



Aanderaa SOOGUARD

ENVIRONMENTAL SHIPBOURNE DATA COLLECTION (SHIP OF OPPORTUNITY)

The Aanderaa SooGuard offers:

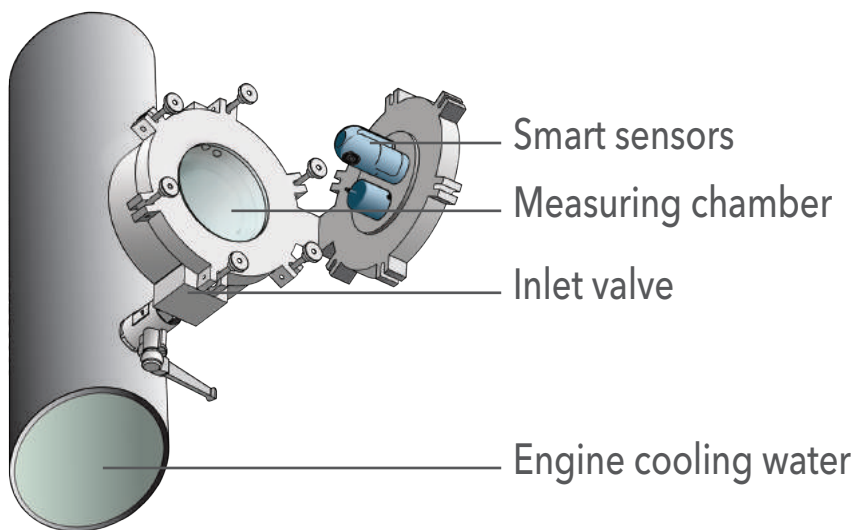
Low maintenance, High Stability, Low Operating Costs

- Flexibility to suit the customers/operators needs
- Robust system designed to be used in harsh environments
- Designed to avoid trapping sediment and air bubbles
- Long life/operation time, long term sensor stability
- Easy installation, cleaning and maintenance
- Reconfigurable instrument options
- Full real-time solution with satellite telemetry or cable links
- Web based data display

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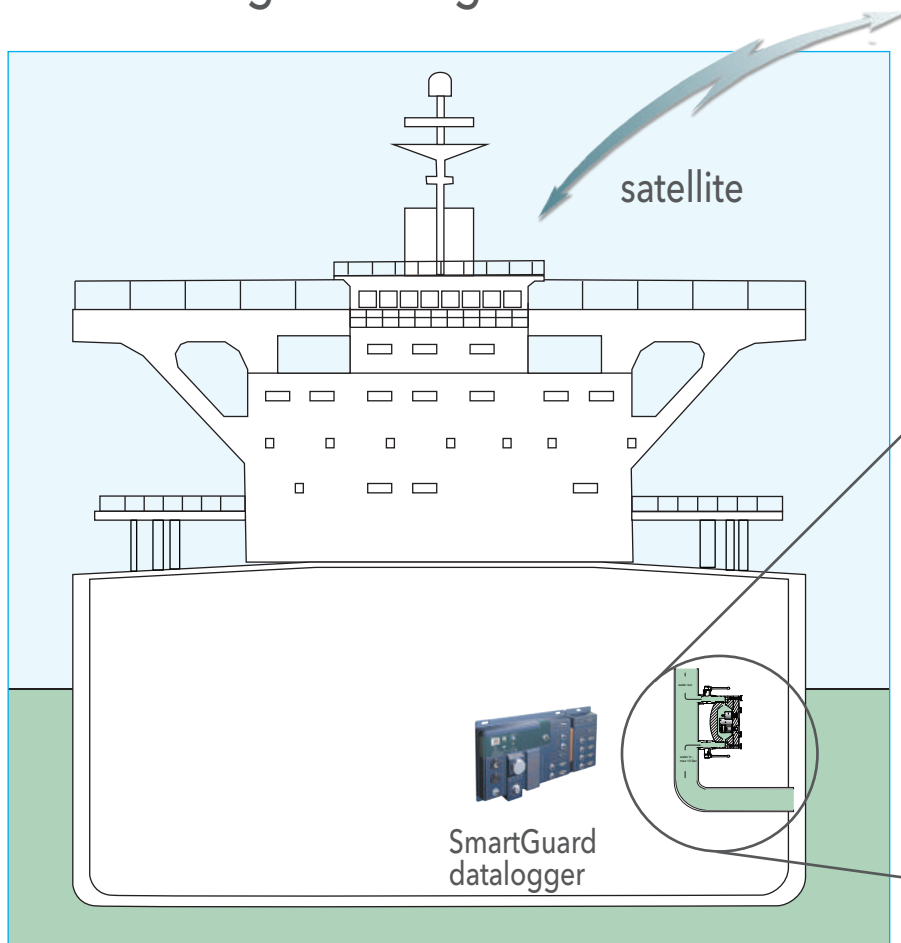
a xylem brand

