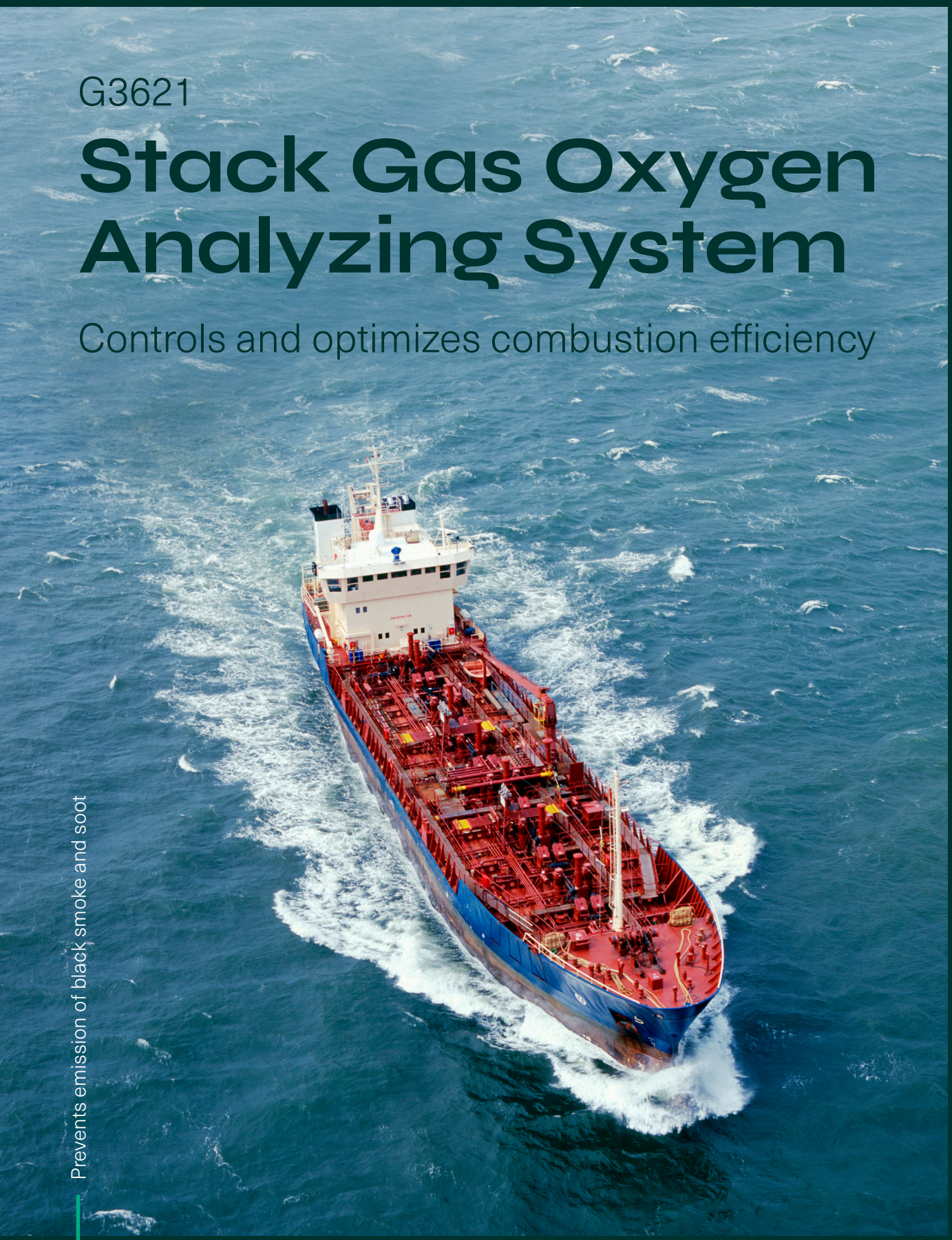
G3621

Stack Gas Oxygen Analyzing System

Controls and optimizes combustion efficiency



Prevents emission of black smoke and soot

Maritime

Green Instruments

Robust design and reliable monitoring

Key features

- Optimizes boiler efficiency
- Robust and compact design
- Simple installation – minimal footprint
- Simple calibration by crew
- True wet measurement of excess oxygen in exhaust gas
- Configurable measuring range and signal outputs
- Automatic artificial calibration
- Automatic backflushing for purging filter at probe head
- Low cost of ownership
- Global service and support

Green Instruments oxygen analyzing systems provide user-friendly and robust monitoring of oxygen in marine environments. Stack gas is the exhaust gas emitted from ship boilers. The G3621 Stack Gas Oxygen Analyzing System provides data for controlling the fuel-air ratio in the burning process and is used for controlling combustion and optimizing boiler efficiency. In other words, the data provided is useful for energy optimization and environmental compliance. Insufficient oxygen supply leads to poor combustion, fuel waste, and loss of energy as well as more black smoke and soot in the atmosphere. With the stack gas oxygen analyzer, savings of 3-5% in fuel consumption are achievable. Even used in smaller boilers, the payback period is just a few months.

