

Precision Salinometer

APPLICATION

- Robust against environmental conditions
- Automated processing of water samples
- Temperature controlled pre-bath
- Fully documented accuracy
- Latest technology applied

Highest precision & easy to use

The OPTIMARE Precision Salinometer (OPS) is a unique and easy-to-use instrument for highest precision measurements of the salinity of ocean water. The instrument is robust against environmental conditions and can be used in the lab or at sea without compromising the precision of the measurement. Touch-screen and USB connectivity allow communication with the OPTIMARE Precision Salinometer.

Automated processing

The processing of the water sample is automated in that after the user-initiated start the instrument continues the complete analyses without further interaction. Rinsing, repeated sampling, and flushing are performed automatically. Main process parameters like the number of rinsing cycles and repetitions of measurements are adjustable.

The temperature-controlled pre-bath is used to adjust the temperature of the water sample. Thus, the pre-bath prevents the transfer of heat into the main bath. It is not necessary to wait for a pre-adjustment of the temperature of the water samples. This guarantees rapid sample evaluation of water samples.

A comprehensive set of housekeeping data is continuously recorded to ensure that the measurement is always fully documented and thereby proofed, not guessed. Moreover, plausibility checks are performed continuously. The temperature of the main bath is determined with a precision of one milliKelvin and recorded together with the conductivity of the water sample, leading to an accuracy of better than 0.001 Equivalent Practical Salinity Units (PSU).



Precision Salinometer

SPECIFICATION	
Mechanical properties	
Dimensions	688 mm x 476 mm x 350 mm, packed in Zarges aluminium box
Mass	30 kg instrument + 13.5 kg water
Water bath volume	Main-bath: 13 l Pre-bath: 0.5 l
Sensors	
Conductivity	Modified Sea-Bird Electronics SBE 4
Temperature, main bath	Sea-Bird Electronics SBE 3plus
Salinity accuracy	0.001 or better
Data acquisition	
Data storage	Hard disk and USB memory stick
User interface	
	Touch screen (with optional USB keyboard/mouse)
Power supply	
Current	4 A
Voltage	100 V to 240 V; 50 Hz to 60 Hz

The OPTIMARE Precision Salinometer is based on the development of Klaus Ohm, Alfred Wegener Institute for Polar and Marine Research. A combined work group consisting of OPTIMARE and Alfred Wegener Institute for Polar and Marine Research (work group Dr. G. Budéus) developed the prototype. The development was funded through EFRE of the EU and the Land Bremen according to grant 56012/2-Z by the BIS Bremerhaven Gesellschaft für Investitionsförderung mbH.