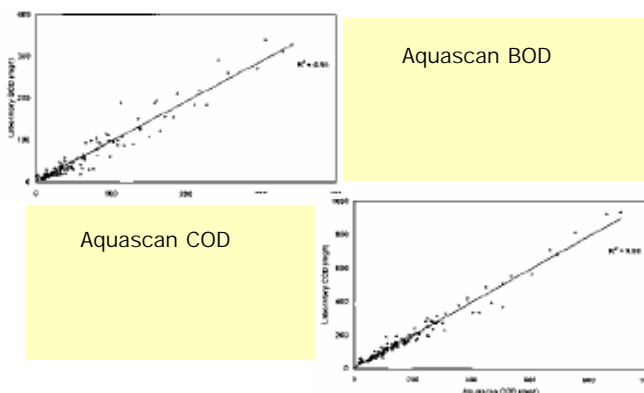


- True simultaneous multi parameter measurement in Real Time
- No need for analytical reagents - completely eliminates disposal problems and costs
- No sample preparation required for samples with particles up to 3mm in size
- Built-in sample pump as standard
- Fully automatic operation and cleaning cycles minimise Maintenance
- Internal storage for 30 days of data
- Windows, based software for remote automatic collection, storage of data and production of reports
- Remote software package to provide advance warning to operator
- Process feedback for improved control and plant efficiency

Aquascan is an innovative state of the art water quality analyser from NTS Europe. Developed from a concept by Hyder Consultancy, Aquascan offers true simultaneous multi parameter measurement for a full range of water quality parameters.

Aquascan is a robust fully automatic, self cleaning instrument capable of accepting a sample with particles up to 3mm in size completely eliminating the need for sample preparation systems and their inherent maintenance costs.



The instrument uses UV absorption and scattering characteristics of the sample constituents, a well proven and established technique to derive BOD, COD, TOC and Ammonia. Determination of Total Suspended Solids is by IR absorption and correlation against the conventional gravimetric technique. Correlations to the traditional laboratory determinations are excellent.

Applications

- Real Time Consent Monitoring for Effluent Quality
- Process Optimisation
- Real Time Continuous Monitor for BOD, COD and TOC
- Process Alarm
- Monitoring of water courses prior to Treatment Works

Parameters Measured

BOD
 COD
 TOC
 Ammonia
 Total Suspended Solids
 pH
 Colour
 Turbidity
 Conductivity
 Sample Temperature
 Ion Selective Electrode (optional)

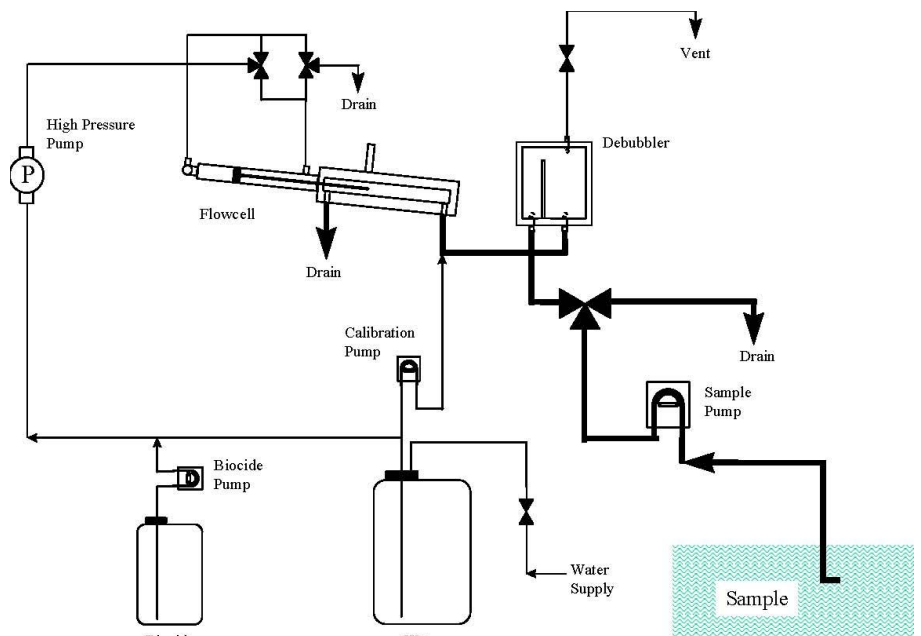
Conventional sensing technology and IR absorption are used for continuous measurement of pH, Conductivity, Turbidity, Apparent Colour and Sample Temperature. Organic pollution parameters and ammonia are derived using algorithms which use the outputs of an array of optical sensors together with corrections for pH, conductivity and temperature.

Optional Windows based software for automatic collection and storage of data is available. Reports can be generated automatically and alarm limits are programmable to provide early notification of changes to the composition of a sample stream.

Analyser Operation

For reliable monitoring it is essential to keep the sample delivery, measuring system and sensors clean.

