

# Bathymetric Measurement System

S<sup>2</sup>VTD-Mod Probe S 250



# BATHYMETRIC MEASUREMENT SYSTEM

The S<sup>2</sup>VTD-Mod probe S 250 is an advanced device for high precision measurement and evaluation of sea water salinity, sound velocity, temperature, density and pressure. A bathymetric system consists of one or two probes mounted outside the pressure hull of the submarine. Highest degrees of integration and functionality are achieved when connected to the Raytheon Anschütz Navigation and Data Management Center (NDMC) for data display, storage and distribution. Alternately the S<sup>2</sup>VTD-Mod probe is used as stand-alone system with a separate evaluation unit or is connected to specific echosounder systems.

The S<sup>2</sup>VTD-Mod probe features both a time of flight and a CTD sensor system and is thus providing highly reliable and consistent data for tactical and submarine's safety related decisions. Based on its configurable software the S<sup>2</sup>VTD-Mod probe is also compatible with the Raytheon Anschütz S/MT 95 bathy probe and hence the best choice for retrofit solutions of former bathymetric systems. The S<sup>2</sup>VTD-Mod probe itself is fully autarkic,

calibrated and configured for instant use. Made from titanium the probe's design allows optimized access for maintenance even when installed.

## BENEFITS AT A GLANCE

- Enhance submarine's safety by dedicated water layer detection
- Support of submarine trim control
- Support of tactical decisions and providing accurate SV for sonar
- Underwater replaceable & maintainable – no docking required

## TECHNICAL DATA

### Power Supply

– 24 V DC, 3 W

### Interface

– RS 422 / power via underwater mate-able connector

### Environmental Conditions

#### Climatic

- MIL-STD 810 D
- operating -30°C to +60°C
- salt fog test
- solar radiation

#### EMC / EMI

– VG 95373, outboards

#### Shock

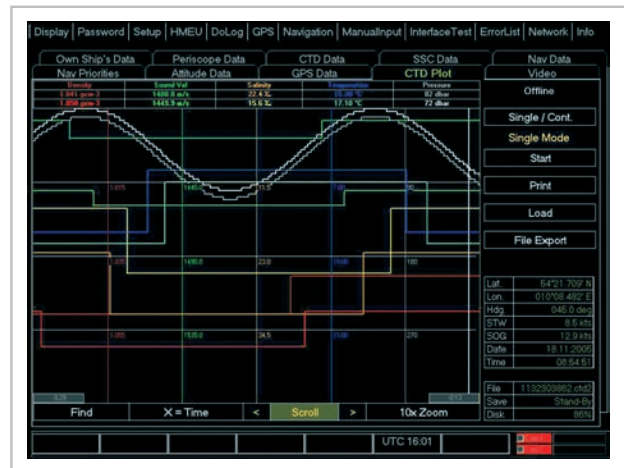
– BV 0430, submarines

#### Magnetic

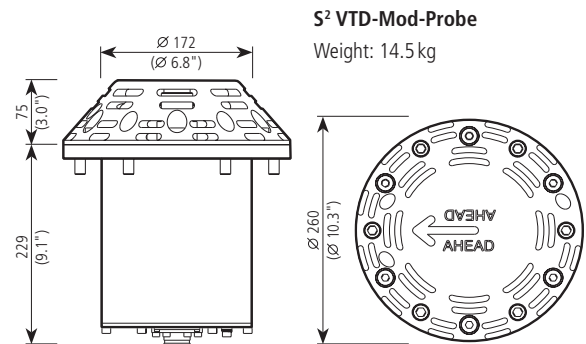
– VG 95577 B

	Value range	Accuracy
<b>Sound velocity</b> (*) / (**)	1394 ... 1571 m/s	± 0,2 m/s (***)
<b>Temperature</b> (*)	- 2 ... + 38 °C	± 2 x 10-2 °C
<b>Pressure</b> (*)	0 ... 700 dbar	± 1 dbar
<b>Conductivity</b> (*)	0,3 ... 80 mS/cm	± 2 x 10-2 mS/cm
<b>Seawater density</b> (**)	0,993 ... 1,101 g/cm3	(**)
<b>Salinity</b> (**)	2,0 ... 42,0 PSU	(**)

(\*) Measured value (\*\*) Calculated value according to UNESCO formula; accuracy on the derived value depends on the input value (\*\*\*) Higher accuracy available on request




Example of provided data on NDMC display



### S<sup>2</sup> VTD-Mod-Probe

Weight: 14.5 kg

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