Aanderaa SooGuard System description

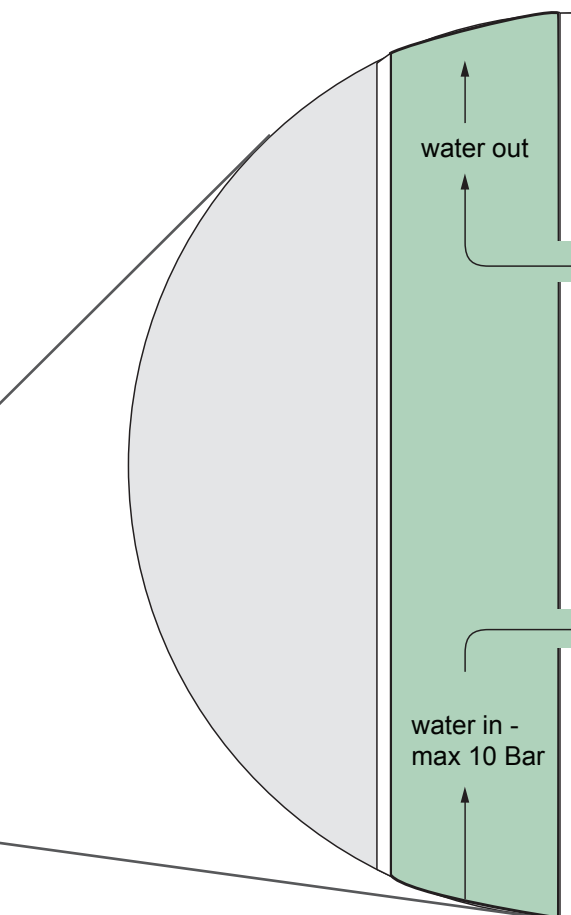


Flowthrough housing

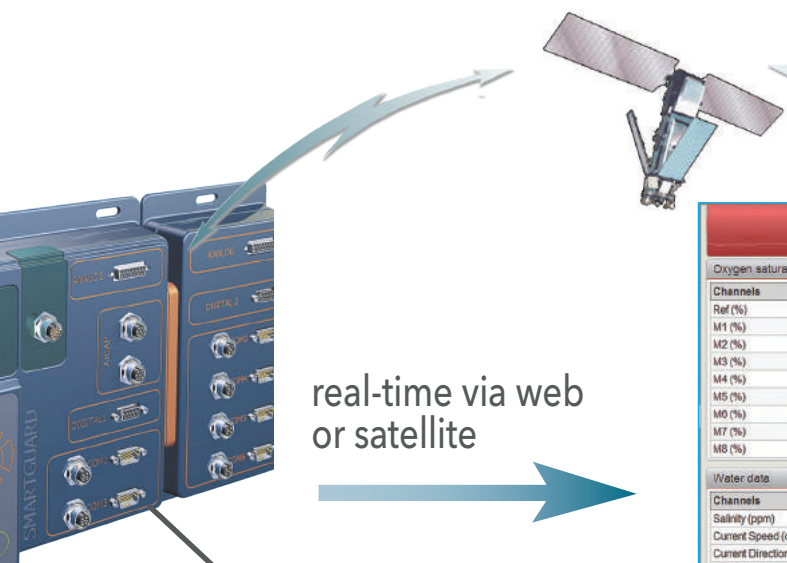
SmartGuard



Ship of Opportunity



Flowthrough



real-time via web or satellite

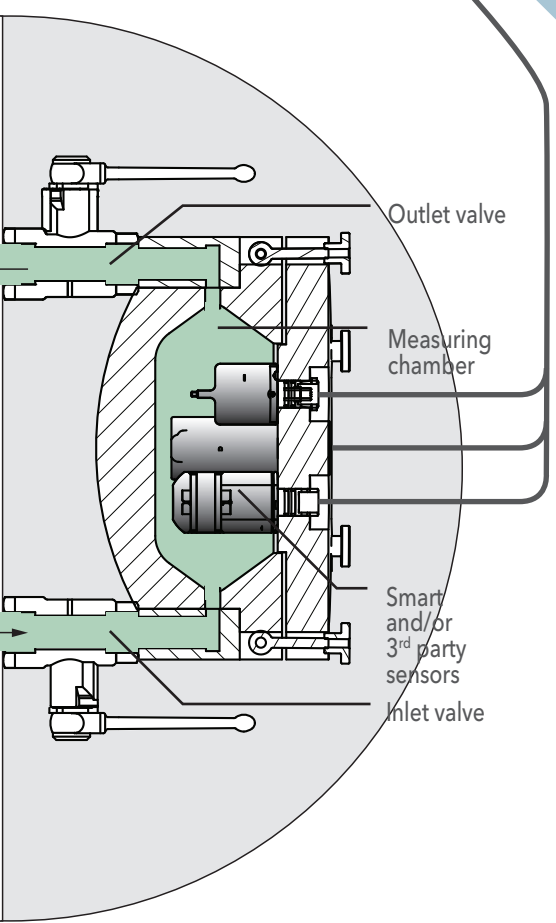
receiving station onshore



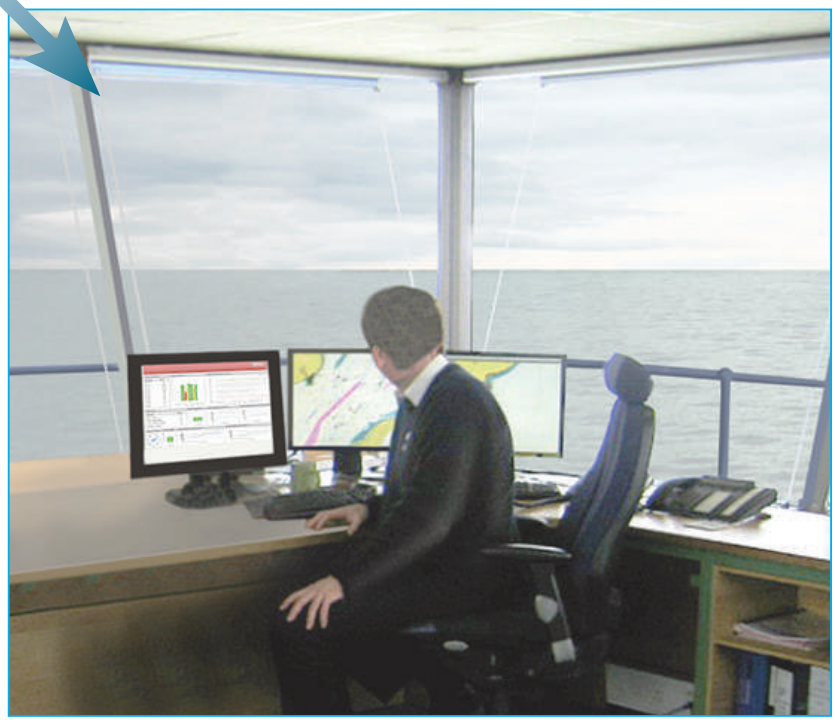
GeoView Display program

datalogger

real-time via Ethernet



housing



Onboard display

Aanderaa SOOGUARD

The Aanderaa version of FerryBox named SooGuard consists of an automated package of different sensors designed for long-term installation on a ship of opportunity. Measurements of environmental parameters in the surface water along its transect are collected and could be transmitted in near real time.

The SooGuard development involved collaboration with the National Oceanography Centre, UK (NOC). The design draws on experience gained by the NOC from installations aboard the P&O Ferries Ltd. "MV Pride of Bilbao" (transiting Portsmouth - Bilbao) starting in April 2002 and the China Navigation MV Pacific Celebes starting in May 2007.

The system offers easy maintenance and flexibility to collect data from a ship of opportunity. It is based around a 10 bar pressure housing for water-flow and measurements. Embedded sensors are connected to our SmartGuard data collection platform for data logging and telemetry.

The standard parameters being measured are:

- Conductivity (see data sheet 4319B)
- Oxygen (see data sheet 4835)
- Chlorophyll Turner Designs Cyclops
- Water flow in the tube ABB

Optional parameters to measure:

- CDOM
- pH
- Turbidity (see data sheet 4112)
- Most third party sensors (analog, RS-232/RS-422)
- GPS
- Other parameters on demand

