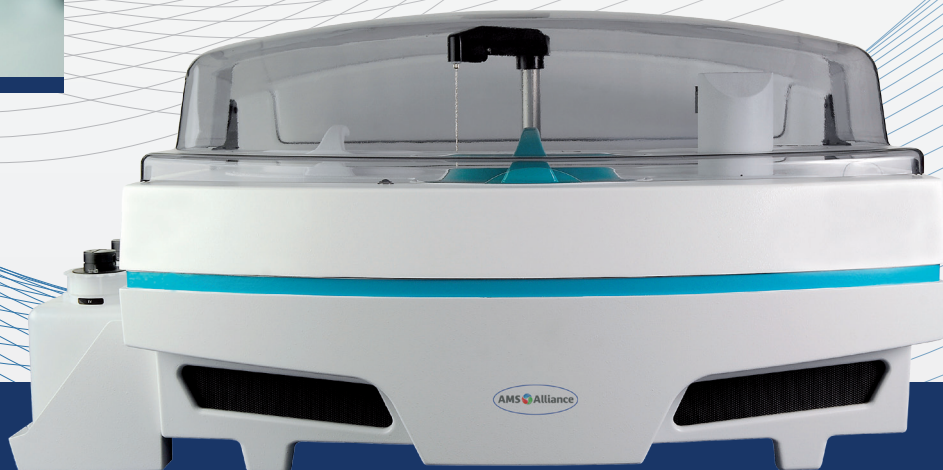




SMARTCHEM 300

STATE-OF-THE-ART DIRECT READ
DISCRETE ANALYZER FOR
AUTOMATED CHEMISTRIES



SMARTCHEM 300

FULLY AUTOMATED, DIRECT READ, DISCRETE ANALYZER TO MAXIMIZE PRODUCTIVITY FOR ROUTINE AND SPECIAL CHEMISTRIES, UP TO **300 TESTS/HOUR**



The Smartchem 300 combines the latest technology in discrete analysis with an innovative, unique design that guarantees accurate and reproducible results.

The Smartchem 300 is the first discrete analyzer to utilize the Cuvette Quality Assurance System, performing an integrated QC check of each cuvette prior to use. In addition to automated analysis the Smartchem 300 offers automated system Quality Control.

The Smartchem 300 is also the first discrete analyzer to utilize a patented, dedicated sample prep module for the determination of NO_x by Cadmium reduction. Designed for multi-tasking and high throughput rates, the NO_x module also provides automated cadmium regeneration.

Now, the instrument provides also a pH, Conductivity and Redox module.

INTERACTIVE GRAPHICAL "DASHBOARD" PROVIDES A USER-FRIENDLY INTERFACE:

1. SELECT METHOD(S) AND TYPE IN SAMPLE IDS
2. FOLLOW THE DASHBOARD AND PLACE THE SAMPLES, REAGENTS, AND STOCK STANDARD IN THE AUTOSAMPLER
3. START ANALYSIS WITH A SIMPLE CLICK, ALL ANALYTICAL PROCEDURES FROM WORKING STANDARD DILUTION TO SAMPLE ANALYSIS, CUVETTE WASHING AND SYSTEM QC, ARE FULLY AUTOMATED AND DO NOT NEED ANY OPERATOR ACTION

THE ADVANTAGES OF DIRECT READ DISCRETE ANALYSIS

- Each reaction takes place in its own optical cuvette
- True sample blanking performed directly in each cuvette
- No flow cells
- No baseline stabilization
- No manual manifold changeover
- No excessive reagent consumption
- Automatic reagent blanking to evaluate reagent quality
- Pre and Post dilution of samples and calibration standards
- Automatic spike preparation
- Automatic method changeover
- Analyze samples in "batch" mode or "random" mode

DIRECT READ : MORE SIMPLICITY & SECURITY

The Smartchem 300 utilizes direct read photometry utilizing a true discrete, direct read measurement system and reusable, high purity synthetic optical cuvette system eliminating compromised sample measurement.

SMARTWASH : ELIMINATE CARRYOVER DURING SAMPLING

- Level sensor makes probe washing easy, with a standard 2mm immersion depth
- Potential contaminants go the way they need to flow – out of the sample probe!
- Three stage process: clean the inside of the probe, clean the washing well, then clean the outside of the probe
- Optical integrity of each cuvette quantitatively verified before each use
- Provides an infinite number of reaction vessels for analysis
- Economical & environmentally friendly : long lasting cuvettes, minimize hazardous waste and solid wastes

SAMPLE LOADING

- 4 universal, separate racks for continuous loading of samples, calibrators and controls
- Up to 300 tests/hour including ISE

