

Water Quality Panel for Steam Generation Plants



- COMPLETE STAND-ALONE ANALYSIS Panel for High Pressure or Low Pressure Steam
- CONDITIONING for pH, Specific or Cation Conductivity Dissolved Oxygen
- OPTION FOR INTEGRAL MOUNTING of analysers or transmitters
- STAINLESS STEEL Wall Mounting Back plate
- FOUR SAMPLE Pressure and Temperature Designs



FEATURES AND APPLICATIONS

Due to the high pressures and temperatures of process water associated in steam systems, the on-line measurements are ex-situ measurements and require sample handling systems. Two critical sample conditioning areas are pressure reduction and sample cooling.

Pressure Reduction

Pressure reduction has to be done accurately and safely to protect not only the sensors being used but also the analyser maintenance and process operators. Systems have been designed to cover three different pressures 319, 180 and 120 bar, typically found in steam systems

Sample Cooling

To cool high pressure and temperature process steam samples tube-in-shell coolers are used. The sample coolers are compact and manufactured to provide high cooling capacity.

Cooling water requirements

- Temperature 40°C maximum
- Flow rate 1500 l/hr
- Pressure 10barg (max)

Sample Components

The following sample handling components are used

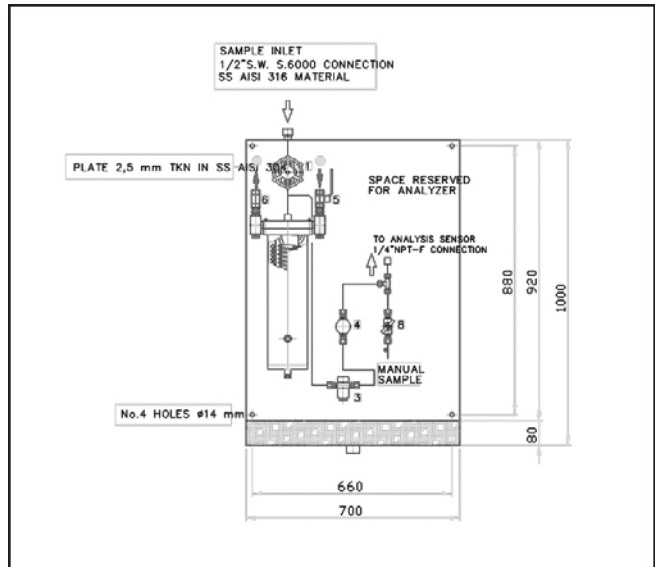
- Globe Valve
- Sample cooler
- Pressure reducing valve
- Sample filter
- Ball Valve
- Check valve
- Needle valve

Materials in Contact with the Sample (Sample Handling only)

- 316 Stainless Steel
- 304 Stainless Steel
- Inconel 600

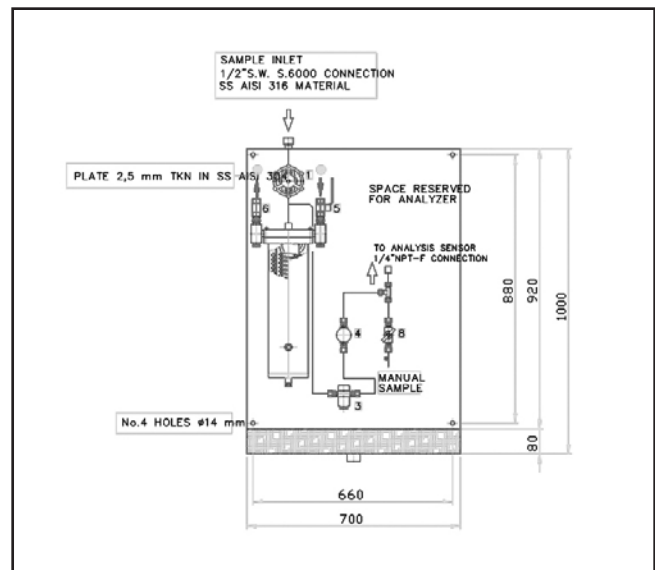
B/01 Sample components

- Plate for wall fixing 1000 x 700 mm dimensions
- 1/2"SW S.6000 connection for sample inlet
- Globe valve, for sample inlet
- Cooler, immersed type
- Ball valve for cooling water inlet
- Check valve for cooling water outlet
- Filter, metallic type
- Pressure reduction valve
- Needle valve for manual grab
- Drain funnel with coupling
- 1/4"NPT compression fitting, twins ferrule type for 10 mm tubing