GPS data from the boat may be collected by the SmartGuard datalogger. Some additional water parameters available from the boat can also be collected by the data logger (meteorological data, etc). Real-time data transmission is possible depending on the ship's capabilities.

SmartGuard is the latest member in the Aanderaa family of advanced dataloggers. It has low power consumption and the capacity to handle more than 40 Aanderaa and/or third party sensors using different signal standards.

For on-line communication it incorporates USB, LAN/Ethernet and serial capacity supported by Aanderaa real-time communication and data presentation software. SmartGuard will store, save and send data in real time to receiving station as well as to a display on board the ship if needed. System status can be checked in the engine room directly on the SmartGuard display or on an optional panel PC.

The standard system includes:

- Follow-through chamber
- Sensors; conductivity, oxygen, cyclops chlorophyll
- all with 10 m cables for connection to SmartGuard data logger
- SmartGuard data logger with cable for power supply with free end
- Real-time Collector, software for collecting and presenting data
- Real-time output (cable not included)

Options

- Cyclops 7 CDOM sensor
- Turbidity (4112/4112A/4112B/4112C)
- Real-time transmission via satellite/Ethernet
- Additional third party sensors
- Extra follow-through chamber
- Meteorological sensors
- Display on a PC in the machine room including cabinet for SmartGuard and GeoView display program
- Other possibilities and functionalities to be discussed on request

Visit our Web site for the latest version of this document and more information
www.aanderaa.com

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Let's Solve Water