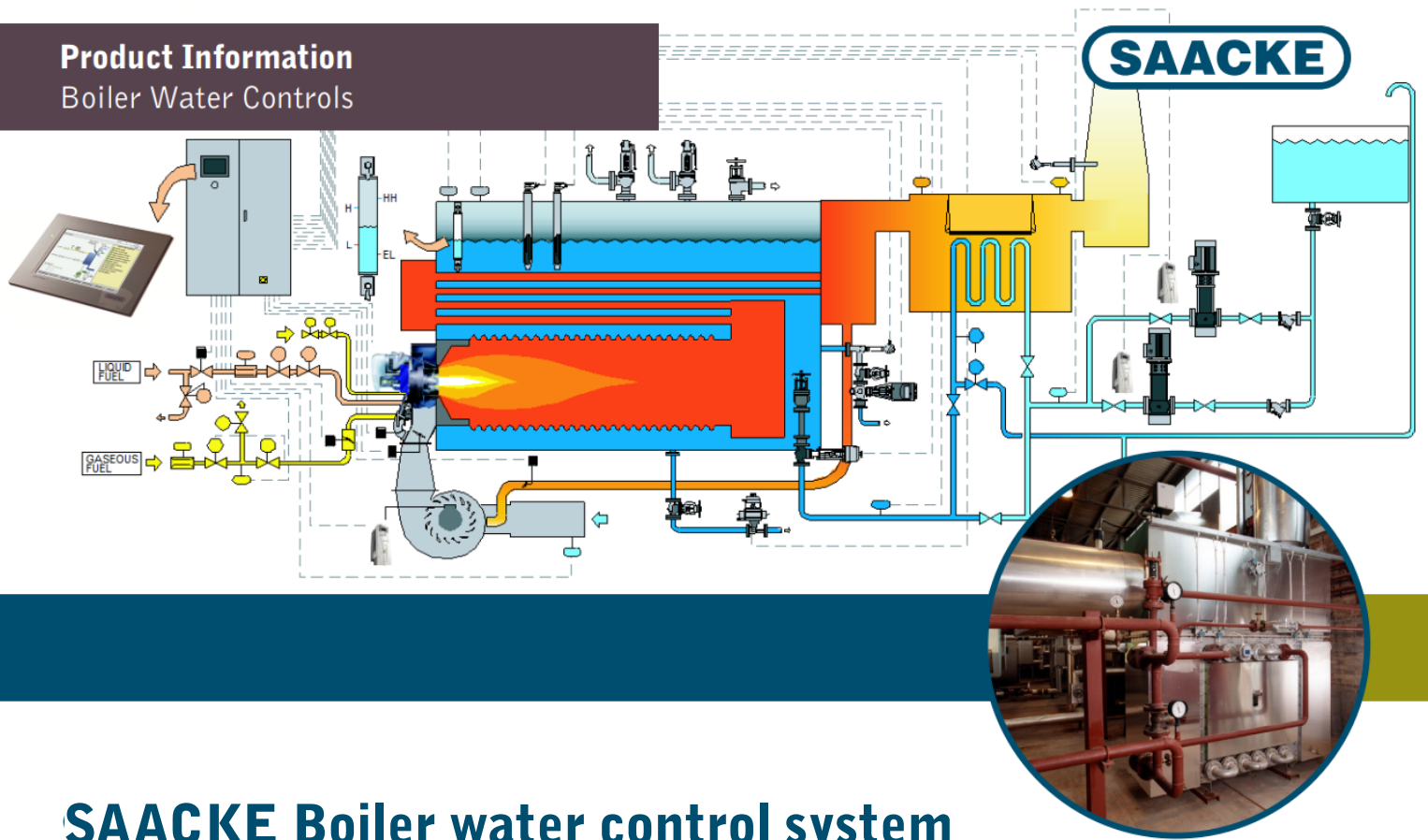


Product Information Boiler Water Controls



SAACKE Boiler water control system

For safety, reliability and energy saving

*SAACKE SSBE integral
bypass economiser*

The SCanView burner management system coupled with the Boiler Water Control Unit (BWC) delivers unequalled functionality and control through a single touchscreen on the boiler control cabinet. Suitable for either new boiler supply or retrofit to existing plant, the system brings all boiler water level control and alarms, blowdown systems, feed pump controls and economiser heat recovery into one control and monitoring unit.

In addition to plant diagrams and measured operating values, trends, graphs, alarms, and history are displayed to assist fault finding and maintenance. Inverter drives of feed water pump motors are possible to provide energy saving and reduced maintenance costs.

The complete system from servomotors and flame scanner to the sensors and control units are certified by Kiwa Gastec to EN230 & 298 & EN61508 SIL3. This ensures peace of mind and delivers the best available technology for personnel and plant health and safety. The unique 'Safety Test System' assists the operator with all mandatory tests without physical intervention of the equipment and provides a dedicated event history log.