B/02 Sample components

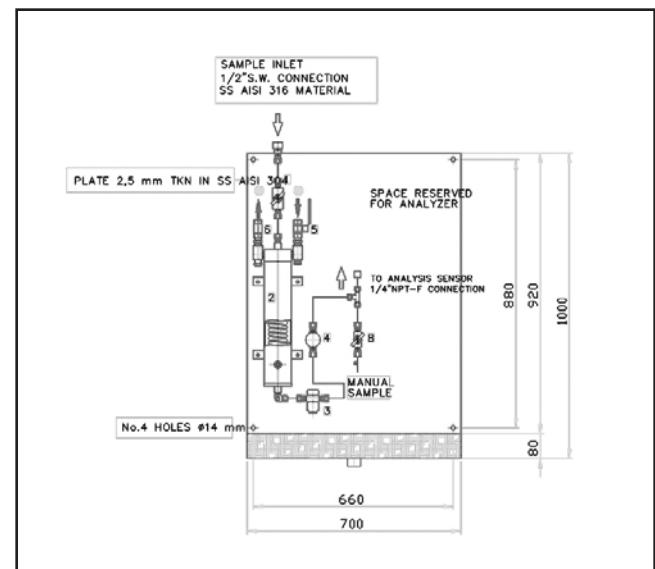
- Plate for wall fixing 1000 x 700 mm dimensions
- 1/2"SW S.3000 connection for sample inlet
- Globe valve, for sample inlet
- Cooler, immersed type
- Ball valve for cooling water inlet
- Check valve for cooling water outlet
- Filter, metallic type
- Pressure reduction valve
- Needle valve for manual grab
- Drain funnel with coupling
- 1/4"NPT compression fitting, twins ferrule type for 10 mm tubing



B/03 Sample components

(B/00 as B/03 without cooler)

- Plate for wall fixing 1000 x 700 mm dimensions
- 1/2"SW S.3000 connection for sample inlet
- Needle valve, for sample inlet
- Cooler, pot type
- Ball valve for cooling water inlet
- Check valve for cooling water outlet
- Filter, metallic type
- Pressure reduction valve
- Needle valve for manual grab
- Drain funnel with coupling
- 1/4"NPT compression fitting, twins ferrule type for 10 mm tubing



ORDERING INFORMATION - The Water Quality Panel

MODEL NUMBER	Description	
WQP	Water Quality Panel	
Level 1	Maximum Pressure and Temperature	
	B/00	None (700 x 1000mm)
	B/01	319 Barg 550° C (700 x 1000mm)
	B/02	180 Barg 350° C (700 x 1000mm)
	B/03	120 Barg 150° C (700 x 1000mm)
Level 2	Manual Take Off	
	A	Not included
	B	Included
Level 3	Measurement 1	
	1	Specific Conductivity
	2	Cation Conductivity (Cation column included)
	3	pH (Model 3200HP)
	4	Dissolved Oxygen
Level 4	Measurement 2	
	0	None
	1	Specific Conductivity
	2	Cation Conductivity (Cation column included)
	3	pH (Model 3200HP)
	4	Dissolved Oxygen
Level 5	Analyzer/Transmitter for Measurement 1	
	0	None
	1	Model 1056 (Single or Dual Channel)
	2	Model XMT (Single Channel Only)
	3	Model 5081 (Single Channel Only)
Level 6	Analyzer/Transmitter 1 for Measurement 2 (panel size increases by 200mm)	
	0	None
	2	Model XMT (Single Channel Only)
	3	Model 5081 (Single Channel Only)
Level 7	Waste	
	1	Open drain
	2	304 Stainless Steel to Tundish
Level 8	Thermo Shut Off Valve	
	A	Not included
	B	Included



Model 3200HP



Model 499 TrDO



Model 1056



Model 400

Model 3200HP pHaser® High Purity Water pH Sensor

Model 3200HP pH sensor is designed for the accurate measurement of pH in low conductivity water. It is well suited to analysis of condensate, boiler water, and feedwater in power plants or any industrial boiler.

Model 400 Conductivity Sensor

Rugged titanium electrodes available with cell constants of 0.01/cm, 0.1/cm, 1.0/cm, 10.0/cm, and a 4-electrode (.85/cm) provide excellent corrosion resistance for consistent, reliable conductivity measurements. Versatile mounting configurations for screw-in, retractable, sanitary flange, or flow-through process connections.

Model 499 TrDO sensor

The Model 499TrDO is intended for the determination of trace (ppb) levels of dissolved oxygen in steam power plants and high purity cooling water. The 499TrDO sensor is a membrane covered amperometric sensor.

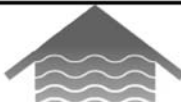
Model 1056 Dual-input Analyzer

The Model 1056 dual-input analyzer offers single or dual sensor input with an unrestricted choice of dual measurements thus reducing the cost per loop and saving panel space. The analyzer has HART and PROFIBUS DP – digital communication. It has a large display with easy-to-read process measurements and intuitive menu screens. It is also easy to install with modular boards; removable connectors easy to wire power, sensors, and outputs.



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