

Technical Data	
Technology	On Line Direct Reading*
Number of simultaneous methods	4 to 10 (depending on methods) in the same analyzer
Sample and reagent preheating	Yes
Sample streams	2 sample streams
Number of reagents	27 positions x 18 mL each, including stock and diluents
Test per hour	Up to 200 (single reagent) / 100-120 (dual reagent)
Sample and reagent dosing syringe	368 microliters syringe with 0.14 µL resolution; Zero automatic setting; Accuracy +/- 0.5 % from 2 to 350 µL
Stock solutions on reagent tray	Yes, working calibrants and QC's diluted from stocks
Diluent position	On the refrigerated reagent tray,
Refrigerated reagent tray	Yes, standard
Sample and reagent level sensor	Yes
Number of reaction cells	80 microcuvettes, reusable after washing and QC check, incubation temperature programmable + / - 0.1 °C.
Optical path length	6.0 mm
Reaction plate temperature	37 to 50 °C adjustable +/- 0.1 °C
Incubator type	Thermoelectric
Flow cell type	Bionex ® washable, washing station included
Detectors	a) Colorimetric, temperature controlled; halogen lamp with extended UV emission; automated zero setting for wavelengths; accuracy +/- 1 % from 0 to 2.5 O.D.; linearity better than 0.5 %; noise < +/- 2 mAbs at 340 nm 2.5 O.D.
	b) Fluorimetric: external module controlled by the analyzer
	c) UV for TN and / or NO ₃ at 220 nm, COD/TOC at 254 nm: external module controlled by the analyzer
Colorimetric detection	Interferential Filters
Number of Wavelengths	9 + Blank
Reading methods	End point: mono or bichromatic; End Point differential (sample blank correction); Kinetic
NO ₃ reduction	Yes, by Vanadium Chloride
Communication and software	Software compatible with Windows XP, 7, 8, 10; USB port; automated data exchange, multiple data analysis
Sample analysis	Monitoring worklists stored in the analyzer software
Sample and reagent blanking	Yes
Working calibrant dilution	Yes, from stock solution located in the refrigerated tray
Post run sample dilution	Yes, automated dilution and rerun of off scale samples
Multilevel QC and Closed loop	Up to 5 QC levels, with closed loop control
QC database and QC chart	Yes
Automated calibrations including linear or polynomial regression	Yes; calibration programmed in the monitoring worklists; up to 16 calibration points per method
Calibration correction	Yes; calibrants can be enabled or disabled to change the calibration curve
Calibration QC check and Calibration repeat	Yes, if the correlation is lower than set value there is an option for calibration repeat
Reagent Blank and Top Cal OD check	Yes
Data output	Standard: Ethernet port
	Option: 4-20 mA output and / or Zetalog for data transfer to Zetaced or FTP transfer
Possibility to use multiple diluents (phenols, cyanide etc.)	Yes

