

## PRODUCT INFORMATION



marine analytics and data

## Underway measurement of CO<sub>2</sub> partial pressure in surface sea water (SUNDANS):

The **SUNDANS** (Surface **UN**derway carbon **D**ioxide partial pressure **AnalySer**) is designed to measure the CO<sub>2</sub> partial pressure in surface seawater on research vessels.

The SUNDANS - KIT :

Dry box

Wet box

Deck box

Filter box



Sundans # 001

The system consists of four units:

The **dry box** contains the LI-COR IR gas analyzer, control PC, power supplies and rotary valve. Gas lines from the wet box and the standard gas cylinders are connected here.

The **wet box** contains the equilibrator, various pumps and condenser for gas stream drying.

The **filter box** holds an in-line filter for the sea water stream. This filter should be replaced periodically or can be back-flushed with fresh water.

The **deck box** has a GPS sensor attached and contains a barometer.

The **SUNDANS** design follows the recommendations from the Underway pCO<sub>2</sub> system workshop (Miami, 2002) and is suited for (temporary) use on research vessels, where occasional supervision is possible. The packing size (without gases) and weight is kept small (2 aluminum boxes, < 100kg) to allow for shipping by air freight (a system for permanent installation and unattended operation on cargo ships in produced by [General Oceanics](#), Miami, USA).

(continued next page)

features:

- determines sea surface CO<sub>2</sub> partial pressure with high resolution
- measures also CO<sub>2</sub> partial pressure in marine air
- easily transportable
- precision better 1ppm
- GPS position and barometric pressure also measured
- user friendly software interface using LabVIEW™
- control PC integrated

Additional hardware required or recommended:

LI-COR infra-red-analyzer, model 7000 or 6262 (6252 possible).

sea water supply (> 2L/min)

CO<sub>2</sub> gas standards (2 or more)

zero-CO<sub>2</sub> gas