

### -4H-FerryBox

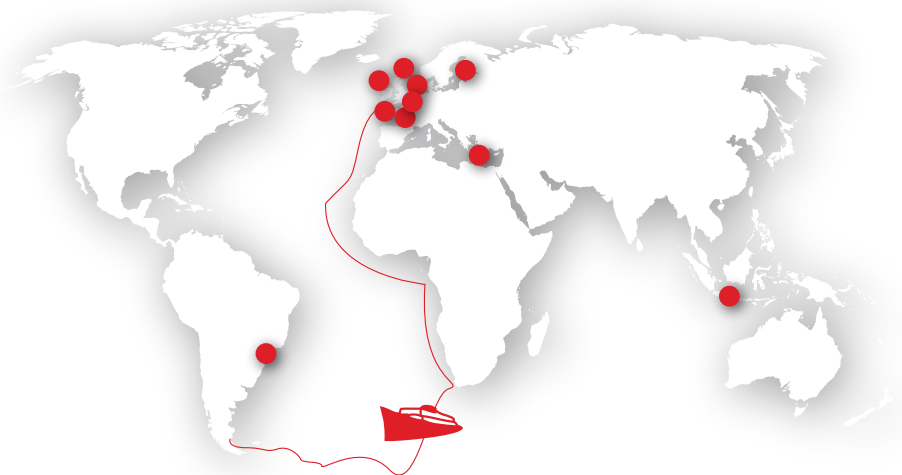


## -4H-FerryBox - Autonomous Flow-Through Measuring Systems

The 4H-FerryBox is an automatic, low-maintenance measuring system to monitor water parameters. It was especially developed for continuous deployment on ships, in measuring stations and river monitoring stations. The special architecture allows the integration of various sensors of different manufacturers, the connection of analyzers and automatic samplers and in particular measurements in difficult media (e.g. sea water, oxygenated water etc.). Due to the integrated automatic cleaning and anti-fouling system for all the sensors, maintenance is kept to a minimum.

The control, data management and data visualization on LabView-based software allows automatic long-term measurements. In conjunction with a corresponding communication module remote control and telemaintenance as well as geo tagged measurement or even series of position-dependent measurements are possible.

**A 4H-FERRYBOX IS THE SOLUTION FOR EFFICIENT WATER MONITORING WORLDWIDE.**



FerryBox  
Application on  
research vessels



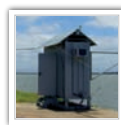
FerryBox  
Application on liners



FerryBox  
Application on Ferries



Offshore monitoring  
on research plat-  
forms



Stationary Costal  
Monitoring, Brazil



Stationary River  
Monitoring, Indonesia



## -4H-FerryBox I

### Application

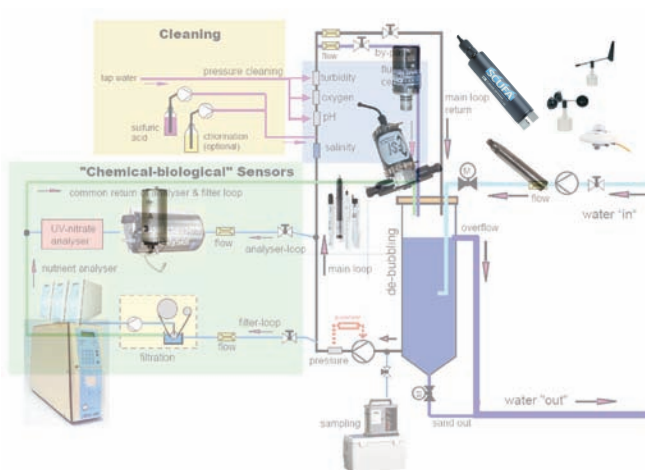
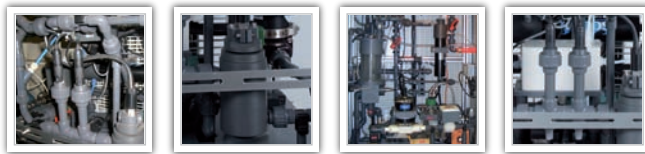
Long-term operational oceanography and water quality monitoring

### Characteristics

Open system, suitable for many sensors and analysers for water quality. Easy installation of customer's sensors. Extension with nutrient analysers, PCO<sub>2</sub> etc. Effective automated cleaning and anti-fouling system. Filtration system easy to install.

### Restrictions

Open system. Either free water outflow possible or external pump system necessary. Relatively large and heavy.



The -4H-FerryBox provides solutions to the problems associated with long-term in situ monitoring of rivers, estuaries, coastal zones and open sea. The modular flow-through system combines high flexibility in the choice of sensor types and methods with a fully integrated anti-fouling concept and the possibility for automatic and remote-controlled operation based on the „LabView“ software technology. A wide range of monitoring tasks, all from stationary river monitoring to position controlled FerryBoxes is possible.



## -4H-FerryBox II

### Application

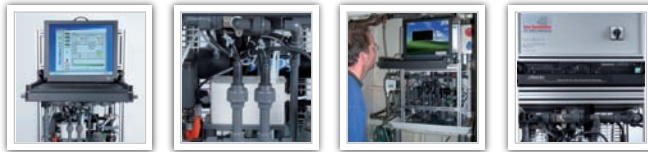
Long-term operational oceanography and water quality monitoring & short-term ship applications.

### Characteristics

Closed system can be operated under the water line of the ship. Simple automated cleaning and anti-fouling system. Small and light system.

### Restrictions

Only pressure-resistive sensors can be installed. Number of additional sensors is restricted.



### Special Software features

- GPS-guided Position Control
- GPS and Time-based Event Management (for example: water sampling)
- Automatic Harbor Detection
- Individually adjustable cleaning procedures (GPS or time based)
- Calibration tools for all parameters
- Uniform data format for all sensors
- Data transmission (e-mail, ftp etc.)
- Error management (Error routines, E-Mail with error report)
- Online Data Visualisation



### -4H-PocketFerryBox

#### Application

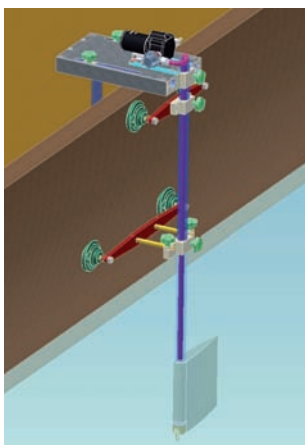
Field experiments in combination with sampling campaigns etc.

#### Characteristics

Portable system, can be operated from small boats. „Measurements on the spot“. Fixed maximal number of sensors, which are relevant to biological experiments. Battery operation, suitable for air transport (25 kg).

#### Restrictions

Only manned operation (no automated control mechanism). Only manual anti-fouling procedures.



The portable flow-through system combines the flexibility in the choice of sensor types and methods with a fully integrated anti-fouling concept and the possibility for automatic and remote-controlled operation based on the „LabView“ software technology. The compact design in a portable case opens new perspectives of monitoring tasks, all from stationary river monitoring to position controlled FerryBoxes is possible.

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### References



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