* PATENTED

Subject to change without notice

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EASYCHEM ON LINE

DISCRETE CHEMICAL ANALYZERS
FOR GROUND, SURFACE
AND WASTE WATER



SIMULTANEOUS
MULTIPARAMETER MONITORING

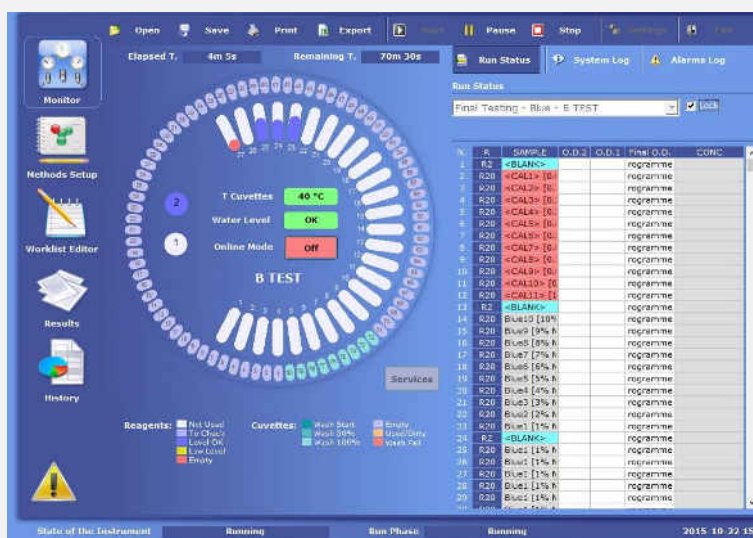
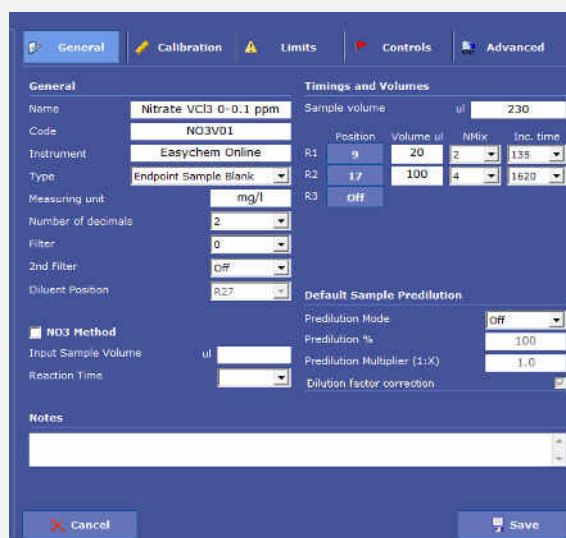
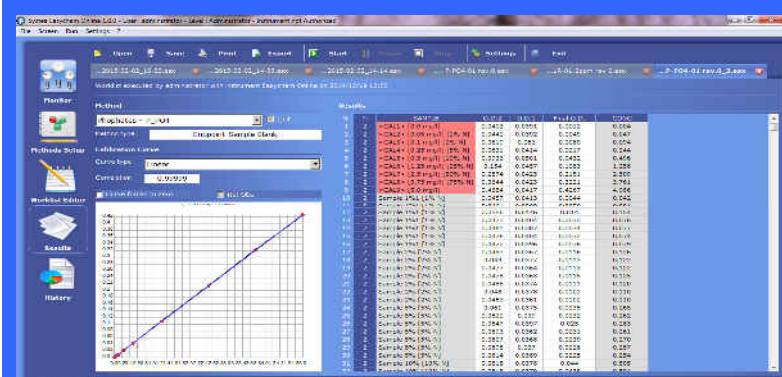
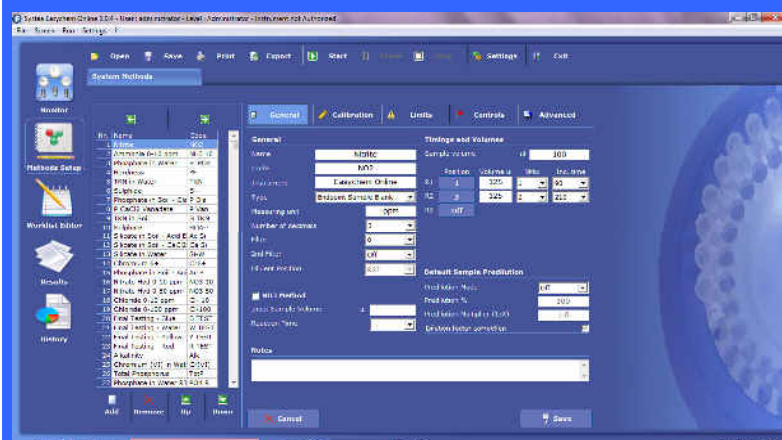
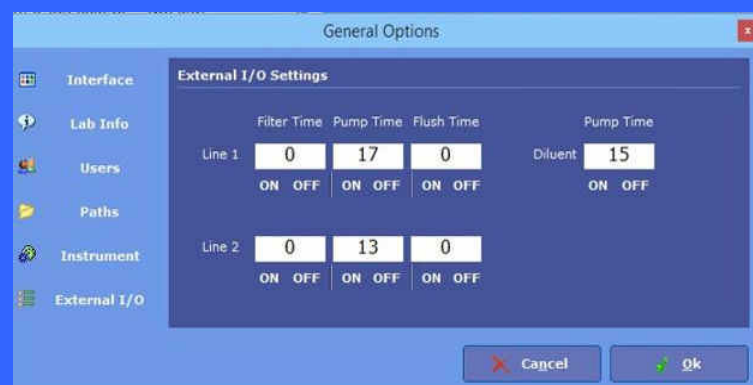
UP TO 10 METHODS IN ONE UNIT

