



## **STACK GAS OXYGEN ANALYZING**



# True Wet Measurement of Excess Oxygen



## Control Combustion and Optimize Boiler Efficiency

The SBS3620 provides real-time data to help control the fuel-air ratio. The fuel-air ratio in the burner is crucial for optimizing the combustion and obtaining boiler efficiency. Insufficient oxygen supply leads to poor combustion, which means that unburned fuel escapes and energy is lost. Besides wasting fuel, incomplete combustion also generates more black smoke and soot. Too much excess oxygen absorbs heat, which also means that valuable energy is lost.

## Save Fuel and Detect Malfunctions

With a SBS3620 Stack Gas Oxygen Analyzer it is possible to save up to 3-5% of the fuel consumption. Even on smaller boilers, the SBS3620 achieves a pay-back time of a few months. In addition, controlling the combustion gives early alarms for detecting boiler malfunctions which keeps the boiler clean avoiding expensive boiler maintenance. By saving fuel you also spare the environment of emissions.

## Easy On-stack Installation

The system is installed directly in the stack close to the boiler, which provides true wet oxygen measurements under actual flue gas conditions. This means that the sample is analyzed in situ without being passed through vulnerable sampling lines.

## Robust Design for Diverse Applications

The design makes the SBS3620 very robust and well suited for the harsh marine environment with lots of vibrations and heat, but it has also proven its durability in connection to special industrial applications with unusual combustion conditions.

It is a compact system consisting of an ejector probe with protective housing, a sampling board, and an umbilical cord. The system uses a zirconia cell sensor that is one of the most rugged analyzing techniques, and it has proven its functionality in many different environments.

## Low Maintenance - Easy Operation

Automatic simplified calibrations of the SBS3620 make the system easy to operate. At regular intervals (freely configurable), the analyzer calibrates itself using instrument air. The automatic back-flushings clean the head of the probe from loose soot and dust which assures minimum maintenance and crew disruption.

The simple and self-explanatory design of the SBS3620 makes it easy to check the functionality of the analyzer. Even if the zirconia cell needs to be replaced, this is done within minutes.

# For Boiler Safety and Fuel Economy



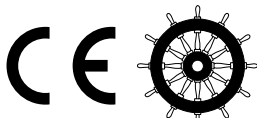
The SBS3620  
Stack Gas Oxygen  
Analyzing Probe

Umbilical Cord



## Key Features

- Optimize boiler efficiency
- Keep the boiler clean
- Save fuel
- Get early alarms
- Protect the environment
  
- Compact design — Easy to install
- Automatic in situ calibration — Easy to use
- Automatic back-flushing for purging the filter at the probe head — Easy to maintain
- Configurable measuring and output range
- Long time sensor stability
- Inexpensive spare parts
  
- Worldwide customer support via service partners



## Stand Alone or Panel Mounted Analyzers



### SBS36p O<sub>2</sub> Analyzer

These analyzers provide various advantages such as interface via touch screen, compatibility with a new improved sensor, trend graph, data logging, galvanically separated and stronger analog signal, and optional pressure compensation.

### MED Approval

The SBS36a/p is approved under the European Marine Equipment Directive, becoming the first system to be certified under the new MED heading A 1/3.54 for fixed oxygen analyzers. Since the end of July 2009, fixed oxygen analyzers must have MED approval on European flagged ships - this includes most EU flags and Norwegian flags.

### Customized Solutions

We offer standard equipment but also customized solutions. So do not hesitate to contact us, and we will help you find the best suitable solution for you and your company.

# Specifications - SBS3620

## Analyzer

Measurement range	0.0...21.0% O <sub>2</sub>
Ambient temperature	-15°C to +55°C
Power supply	100...230 VAC /50...60 Hz
Power consumption	40 VA per analyzer
Digital display	Touch screen 71 x 39 mm
Output signals	Active 4...20 mA
Alarm relays	2 relays, volt free, 24 V AC/DC, 5 A
Response time	90% of full scale in less than 45 sec.
Repeatability	+/- 0.1% of the measurement range
Enclosure	IP67

## SBS36p

0.0...21.0% O <sub>2</sub>
0°C to +70°C
24 VDC
40 VA per analyzer
Touch screen 71 x 39 mm
Active 4...20 mA
2 relays, volt free, 24 V AC/DC, 5 A
90% of full scale in less than 45 sec.
+/- 0.1% of the measurement range
IP55 when panel mounted

## Sampling Board with Connections

Dimensions / weight	600 x 290 x 130 mm (HxWxD) / approx. 6 kg (without umbilical cord)
Test gas inlet	Max. 2 bar – quick coupling for connection of OD 6 mm hose
Air supply inlet	Max. 10 bar - 1/8" BSP connection
Air quality	Instrument air quality according to ISO8573-1:2010 class 4.4.3 – consumption up to 5 l/min

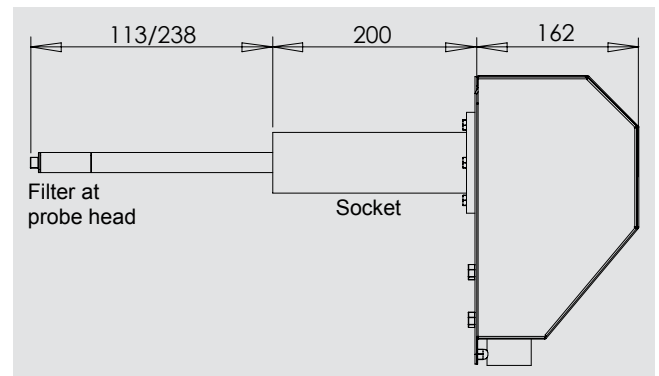
## Ejector Probe

Sensor technology	Zirconia type sensor
Sample temperature	0°C to +500°C
Calibration air flow	Approx. 2 l/min
Ejector air flow at 1 bar	Approx. 2 l/min ≈ Vacuum 80 mm H <sub>2</sub> O – adjustable if more suction is needed
Dimensions	285 x 180 x 475/600 mm (HxWxD) for stack diameters of 120 to 2800 mm
Weight	Approx. 6 kg (without umbilical cord)
Umbilical cord	3.0 m length in 28 mm nylon conduit

# Optional Equipment

Remote display with alarm relays  
Visualization and data logging  
Extension kit for umbilical cord

Specifications subject to changes without notice



## EUROPE

Scandinavian Boiler Service  
Denmark  
Tel.: +45 7027 1000  
Email: sbs@sbs-eu.com

## AMERICA

Scandinavian Boiler Service  
Ft. Lauderdale USA  
Tel.: +1 954 763 7375  
Email: sbs@sbs-us.com



## ASIA

Scandinavian Boiler Service  
Singapore  
Tel.: +65 6767 0200  
Email: sbs@sbs-asia.com

## MIDDLE EAST

Scandinavian Boiler Service  
Dubai  
Tel.: +971 4 340 2110  
Email: dubai@sbs-industries.com