

Product information

Boiler Controls



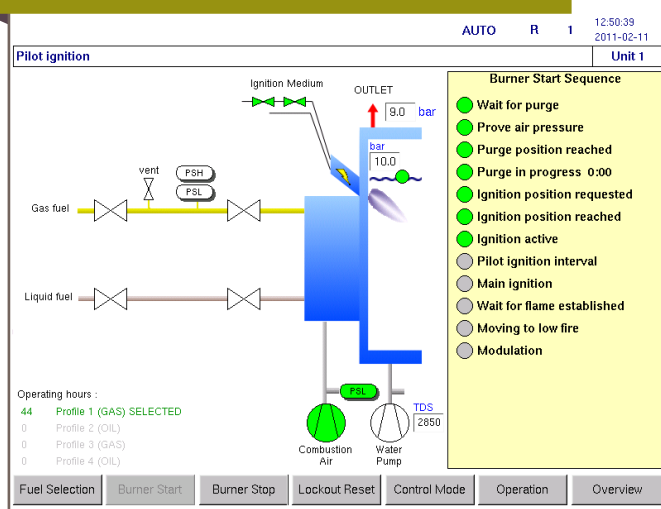
SAACKE Boiler management system

Controls for optimum efficiency and emissions

The current suite of se@vis controls manufactured by SAACKE deliver the best available technology for a wide variation in process requirements. These range from oil, gas and dual fuel burners of all types and sizes, to complex multi-fuel simultaneous or combined firing applications, to micro-gas turbine CHP burners and in the marine world for LNG gas combustion units and exhaust gas cleaning systems. A choice of interface is available from keypad to several sizes of touchscreen.

SCanView satisfies the most demanding of Boiler-house Technical Risk Assessments and also complies with BG01 Arrangement 2, and with remote monitoring Arrangement 3. With over 500 units operating in the field this is a proven product with reliability, repeatability and accuracy the key to its reputation. The user-friendly touchscreen, event and alarm history log, trend graphs, ripple-through light sequence display, and connectivity for remote management provide real benefits in aiding efficiency and energy saving.

Overview screen with ripple-through lights



The variant designed and manufactured within the UK and offered to customers in the UK and Ireland is the DDCC SCanView®. This performs all burner management functions, air/fuel ratio control and fan inverter and oxygen/CO trim controls can be added. With the additional Boiler Water Control (BWC) module the SCanView system can also monitor and control boiler water level, feed pumps, TDS and blowdowns and economiser heat recovery.

Advantages at a glance

- Specify for new burners or to modernise existing
- Suitable for non-SAACKE burner products
- 10.4" touchscreen for simple, intuitive operation; other sizes available
- Inverter drive and O₂/CO trim control
- Safety Test System with logged test history
- Accuracy, efficiency, reliability, low emissions
- Modbus, Profibus and Ethernet options
- Exceeds Guidance for Safe Operation of Boilers BG01
- Certified safety with SIL 3 according to IEC 61508
- Independent Test House certified to EN298:2012

Enhanced control and safety

The design brief for the product was to include as many of the features and boiler ancillaries as possible for monitoring, alarm and control. From this background the unique 'Safety Test System' was conceived, with the same prerequisite as the burner and boiler management functions, namely to provide an easy to operate interface for the operator and to further enhance the safety of the boiler, and with the ability to transfer data by Modbus, Profibus or Ethernet for remote monitoring and storage.

Overview screen with operation keys

The screenshot shows a control interface for a boiler. At the top, it displays 'Modulating' and 'Unit 1' with a timestamp of 12:00:02 on 2011-02-11. The main area features a schematic of the boiler with various inputs and outputs labeled: Gas fuel, Liquid fuel, Ignition Medium, OUTLET (9.9 bar), vent, PSH, PSL, Combustion Air, and Water Pump (TDS 2850). A vertical menu on the right contains buttons for: Burner Adjust, Message Archive, Configuration, Trend, Project, Feed Water Controls, Safety Test System, Maintenance History, and Clean Screen. At the bottom, there are buttons for Fuel Selection, Burner Start, Burner Stop, Lockout Reset, Control Mode, Operation, and Overview. Operating hours are shown as 44, with Profile 1 (GAS) selected.

The system can perform and 'supervise' all mandatory daily, weekly and annual tests, with the only exception being the boiler gauge glass test that must be carried out manually. An operator must be present at all times and is required, every 30 seconds, to instruct the test to continue. A ripple-through light system shows the stages and status of the test for operator information.

Safety test selection screen

The screenshot shows the 'Safety Test System' interface. It includes a 'Safety Test System' window with options like 'Acknowledge failed test' and 'Disable remote alarms during tests'. A 'Select safety test to perform' section lists tests such as Flame failure, False flame, Boiler control limit, Boiler safety limit alarm, Boiler safety valve, Low water level alarm, Extra low water level alarm, High water level alarm, High-high water level alarm, Low water evaporation, and Extra low water evaporation. On the right, there are input fields for Modulation rate (99%), Flame intensity (88%), Flue gas Oxygen (2.5%), Efficiency (95.0%), Flue Temperature (175°C), Ambient temperature (23°C), and Flue gas CO2 (10.4%). A 'Boiler setpoint' is set to 100.0 bar and 'Boiler actual' is 7.7 bar. At the bottom, there are buttons for Fuel Selection, Burner Start, Burner Stop, Lockout Reset, Control Mode, Operation, and Overview. The operator's name 'D.J.L.' is shown as inactive.

Safety test operator information

The screenshot shows the 'Safety test operator information' screen. It features a schematic of the burner start sequence with labels for Gas fuel, Liquid fuel, Ignition Medium, OUTLET (9.0 bar), vent, PSH, PSL, Combustion Air, and Water Pump (TDS 2850). A 'Burner Start Sequence' list on the right includes: Wait for purge, Prove air pressure, Purge position reached, Purge in progress 0.00, Ignition position requested, Ignition position reached, Ignition active, Pilot ignition interval, Main ignition, Wait for flame established, Moving to low fire, and Modulation. At the bottom, there are buttons for Fuel Selection, Burner Start, Burner Stop, Lockout Reset, Control Mode, Operation, and Overview. Operating hours are shown as 44, with Profile 1 (GAS) selected.

The automation of these tests removes human error from these important tests and without doubt further enhances the safety of the boiler. Without the need for manual intervention before and after various tests, the integrity of the plant is assured and the system delivers an enhanced level of safety to plant and personnel. The time and date logging of each test also provides a proven record of compliance that inspires confidence by all concerned.

Message archive - faults and events

The screenshot shows the 'Message Archive' screen. It includes a table with columns for Item, Date / Time, Description, Subst, Pro, and SP. The table lists various events such as Burner startup, Re-start (Mute), SafetyTestFailed, False Flame, Low Fire Hold selected, and Burner shutdown. On the right, there is a vertical menu with buttons for Burner Adjust, Message Archive, Configuration, Trend, Project, Feed Water Controls, Safety Test System, Maintenance History, and Clean Screen. At the bottom, there are buttons for Fuel Selection, Burner Start, Burner Stop, Lockout Reset, Control Mode, Operation, and Overview. The operator's name 'LFH' is shown.

SCanView and its ancillaries of CANbus servo-motors, pressure and temperature sensors, oxygen trim, flame scanner and boiler water controller, comply with the Pressure Equipment Directive and the Gas Appliances Directive, certified by an independent test house to EN298:2012 and safety in SIL 3 according to IEC 61508.

SCanView – Total control, with peace of mind!

