

PRS - Precise Rosette System

Water Sampling and Measuring System

- ➔ proven design
- ➔ easy to handle
- ➔ autonomous operation
- ➔ different sizes available

sampling

The approved Precise Rosette System PRS 12 is an instrument designed for the collection of water samples in successive water layers - triggered by the CTD 90 Probe.

A sturdy array fabricated of stainless steel is equipped with twelve racks to which Plastic Water Samplers and Free Flow Samplers with capacities from 1.7 to 10 litres can be mounted to collect water samples in twelve different depth steps during one operation.

The Precise Rosette System PRS 12 is equipped with a motor-driven release device with an integrated Depth Meter (measuring range according to customer's requirements) - the water samplers are closed in the succession of their mounting to the array (i.e. No. 1, 2, 3, ... 10, 11 and 12).

The maximum operational water depth is 2000 metres. A special version for operational depths down to 6000 metres is available upon request.

The state-of-the-art electronics, optimized in power consumption, are designed for ambient temperatures from -40°C up to +85°C.

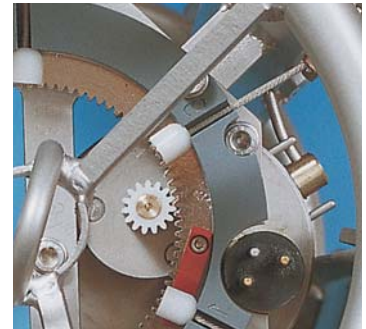
The water samplers are actuated via push-button control by a Personal Computer using SDA software.

The commands for actuation of the water samplers are given via single or multi-conductor cable between the Underwater Unit and the PC. The Deck Interface is equipped with a serial port for data transfer to PC.

Ordering Information:

436 930 Precise Rosette System PRS 12
CTD 90 - sensors to be selected
Array Motor Unit with micro-processor,
external battery pack (3 x DL 123A/3V),
Deck Interface for power supply 9 to 36 V
DC or 230 V AC,
Windows based SDA software for PC
included

Notice: Water samplers have to be ordered separately



Technical Data:

Dimensions:	Diameter 140 cm, height 160 cm
Empty weight:	approx. 100 kg (without water samplers)
Max. operational water depth:	2000 metres
Array:	made of stainless steel
Motor Unit:	made of titanium, battery powered (3 x DL 123A/3V)

Options:

Slenderized array for 12 water samplers with capacities from 1.7 to 5 litres (Ø 110 cm x 125 cm)

Arrays from 6 up to 24 water samplers

Operational depth down to 6000 metres

measuring

The CTD 90 is a lightweight high precision measuring system for measurements of physical, chemical and optical parameters. It is designed for precise in-situ acquisition of scientific data in oceanic, estuarine, limnic and freshwater environments down to 2.000 metres.

The mainboard is equipped with a precision microprocessor controlled 20 bit A/D converter with 16 channels. Data are available as well as RS-232 signal (multi conductor seacable) and digital FSK signal modulated on constant current (single conductor sea-cable).

It can be powered by battery or DC-power supply (9 to 18 Volt) when using RS-232 output (3 wire connection for short distances) or by constant current with FSK output (coaxial connection) for longer distances. An interface for constant current supply is in the scope of delivery.

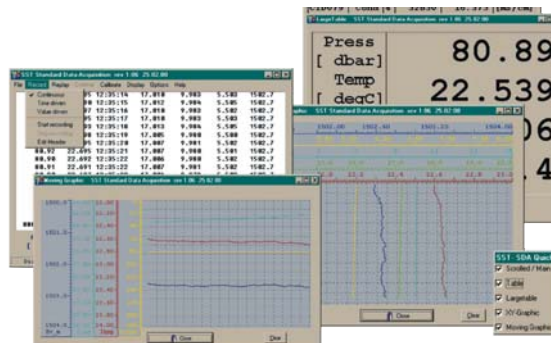
The standard version allows the simultaneous measurement with up to 9 sensors built into the bottom cap, expandable by connecting external units like fluorometer, current meter or other devices via underwater cable connection to the top cap of the CTD90.

The Windows® 95/98/Me/ 2000/XP based Standard Data Acquisition program SDA for data visualization and calculation of physical values is part of the system. All calculations correspond to the current UNESCO formulas.

The CTD90 allows the simultaneous measurement of following parameters: pressure (depth), temperature, conductivity, pH, Redox (ORP), dissolved oxygen, H2S, light transmission, light scattering (90°), current meter with compass, chlorophyll a (green algae), blue algae

Main Features

- low weight
- easy handling
- max. 9 sensors plus 3 external
- titanium housing
- depth range up to 2000 m
- 6000 m on request
- triggering HYDRO-BIOS rosette sampling systems
- Windows® 98/Me/2000/XP based standard data acquisition software SDA software
- calculations according to UNESCO formulas



Standard sensor equipment

Sensors	Principle	Range	Accuracy	Resolution	Response time
Pressure	piezo-resistive	10, 20, 50 bar	± 0,1 % f.s.	0,002 % f.s.	20 ms
Temperature	Pt 100	- 2 ... + 32 °C	± 0,005 °C	0,0006 °C	100 ms
Conductivity	7-pole cell	0 ... 60 mS/cm	± 0,010 mS/cm	0,002 mS/cm	100 ms
Conductivity	7-pole cell	0 ... 6 mS/cm	± 0,005 mS/cm	0,0001 mS/cm	100 ms
Oxygen	Clark-microcath.	0 ... 150 % sat. 0 ... 20 mg/l	± 2 % sat. ± 2 % sat.	0,1 % sat. 0,1 % sat.	10 s (63 %) 30 s (90 %)
pH	single rod electr.	4 ... 10 pH	± 0,1 pH	0,002 pH	1 s
Redox	single rod electr.	± 2 Volt	± 20 mV	1,0 mV	1 s
Transmissiometer	180°	0 ... 100 %	± 1 %	0,1 %	
Nephelometer	90°	0 ... 1000 NTU		0,1 NTU	

System Overview

System configuration in direct mode: FSK telemetry and RS-232



Computer for
data acquisition

RS-232



Interface
Power supply:
9 to 36 VDC
or 230 VAC

FSK



CTD90 probe

Single-conductor
sea-cable

PRS



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