Simple operation

The heart of each Green Instruments oxygen analyzer is a microprocessor-based unit with a simple menu structure that ensures a quick set-up procedure. The oxygen analyzers are designed for easy replacement of parts and simple system calibration. They use a zirconia sensor cell, which is based on well-proven and reliable sensor technology.

Control combustion and optimize boiler efficiency

The G3621 Stack Gas Oxygen Analyzing System is a decisive tool consisting of an oxygen analyzer, a sampling board, and a diffusion probe with an oxygen sensor for optimizing boiler efficiency and reducing excess oxygen. Too much excess oxygen absorbs heat, which means valuable energy is lost. The system is installed in the stack close to the boiler, providing real-time, wet oxygen measurements under actual exhaust gas conditions. This means that the stack gas is analyzed in-situ without being led through vulnerable sampling lines. The analyzer is highly configurable, delivering outstanding performance and reliable in-situ real-time monitoring.

Simple calibration and automatic backflushing

Calibration of the G3621 Stack Gas Oxygen Analyzing System is simple and automatic, ensuring minimum maintenance. Calibration is executed at regular intervals and uses instrument air. Automatic backflushing of the probe head keeps it clean from loose soot and dust.

The diffusion probe

The diffusion probe on the G3621 Stack Gas Oxygen Analyzing System ensures that the gas is diffused to the measuring chamber. This makes it suitable for most marine applications. The simple design also ensures minimal maintenance.

Service and support

The G3621 Stack Gas Oxygen Analyzing System is compact and simple to install. Consumable parts are easy to replace by the crew. In the event that assistance is required, for example with the replacement of parts or with retrofitting, Green Instruments provides full service and support to ensure optimal operation throughout the entire product lifetime.

Certificates

Specifications – G3621

ANALYZERS

- G3621a: Inclusive fixed analyzer
- G3621p: External analyzer

Power supply

	G36a	G36p
Standard	100 – 230 VAC 50/60 Hz	24 VDC
Power consumption	40 VA per analyzer	
Ambient temperature	-15 – 55 °C	0 – 70 °C

Material/enclosure

Digital display	71 x 39 mm touch screen with trend graph display	
Enclosure	IP 67	IP 55 if panel mounted

Measurement

Measurement range	0 – 21 % O_2
Repeatability	± 0.1 % of the measurement range

Communication

Output signal	2 x 4 – 20 mA – range selectable Default: 0 – 25 % O_2
Max load signal	600 Ω / 24 VDC
Alarm relays	4 relays, volt free, 24 VAC/DC, 5 A for O_2 low or high; O_2 high-high; systems fail
Response time	90 % of full scale in less than 45 sec.
Datalog	History and alarm logs on SD cards

ANALYZING BOARD DIMENSIONS

G3621a dimensions / weight	600 x 290 x 138 mm / approx. 6 kg (without packaging)
G3621p dimensions / weight	600 x 290 x 95 mm / approx. 4 kg (without packaging)
Test gas inlet	Max 1 bar – quick coupling for 6 mm OD hose
Air supply inlet	Max 8 bar – 1/8" BSP connection
Air supply quality	Instrument air quality according to ISO 8573-1 class 3

DIFFUSION PROBE

Sensor technology	Zirconia type sensor
Sample temperature	0 – 500 °C
Probe insert length	208 – 338 mm For duct diameters 235 – 2800 mm
Mounting type	Welding socket size OD: 70 mm L: 190 mm or thread size: 1½ BSP
Air supply connection for backflushing and calibration	6/4 tubing
Calibration air flow	Approx. 0.5 – 1 l/min
Dimensions	Short: 285 x 180 x 475 mm Long: 285 x 180 x 600 mm Weight: Approx. 6 kg (without packaging)

UMBILICAL CORD

Standard cord length	3 m
Optional	6 m cord
Tubing	In 28 mm nylon conduit

Specifications subject to changes without notice

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