AQ301 Water Quality Management with SMS Alarm for Single Boilers

BOILER SAMPLE
COOLANT IN

SAMPLE RETURN
COOLANT OUT

CABLE TRAY

DOSING PUMPS

SUCTION LINE & LOW LEVEL SENSOR

DRUMS
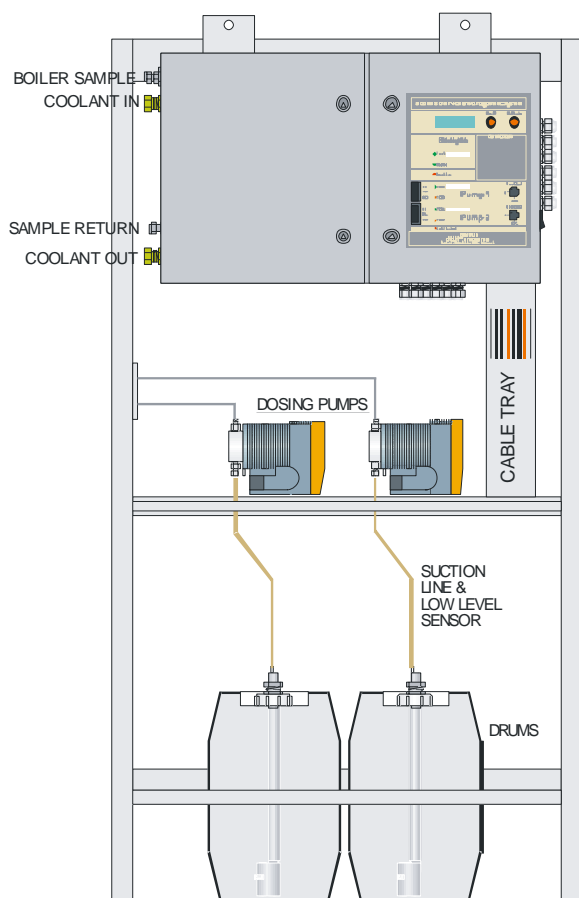
This unit is specially designed to suit automated water quality management for **Single or Combi** boilers up to 15 bar at an affordable price.

The **AQ301** system can be manufactured for a single product chemical regime, with one injection pump, or for a 2 product regime with (max) two pumps. The unit further comprises pH, conductivity, feed temperature probes and mechanical flowmeter. It comes with a local LCD display and probe calibration can be conducted from the front panel.

The system can be configured for chemicals of a chosen supplier or for designated **AQUANET** products.

The probes are temperature fail-safe protected and a low product level alarm is provided for the chemical drums. Alarms are configurable and can be sent via text message to a mobile telephone via GSM.

The unit is stand-alone but can be expanded to full remote monitoring, data logging and display with **AQUANET** software and PC.

NB. The unit accepts only a single boiler water sample. For dual boilers and/or a feed sample, an **AQ300** unit is required.

Features and Benefits

- Keeps boilers scale and corrosion free.
- Lower operating costs.
- Ensures correct chemical levels at all times.
- Optional manual control.
- Easily reconfigured for a new chemical supplier.
- Unique Windows Software, written for networking.

Specifications

Description
The equipment is supplied as a separate instrumentation cabinet and pump rack , both with mounting plates. The instrumentation cabinet is stainless steel with hinged lockable doors. The left hand section holds the integral sample cooler and probes. The right hand section houses the electronics, manual controls and communication interface.

Dimensions (W) x (H) x (D) mm
930 x 1700 x 360

Weight - 35 kg

Colour - RAL 7-001 (dark grey)

Rating - IP66

Power requirements
220/240 Vac 50/60 Hz. 6A Max.

Operating Temperature 50°C max.

Humidity 0-95% RH non condensing

Probes
pH
Range 0 – 14pH
Automatic temperature compensation
Sealed Reference cell
Resolution 0.5% FSD

Conductitvy
Range 0-5000uMhos (0-3500mg/lTDS)
(other ranges available)
Automatic temperature compensation
Resolution 0.5% FSD

Dissolved Oxygen (OPTION)
Range 0 – 2.5 mg/litre
Automatic temperature compensation
Resolution 0.5% FSD

Feed Tank Temperature
Stainless steel pocketed probe
0-110°C scaled as 4-20 mA signal

Mechanical Flow Meters
Flanged DN25 to DN80 PN16
Maximum operating Temp 130°C

Ultrasonic Flow Meters (OPTION)
Non penetrating.
Clamps onto outside of existing pipe work.
Transducer maximum operating temperature 200°C

Blowdown Valves (OPTION)
0 to 32 bar max

Diaphragm Pulse Pumps
1 litre/hr 17 bar max, polyprop head.
Teflon coated diaphragm.

