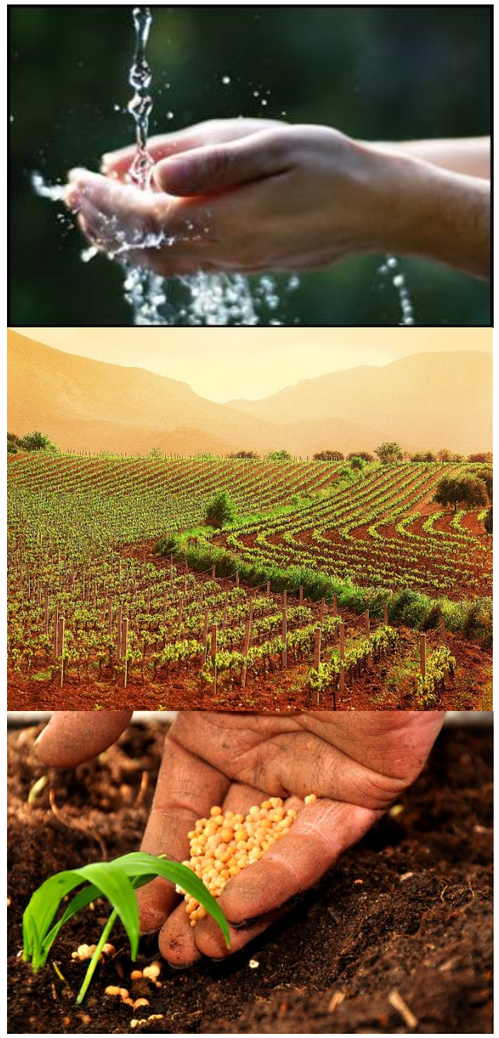
Technical Data	
Technology	Flow through, by peristaltic pump easily accessible
Samples/reagents preheating	Yes
Sample capacity	60 positions for samples, blank, standards and controls
Test hour	90 - Single reagent methods / 60 - Dual reagent methods
Dosing syringe (sample & reagents)	500 microliters syringe; resolution 0,096 microliters
Number of reagent positions	30x35mL including diluents
Stock solutions on reagent tray	Yes, working calibrants and QC diluted from stocks
Diluents position	On refrigerated reagent tray,
Refrigerated reagent tray	Yes standard
Reagent level sensor	Yes
Number of reaction wells	96 reaction microcuvettes with incubation temperature programmable +/- 0.1 °C.
Optical path length (mm)	50mm interchangeable with 15mm
Reaction plate temperature	37° to 50°C adjustable +/-0.2°C
Incubator type	Thermoelectric
Flow cell type	Optical glass
Main Detector	Colorimetric, temperature controlled; halogen lamp extended UV emission; automated zero settings; linearity up to 4.0 O.D.
Detector technology	Interferential Filters
Number of wavelengths	9+blank
Reading methods	End point: mono o bichromatic; End Point differential (Sample blank correction); Kinetic
Nitrate reduction methods	1) Green method w/o use of Cadmium or Hydrazine 2) By Cd coil – Automated regeneration 3) Hydrazine
Communication software	Compatible with Windows XP, 7.0, 8.0, & 10
Sample analysis	Work lists stored by the software with possibility to select independent list of parameters per each sample,
Sample ID	Alphanumeric
Random access to samples, calib. Etc.	Yes
Sample addition during run	Yes
Sample & reagent blanking	Yes
Working Calibrant dilution	Yes, from stock solution located in the refrigerated tray
Pre run sample dilution	Yes
Post run sample dilution	Yes, automated dilution and rerun of off scale samples
Multilevel QC & Closed loop	Up to 5 QC levels, with closed loop control (QC check & pre programmed actions in case of QC and or Spike recovery failure)
QC database and QC chart	Yes
Automated spike & recovery check	Yes
Automated calibrations; calibration fits linear, polynomial, etc.	Yes; up to 16 calibrants
Calibration correction	Yes; enable disable calibrants change calibration fit
Calibration QC check & Calibration repeat	Yes, if correlation lower than set value option for calibration repeat
Reagent Blank OD and Top Cal OD check	Yes, if out of tolerance pre programmed actions
Results correction	Yes, correction by: dilution factor, moisture & weight
Import Work list & export results to LIMS	Yes
Multiple diluents (soils analysis, phenols, cyanide etc.)	Yes
Size/Weight	35cmx67cmx70cm(HxDxW)/45Kg
Powere Supply	220-240VAC +/- 5% or 110VAC - 50/60Hz Single phase with ground - Fuses 3.15Amp 230VAC, 6.3Amp 115VAC

Subject to change without notice



EASYCHEM PLUS²

DISCRETE ANALYZER FOR AUTOMATED CHEMISTRIES

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Document ID: EasyChem Plus rev_08E_print (20220325).doc