Micro pipettor-dilutor

Washing station Smartwash



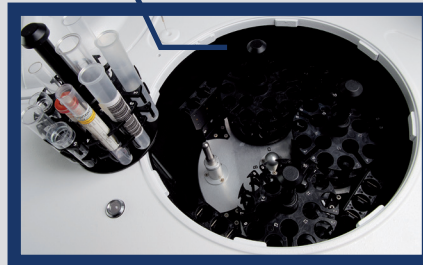
Cadmium module for Nitrate analysis or



ISE module for pH, conductivity and redox analysis



On-board reagents (up to 72 reagents)



4 universal racks for cups and primary tubes



Long-life cuvettes with integrated Cuvette Quality Assurance System

FILTER WHEEL

- 9 optical filters, plus 1 dark filter, ranging from 340nm to 880 nm
- Others filters optionally available

COMPUTER CONTROLLED MICRO PIPETTOR

- Accurate and precise dispensing of all liquids
- Probe cleaned after every liquid contact - prevents cross contamination and carryover
- Microliter reagent and sample consumption
- Liquid level sensor provides warnings for low reagent and sample levels

NITRATE/NITRITE OR ISE MODULE

- Automated cadmium coil regeneration for Nitrate & Nitrite analysis, complies with US EPA Method # 353.2 and SM 4500-NO3-F
- ISE (Ion Selective Electrodes) module for pH, conductivity and redox analysis

PHOTOMETER

- High resolution, dual beam digital detector
- Expanded absorbance range to 4.200 ABS
- 5 detection modes: endpoint, fixed time, differential, bichromatic, and kinetic

USER FRIENDLY SMARTSTART SOFTWARE



The Smartchem 300 operating software runs under Windows XP, Windows Vista or Windows 7. Its bright graphical user interface simplifies routine work and offers the operator a concise guide through the operating functions.

NEW SOFTWARE MAIN FEATURES

- Automatic start-up
- Automatic shutdown
- Barcode for reagents
- Barcode for samples
- Addition of new sample or method to a sample during the run
- Reanalyse key
- Accurate estimation of completion of analysis
- Calibration points recalculation
- Last accepted calibration overlay
- Pre-dilution
- Standard curves
- Ready to read 2D barcoding in reagents kits
- Computer controlled micro pipettor
- EPA Nilac compliant
- Real-time presentation of sample and reagent status

TECHNICAL SPECIFICATIONS

DESCRIPTION	Fully automated, direct read, bench top, Discrete analyzer		
ASSAY TYPE	End Point, Kinetic, Differential, Bi chromatic assays up to 999 tests, fully programmable		
ON-BOARD REAGENTS	Up to 72 reagents can be loaded into the refrigerated compartment and distributed on: - 4 removable racks with 16 positions each (25 ml containers) - 8 extra position for 25 ml containers 10/20 ml containers can be adapted		
SAMPLES LOADING	- 4 universal, separate racks for continuous loading of samples, calibrators and controls - Each rack contains up to 15 samples (2 ml or 4 ml cups and/or 10-15 ml tubes) - 8 extra positions for urgent samples, calibrators and controls - Tubes size: 10-15 mm diam. and 40-100 mm height		
URGENT SAMPLE ANALYSIS	Allowed at any time		
THROUGHPUT	Up to 300 tests/hour		
READING SYSTEM	Direct photometry		
MINIMUM REACTION VOLUME	200 µl		
OPTICS SYSTEM	Photometer	multi - wavelength optics, double beam	
	Wavelength	9 narrow band interferential filters	
	Source	halogen lamp 6V/10W	
	Optical Path	6 mm	
	Linear range	0.001 - 4.200 Abs	
	Resolution	0.0001 Abs	
SAMPLING SYSTEM	One mechanic arm provides all sampling operation with : - Capacitive liquid level sensing - Reagent pre-warming at 37°C - Automatic probe washing - Sample Volume range : 2.0 µl- 50 µl (1 µl incr.) - Reagent Volume : 3.0 µl-330 µl (1 µl incr.) - Sample pre-dilution - Sample rerun with or without dilution		
DILUTOR	Automatic dilution in pre and post-dilution		
REACTION PLATE	Holds 80 cuvettes divided into 4 racks with 20 cuvettes each and performs the following operations: - Automatic cuvette washing - Continuous monitoring of cuvette quality - Incubation temperature: 37°C +/- 0,2		
DIMENSIONS	50 x 70 x 90 cm (H x W x L)		
WEIGHT	35 Kg		
OPTIONAL ACCESSORIES	- Bar code reader for Sample - Bar code reader for Reagent		- ISE detector - Nitrate module
COMPLEMENTARY PRODUCTS	Digestion system: Easy digest Distillation system: Easy Dist Ready to use reagents		
	  		

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