EASYCHEM ON LINE OPERATION PRINCIPLE

The integrated user-friendly software allows full configuration of the monitoring settings including analytical methods, measurement frequencies, sample pretreatments, filtration options and automated recalibration and QC periods.

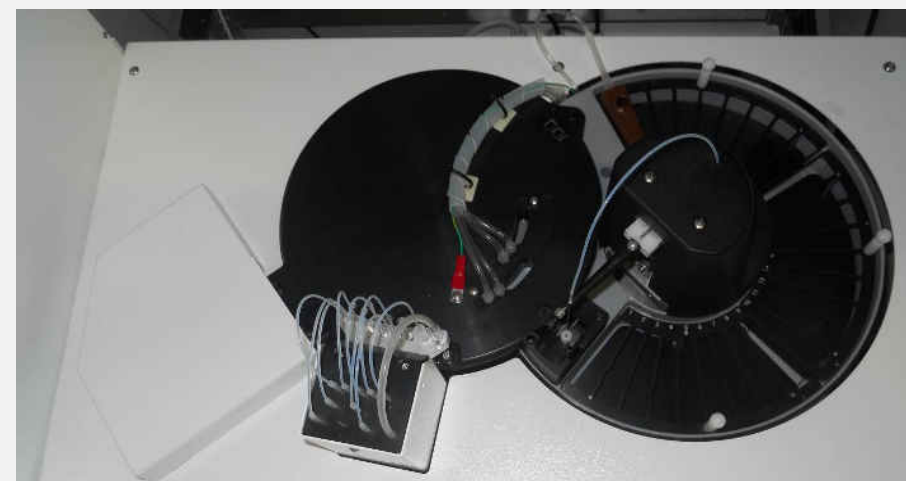
To start a monitoring session, the operator is guided through a check-and-confirmation protocol that allows to set the requested analytical frequencies with respect to one or more worklists in which methods, samples auto-calibration and QC settings were previously included. Finally, the system checks for reagent availability, assesses operational duration and asks for confirmation to begin the analytical cycle with a self test procedure. The activities carried out by the instrument can be in any moment followed on a status bar. Liquid levels of reagent and diluent bottles together with washing solution and waste tanks are displayed and constantly updated.

Sample, calibration and QC measurements appear on the screen soon after the optical reading. Automatically stored in the internal database, all the information is available for later access. In case of activated remote data option, the results are also transmitted to the control center.



EASYCHEM ON LINE AUTOMATED DISCRETE ANALYZER

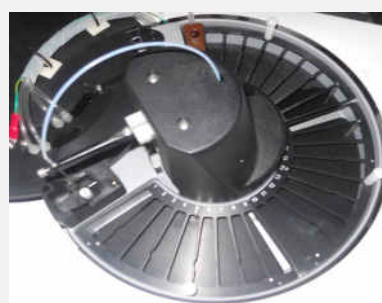
Fully automated **ON LINE WATER ANALYZER** based on **DIRECT READING DISCRETE ANALYSIS** technology.