Communications and Monitoring (OPTION)
PC & comm. Box with Aquanet software compatibility for monitoring, logging and display.
RS422 differential line drivers
CRC protected

Links to other **AQUANET** units

TYPICAL SCHEMATIC of an AQ301 INSTALLATION
for a two-product chemical regime
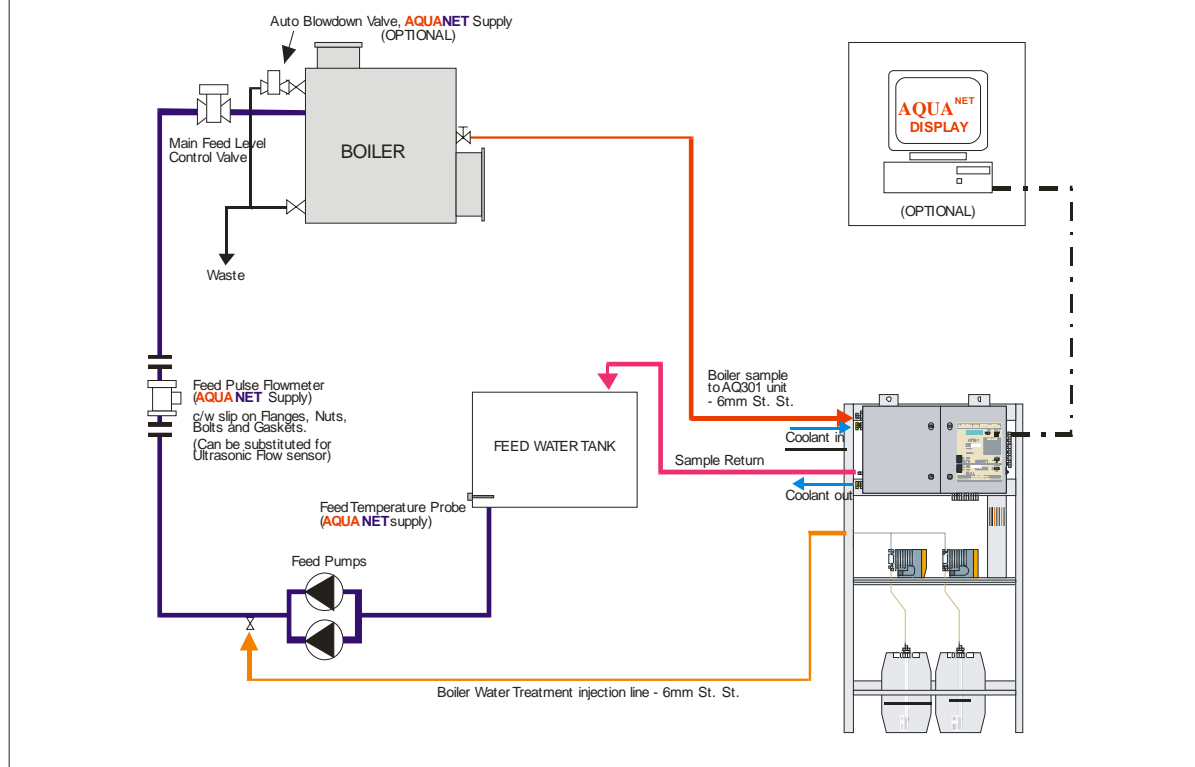
Description of Operation

A boiler water sample is selected by the controller on a continuous cycle. The sample is cooled, pressure reduced and then passed through the probe block. The sample is analysed and the information processed by the electronics, followed by a small upward or downward adjustment of the relevant chemical pumps. The boiler water conductivity controls the **optional** auto surface blowdown valve, maintaining the conductivity to pre-programmed levels. This accurately maintains the water at the ideal density for maximum chemical performance with minimum chemical and water wastage.

Flow Management

The system provides a manual scrolling display of the boiler water and temperature readings.

When used in conjunction with a PC, the Aquamain software provides the following functions:

Continuous display of pH and conductivity readings

Optional dissolved oxygen readings,

Feed temperature,

Dosing pump strokes per minute,

Chemical consumption,

Chemical low level alarm,

Fuse failure alarm,

Main feed flow ,

Optional auto blowdown operation.

User Guide

The **AQUANET** Software comes complete with a comprehensive user guide, which contains on-line copies of the operating, maintenance and fault finding manuals. It includes system drawings both mechanical and electrical and educational text describing water treatment practice.

Event Alarms

Fault and limit alarms are both displayed on the screen and logged. Optionally alarms can be sent via text to a mobile phone.

Log Reports

Pre-formatted management reports provide a summary of average monthly readings. All reports and data can be viewed and printed for any period requested and are also available in various graphic formats. All data is archived for many years.

Auto-Calibrate

All probes are easily calibrated with the test kit provided and via easy to follow, on-screen, step-by-step instructions. It takes only minutes to carry out accurately, preventing the use of incorrect parameters.

Special Features
Probe calibration easy and quick at unit.
Probe construction designed for easy mounting and removal.
Extra pump speed control facility at unit.
Water sample temperature display, with probe protection cut-out.
Easy chemical handling.
Fuse failure alarms.
Pumps have special venting arrangements, returning the vented chemical to the drum.