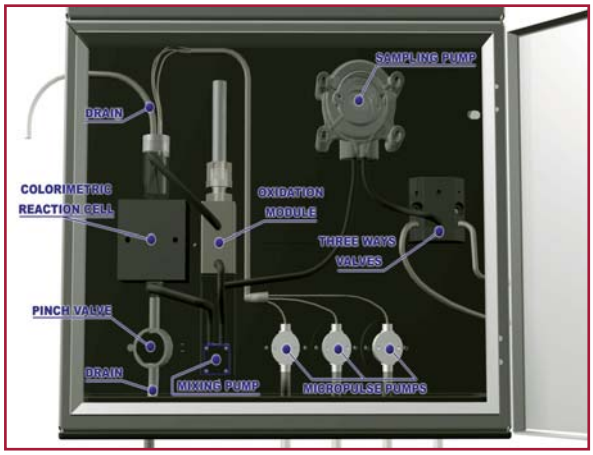
- Interfaccia utente TouchScreen di facile impiego

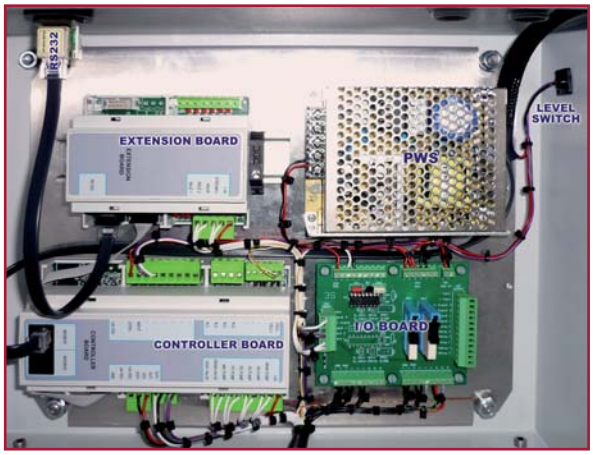


- Touchscreen user interface easy to use- Heated colorimetric cell(about 35 ° C)
- Calibration / validation / automatic cleaning
- In-built sample peristaltic pump
- Sample recirculation barrel with level contact
- Separate waste line for sample containing reagents
- Sampling mode : discontinuous frequency set
- Programmable Analysis
- Sensitive to low concentrations
- Compact dimentions 370 x 600 x 210 mm
- Weight approx. 20 Kg
- Rugged and Reliable. Design for the industrial and environmental on-line applications , ensures highest levels of robustness in the electronics, mechanics and hydraulics components.
- Easy to install, the analyzer is delivered after a long series of positive tests, made at the factory, comes with a start up kit ready for installation. To start measurement is enough to power the analyzer and connect reagents, sample and waste line.

Applications

- Drinking water
- Operational efficiency of sewage treatment plants
- Industrial water analysis





- Complete separation between hydraulics and electronics

Specifications

Measuring Principle	Colorimetric
Measuring Range	in relation to the analytical method used
Measuring Time	Approx. 8 minutes
Analysis Frequency	Operator selectable
Maximun Error	2% full scale of measuring range
Thermostatic	Integrated
Reagents / Cleaning solution	in relation to the analytical method used
Analog Outputs	2 analog outputs 4÷20 mA
Allarms	2 relays (2 SPDT contact threshold and malfunction)
Autocleaning	Integrated
Filtration	Optional, depending on the sample matrix
Degree protection	IP54 (IP65 on request)
Ambient Temperature	>0 -45°C
Sample Temperature	>0 -45°C
Datalogger	Integrated (optional)
Power supply	110/130 or 220-240 Vac / 80 VA / 50-60 Hz
Operating Costs	Extremely limited
Dimensions	600mm x 370mm x 210mm
Weight	Approx. 20 kg
Installation Time	Few minutes

Filtration system for analyzers

SF-100 Self-cleaning filter

The filtration system SF-100, often used upstream of a line analysis systems, is a self-cleaning device that uses compressed air with programmable frequency to maintain the stainless steel filter element clean. While most of the liquid under analysis goes much faster through the polypropylene filter body, only the amount needed by the analyzer is filtered through the stainless steel special profile filter element. This prevents a rapid accumulation of dirt and deposits on the filter. In addition to this, the filtration system uses an electronic timer that periodically, at intervals programmed by the user, provides the opening of the NC of the three-way solenoid valve allowing the entry of compressed air at suitable pressure, which provide a powerful backwash of the filter. This proves to be a very effective backwashing to remove trapped particles on the outer surface of the filter. The frequency and duration of the automatic washing cycle can be programmed by the user in a wide range of values.

Specifications

Filter Body	PP (polypropylene)
Filter Element	SS 316
Filter Element Passage Size	100 micron
Ambient and Sample Temperature	2 ÷ 55°C
Protection Degree	IP 65 Timer & solenoid
Sample Line Minimum Pressure	0,3 Bar
Sample line Maximum Pressure	2,5 Bar
Sample Line Minimum Flow	0,1 mc/h
Compressed air backwash	Minimum 20% above sample line pressure, up to 3 bars max.
Filtered Sample Flow	0,1 - 2 lt/min in relation to sample line pressure
Hydraulic connections for input / output filter	1" NPT
Inlet Connection Compressed Air Wash	¼" pipe
Parts in contact with solenoid liquid	SS 16 - Buna
Power supply	220-240 Vac
Power Consumption	20VA
Washing Frequency	Programmable from 1 to 45 min
Washing Time	Programmable from 1 to 30 sec.
Filter Weight	1 kg.

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