- ✓ Up to two sample streams
- ✓ Cooled reagent tray with capacity up to 27 reagent bottles
- ✓ Temperature controlled reaction rotor containing up to 80 cuvettes, washable and reusable after QC check
- ✓ Colorimetric detector including 9 position filter wheel for automated wavelength selection
- ✓ Post run sample autodilution for out of range samples

FEATURES

- ❑ **EASE OF USE:** no specific experience or training required.
- ❑ **FLEXIBILITY:** specific parameter list selectable on each sample stream, post run sample autodilution.
- ❑ **AUTOMATED CALIBRATION:** working standards produced by autodilution of stock standards positioned on a refrigerated tray.
- ❑ **QC CONTROL:** real time QC; results are automatically stored and plotted in quality control charts, available for later access.
- ❑ **OUT OF RANGE REPETITION:** out of range samples are automatically diluted and reanalyzed.
- ❑ **LOW REAGENTS CONSUMPTION:** only few microliters of reagents per analysis.
- ❑ **LOW RUNNING COSTS:** nearly no consumables needed, low costs for reagents and spare parts.
- ❑ **WINDOWS BASED SOFTWARE:** easy to use and learn; short training, specifically designed for chemists.
- ❑ **DATA REPROCESSING** allows to check and process the results obtained, inclusive of taking accept / reject decisions.
- ❑ **EXTERNAL MODULES (OPTIONS)** for Total Nitrogen, Total Phosphorus, Phenols and Cyanide, controlled by the analyzer
- ❑ **FILTRATION UNIT:** self cleaning filtration unit controlled by the analyzer.



STANDARD APPLICATIONS

*PARAMETER	METHOD	**RANGE (MIN & MAX)
Alkalinity as CaCO ₃	Methyl Orange	0 – 200 mg/L
Ammonia as N-NH ₃	Salicylate (EPA)	0 – 5 up to 10 mg/L
Ammonia as N-NH ₃	Salicylate (ISO)	0 – 1 up to 50 mg/L
Chloride as Cl ⁻	Ferricyanide	0 – 10 up to 100 mg/L
Chlorine (Free / Total) as Cl ₂	DPD	0 – 1 up to 10 mg/L
Chromium Hexavalent. as Cr ⁶⁺	Diphenylcarbazide	0 – 0.1 up to 1 mg/L
Color	Direct reading	0 – 20 Pt / Co Units
Copper (Dissolved) as Cu ²⁺	Bathocuproine	0 – 1 mg/L
Hardness as CaCO ₃	Magnesium EDTA	0 – 400 mg/L
Iron (Tot Dissolved) as Fe ²⁺	TPTZ	0 – 0.5 mg/L
Nickel (Dissolved) as Ni ²⁺	Dimethylglyoxime	0 – 2 mg/L
Nitrate as N-NO ₃	Hydrazine	0 – 10 up to 50 mg/L
Nitrate as N-NO ₃	Vanadium chloride	0 – 0.1 up to 50 mg/L
Nitrite as N-NO ₂	SAA+NED (Single reag.)	0 – 0.1 up to 2 mg/L
Nitrite as N-NO ₂	SAA+NED (ISO)	0 – 0.5 up to 2 mg/L
Nitrite as N-NO ₂	SAA+NED (APHA)	0 – 0.1 up to 2 mg/L
Phosphate as P-PO ₄	Molybdate	0 – 1 up to 5 mg/L
Silicon as Si	Molybdate	0 – 5 up to 20 mg/L
Sulphate as SO ₄ ²⁻	Barium	0 – 100 mg/L
Sulphide as S ²⁻	Methylene Blue	0 – 10 mg/L
Zinc (Dissolved) as Zn ²⁺	Zincon	0 – 0.5 mg/L