Advantages at a glance

- ✓ Support for all boiler ancillaries
- ✓ Intergrated unit for all boiler function control
- ✓ Single point of performance responsibility
- ✓ Touchscreen control for easy operation, view of fault history and maintenance records
- ✓ Safety Test System with logged test history
- ✓ Enhanced safety for personnel and plant
- ✓ SCanView + BWC approved by Kiwa Gastec to EN230, EN298 & EN61508 SIL3
- ✓ Exceeds Guidance for Safe Operation of Boilers BG01

The SAACKE BWC system provides

- ✓ Boiler water level control via on/off or modulating feed systems
- ✓ Touchscreen display of gauge glass level, set points and alarms
- ✓ TDS monitoring, trend graph and alarm
- ✓ Automatic surface and bottom blowdown control
- ✓ Variable speed feed water pumps
- ✓ Feed water pump selection
- ✓ Automatic changeover of feed water pumps
- ✓ Economiser performance monitoring
- ✓ Economiser damper control if fitted
- ✓ Safety Test System additional functionality for mandatory water level tests

The BWC unit supports both on/off and modulating feed pump control systems, and by fitment of inverters to pump motors electrical energy savings are achieved. The additional advantage of inverter controlled on/off pumps is that this provides a wider operating band, reducing the frequency of stops/starts, delivering greater water level stability, thus improving overall boiler efficiency.

Safety test system

This is a unique system that enables all boiler/burner mandatory tests to be carried out under controlled conditions with no need to remove the photocell from its operating position, starve the burner of fuel by shutting the manual fuel valves or linking out or disconnection of boiler limit controllers. Evidence of a successful Test PASS or unsuccessful Test FAIL is recorded in the history log.

The following tests are carried out and supervised by the SCanView/BWC system:

- ✓ Low water level alarm test
- ✓ Extra low 1 water level alarm test
- ✓ High water level alarm test
- ✓ Second high water level alarm test
- ✓ Low water evaporation test
- ✓ Extra low 2 water level evaporation test
- ✓ Boiler safety valve test
- ✓ Safety limit alarm test
- ✓ Control limit test
- ✓ False flame test
- ✓ Flame failure test

Touchscreen safety test failed

*** LOCKOUT ***

This safety test FAILED.
The burner did not lockout with a flame failure.

Go to HIGH FIRE
Go to LOW FIRE
Go to PILOT

Block flame signal
Close fuel valve

Control limit exceeded
Safety limit exceeded
Boiler max.limit exceeded
Boiler actual : 8.30 bar

SAFETY TEST PASSED
SAFETY TEST FAILED

Operating hours :
56 Profile 1 (GAS) SELECTED
0 Profile 2 (OIL)
0 Profile 3 (GAS)
0 Profile 4 (OIL)

Fuel Selection | Burner Start | Burner Stop | **ALARM MUTE** | Control Mode | Operation | Overview

Touchscreen feed water controls screen twin pumps

Modulating

Feedwater Controls

Levels | Economiser | Options | Engineers Values

Steam Temp 170
Steam Flow 61

Water Level :
Probe 1 43.6
Probe 2 43.5

Surface Blowdown

F.W. Temp 47
F.W. Flow 51

Economiser

Feed Pump

T.D.S. 2850

Blowdown

Level 49.4

High: 70.0 | High High: 80.0
Setpoint: 50.0
Low: 30.0
Extra2 Low: 20
Output 8.0

AUTO | MANUAL | WFP MANUAL | WFP OFF

Fuel Selection | Burner Start | Burner Stop | Lockout Reset | Control Mode | Operation | Overview

Touchscreen economiser screen

Modulating

Feedwater Controls

Levels | Economiser | Options | Engineers Values

BOILER | BYPASS DAMPER | CHIMNEY

High: 70.0 | High High: 80.0
Setpoint: 50.0
Low: 30.0
Extra2 Low: 20
Output 8.0

Economiser inlet Water Tw1 37 °C Exh Gas Tg1 175 °C
Economiser Outlet Water Tw2 47 °C Exh Gas Tg2 134 °C
Heat Recovered 2169 kW 1.7 %

AUTO | WFP MANUAL | WFP OFF

Fuel Selection | Burner Start | Burner Stop | Lockout Reset | Control Mode | Operation | Overview

Touchscreen safety test history

Proving purge

Safety Test System

Date	Test	Result	Initial
2011-02-16 14:44:03	High water level alarm	PASSED	D.J.L.
2011-02-16 14:41:14	Extra low water level alarm	PASSED	D.J.L.
2011-02-16 14:17:14	Low water level alarm	PASSED	D.J.L.
2011-02-16 14:12:16	Low water level alarm	PASSED	D.J.L.
2011-02-16 14:04:22	Boiler safety valve (@13.30)	PASSED	D.J.L.
2011-02-16 14:00:15	Boiler safety limit alarm	PASSED	D.J.L.
2011-02-16 13:56:04	Boiler control limit	PASSED	D.J.L.
2011-02-16 13:50:10	False flame (MAIN)	ACCEPT	D.J.L.
2011-02-16 13:47:47	False flame (MAIN)	FAILED	D.J.L.
2011-02-16 12:19:49	Flame failure (S2 MAIN)	PASSED	D.J.L.

Perform / accept a test ...

Not logged in Inactive

Fuel Selection | Burner Start | Burner Stop | Lockout Reset | Control Mode | Operation | Overview