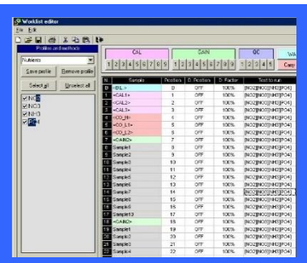
EASYCHEM OPERATION PRINCIPLE

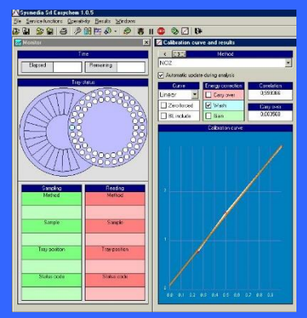
A 'work-list' on external PC is created by the operator, containing the samples, their location, their ID code and the determinations required for each sample. Usual combinations of methods can be pre-defined as 'profiles' in the software setup.

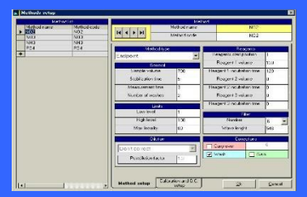
The operator can include in the work list QC cup (up to five levels), Gain correction cups, Drift correction cups and Carry over correction cups.

To start analysis of the work-list or a part of it, the operator has to pass a check-and-confirmation protocol, to establish correct analysis conditions. Selected methods are confirmed, the use of auto-calibration and control samples is set, and the execution is scheduled. Reagent demand and used cuvettes are displayed. Final confirmation starts the execution.

The automatic analyzer starts the execution with a self test procedure, and displays along the execution the actual activity carried out. Analysis results will be reported on the screen just after reading and stored for later printout. Results file can be reprocessed for calibration, Gain/Drift and Carry over correction. After reprocessing a results file must be saved with a different name. Stored results documentation for each method is headed by relevant quality data, including the operator ID.







Seawater methods 50mm Flow Cell

AMMONIA	SILICATES	TOTAL NITROGEN*
NITRITE	ORTHO PHOSPHOROUS	** External sample pre-treatment required*
NITRATE	TOTAL PHOSPHOROUS*	

NOTE

Most of the water methods can be applicable to seawater, check with Systea for methods not included

Water Wastewater methods 10mm Flow Cell

ALKALINITY	CYANIDE*	SULFIDE
ALUMINIUM	FLUORIDE*	SULPHATE
AMMONIA	HARDNESS	TOTAL KJELDAHL NITROGEN*
BORON	HYDRAZINE N2H2	TOTAL KJELDAHL PHOSPHOROUS*
CALCIUM	IRON	TOTAL NITROGEN*
CHLORIDE	MANGANESE	TOTAL PHOSPHOROUS*
CHLORINE FREE	NICKEL	UREA
CHLORINE TOTAL	NITRITE	ZINC
CHROMIUM 6+	ORTHO PHOSPHOROUS	** External sample pre-treatment required*
COLOR	PHENOLICS C6H5OH*	
COPPER	SILICATES	

Soils, plants, feeds and fertilizers

AMMONIA	PHOSPHATE
CALCIUM	SILICATES
CHLORIDE	SULFATE
MAGNESIUM	TOTAL NITROGEN (TKN)*
NITRATE+NITRITE	TOTAL PHOSPHOROUS*
NITRITE	** External sample pre-treatment required*

NOTE

Method list includes only the most common methods and it is under continuous development.
For any method not included in the list please contact our application laboratory to check method availability

EASYCHEM PLUS
AUTOMATED DISCRETE ANALYZER

Fully automated analyzer based on **Discrete analysis** technology, with 60 positions samples tray including blank, controls and calibrants cups.

- ✓ Cooled reagents tray with capacity up to 18 reagents bottles
- ✓ Temperature controlled Reaction tray containing up to 96 reaction cuvettes
- ✓ Colorimetric detector including 9 position filter wheel for automatic wavelength selection
- ✓ Pre or post run sample autodilution
- ✓ Samples throughput: 60/80 test per hour

ADVANTAGES AND BENEFITS

- **Easy to use**: no specific experience or training required.
- **Flexibility**: individual parameters list selectable on each sample, pre or post run sample autodilution, working standard autodilution from a stock standard.
- **Low reagents consumption**: only a few microliters of reagents per analysis.
- **Low running costs**: nearly no consumables, low reagents and disposable costs.
- **Immediate start up**: no time waste or problems to reach hydraulic equilibrium.
- **Immediate shut down**: no washing procedure required.
- **Windows based Software**: easy to use and to learn; short training, specifically designed for chemists.
- **QC control**: up to five level of real time QC can be used, QC results are automatically stored and plotted in a quality control chart.
- **QC actions**: in case of QC out of tolerance the analyzer can stop the run or simply inform the operator leaving trace of malfunction storing the QC out of tolerance.
- **Data reprocessing** allows to check and reprocess the results file, including or deleting data treatment.