TSS and turbidity determinations are made without the need for sample filtration. All measurements are performed in a single flowcell. The incoming sample is subjected to coarse screening at the sample intake point, primarily to ensure rags etc. are not drawn into the inlet hose. The size of the screening mesh can be varied to suit the application, but is typically from 1 to 3mm.

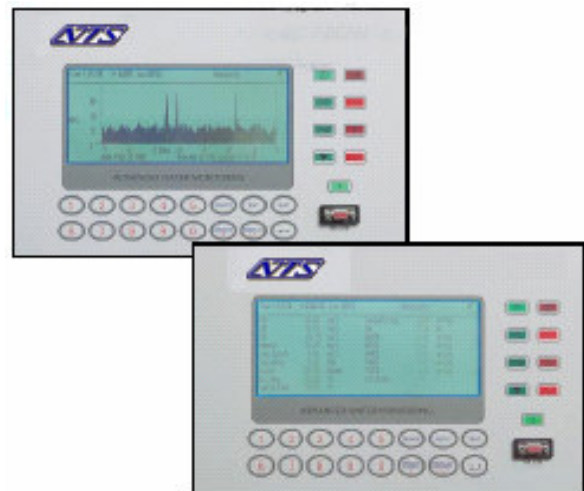


The sample passes through the patented flowcell to drain at a steady flowrate. The flowcell design allows the sample to be well mixed and ensures that fouling of the flowcell and sensors is minimised.

A programmable pressure wash system periodically deploys a jet wash ram along the length of the flowcell to clean all the internal surfaces and sensors. Biocides and / or detergents can also be automatically combined with the wash water to provide a more aggressive cleaning action. During the cleaning cycle the sample pump reverses direction to allow the wash water to backflush the instrument sample lines, inlet pipework and intake screen. This entire process is operator independent.

Displays

A large LCD screen for continuous display of the measured parameters is included. Historical data stored in the analyser's memory can be displayed as graphical data.



Parameters Measured and Specifications

Aquascan is a multi parameter UV based organic pollution monitor developed to continuously and simultaneously measure the following parameters. The instrument can be easily configured to have a path length of either 10mm or 6mm within the flowcell.

1. The ranges given for the derived parameters are indicative.
Wider ranges available, please call sales department.

Parameter	Measurement Range : (R2) Correlation with Standard Methods ₂		
	Path length		
	10mm	6mm	
BOD ₅	0 - 300mg/l	0 - 500mg/l	0.96
COD ₅	0 - 600mg/L	0 - 1000mg/l	0.98
TOC ₅	0 - 150mg/l	0 - 300mg/l	0.93
Ammonia	0 - 40mg/l	0 - 70mg/l	0.86
Colour Apparent	0 - 750 Hazen	0 - 1250 Hazen	0.80
Total Suspended	0 - 250mg/l		0.98
pH	2 - 12pH		Accuracy ±0.2pH
Temperature	0 - 50°C		±1.0°C (±0.2°C when calibrated)
Conductivity	10 - 100000 µS/cm		±5.0% of reading or ±10µS/cm whichever is greater
Turbidity	0 - 100NTU		±2NTU
SE	Depends on measurand and sensitivity reqd.		

Results produced by Hyder Consulting based on a range of waste waters, correlation depends on composition of effluent being monitored.
Hyder Consultancy is a business unit of Hyder plc which incorporates Welsh Water

Service and Maintenance

The monitor has been designed for applications where minimal maintenance is mandatory. The ability to accept the whole sample has been achieved by the use of large bore tubing accepting 3mm particles in suspension with the added benefit of on-line automatic cleaning.

Routine Check: approximately 1 hour per month

Service Interval: monthly



Schloss Lindich, 11
D-72375 Hechingen Germany

Equipment Specification

Outputs	: 4 no. 4 to 20mA : RS232 / RS485 or modem : 1 no. alarm relay
Inputs	: 1 no 4 to 20 mA, (0-5V)
Power Supplies Optional	: 110 - 115vac 50Hz or 60Hz : 220 - 230vac 50Hz or 60Hz
Operating Temp	: -10°C to 40°C
Sample Temp	: >2°C < 35°C
Sample Preparation	: none up to 3mm particle size
Pump Head	: 4m at 4l/min
Cabinet	: external use IP55, electronics IP65 : 1800mm H x 800mm W x 600mm D : 210Kg : 250Kg with cleaning and biocide containers full.

Site Services

Power Supplies	: 110 - 115Vac 50Hz, rated 600VA or 220 - 230Vac 50Hz. rated 600VA
Water Supplies	: clean water if available or replenish internal 30L container as required, dependant on automatic wash cycle.
Drain	: local floor drain or gravity return to

Options

- Software for remote data collection, storage and reports plus alarms
- Ion Selective Electrode (ISE) for specific parameter
- Sample extraction system for open channels
- Water sampler activated by Aquascan
- Cabins and Mobiles
- Communications (Modem, Cellular Network, Low Power Radio)
- Additional analogue inputs
- Multi-streaming

www.aquascan.org

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