METHODS THAT REQUIRE THE USE OF AN EXTERNAL MODULE

Copper (Total) as Cu ²⁺	Bathocuproine	0 – 1 mg/L
Cyanide (Free / Total) as CN ⁻	UV Digestion, Distillation, Chloramin-T, Barbituric acid	0 – 0.5 up to 1.0 mg/L
Iron (Total) as Fe ²⁺	TPTZ	0 – 0.5 mg/L
Manganese (Total) as Mn ²⁺	Malachite Green	0 – 1 mg/L
Nitrogen (Total) as N	Persulfate UV oxidation, SAA+NED	0 – 3 mg/L up to 100 mg/L
Nitrogen (Total) as N	Persulfate UV oxidation, 220nm	0 – 6 mg/L
Phenols (Total) as C ₆ H ₅ OH	Distillation, Ferricyanide, 4--AP.	0 – 0.5 up to 1.0 mg/L
Phosphorus (Total) as P	Molybdate	0 – 1 mg/L
Zinc (Total) as Zn ²⁺	Zincon	0 – 0.5 mg/L
CODMn as O	Acid Permanganate	0 - 5.0/10.0/20.0 mg/L
TOC/COD UV @ 254 nm	Direct reading	0 – 20 up to 1000 mg/L

* **PARAMETER LIST UNDER CONTINUOUS DEVELOPMENT;
FOR METHODS NOT INCLUDED, INQUIRE TO OUR APPLICATION LAB**
** **ALTERNATIVE RANGES AVAILABLE ON REQUEST**

EXTERNAL MODULES



SELF CLEANING FILTRATION UNIT

Installed on the side of the analyzer, this device allows to remove the suspended solids. A self cleaning cycle based on compressed air is carried out regularly. A single unit can be used to supply the same filtered water sample up to 10 analyzers.

EASY TO INSTALL

Delivered completely assembled on a stainless steel frame, ready for connections.

LOW MAINTENANCE COSTS

Self cleaning cycle and long life pump tubes ensure low maintenance costs.

ANALYZER CONTROLLED

The filtration unit is activated only when the analytical cycle starts.

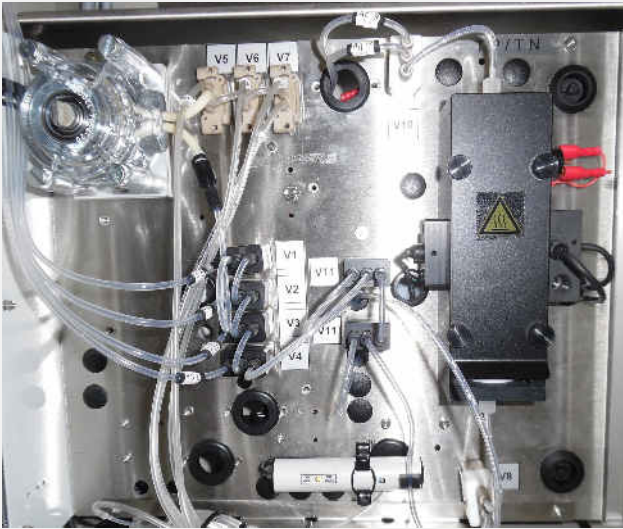
STAINLESS STEEL FILTER

A stainless steel filter ensures long operation and no corrosion with the most common matrix.

SAMPLE HOMOGENIZER

Installed on the side of the analyzer, the ultrasonic homogenizer allows to homogenize samples before Total Phosphorus and Total Nitrogen measurements.

This tool is fully controlled by the analyzer. After the homogenizing cycle, the sample is pumped inside the digestion module.



EXTERNAL MODULES

Several external modules can be added to the analyzer for measurements of Total Phosphorus, Total Nitrogen, Phenols, Total or Free Cyanide etc.

All modules are mounted in an additional shelter on side of the EasyChem On Line and are fully controlled by the analyzer. Each module includes all necessary steps for sample pretreatment and measurment.

Typical configuration of external modules is:
n. 1 MP2 module for TN(@220nm)/TP,
n. 1 MP2 module for Tot or Free Cyanide/Phenols
n. 1 module for CODMn