

HydroSweep MD/30

Medium Depth Multibeam Echosounder

The **HydroSweep MD/30** is a deep water multibeam echosounder ideally suited for seabed mapping in medium and deep waters down to 7,000 m water depth.

The HydroSweep MD/30 utilizes operating frequencies between 24 and 30 kHz to acquire bathymetry, watercolumn backscatter, seabed snippets backscatter, and side scan backscatter.

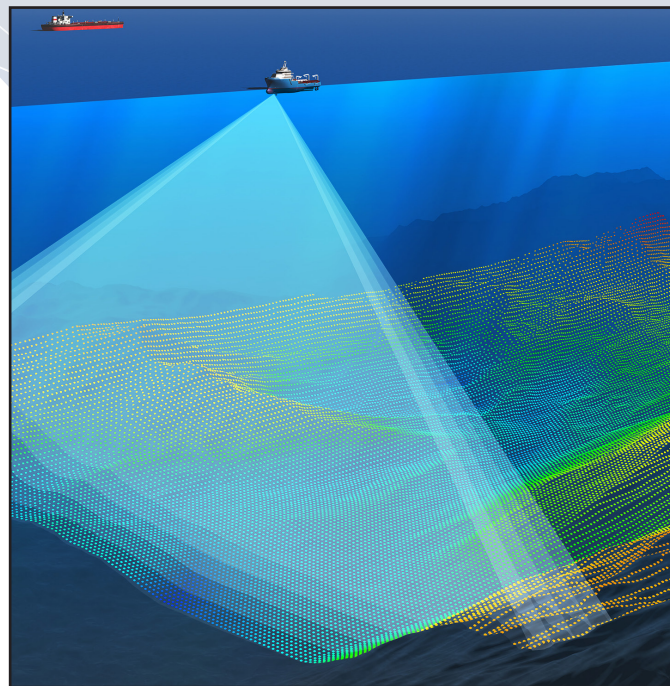
In view of beam resolution, the HydroSweep MD/30 is available as a combination of 1° or 1.5° along track and 1° or 1.5° across track. All transducers are planar arrays designed to be flush mounted, within a fairing or in a gondola construction.

Effects of ship motion to survey data are compensated by active beam steering as well as additional multi-ping ensonification.

The HydroSweep MD/30 applies up to 4x multi-pings, which means that up to four swaths are transmitted simultaneously per ping slightly tilted along track. This results in gapless surveying at higher ship's speed.

Soundings may be spaced in an "equi-angle" or "equi-distant" fashion.

A High Order Beamforming bottom detection algorithm is used to achieve up to 960 soundings per ping with the best possible accuracy in order to meet IHO S-44 accuracy standards.



PRODUCT BENEFITS

- Depth range more than 7,000 m
- 4x multi-ping operation
- Roll and Pitch stabilized beams
- 960 soundings per ping
- Backscatter and sidescan data recording
- Water column analysis



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HydroSweep MD/30

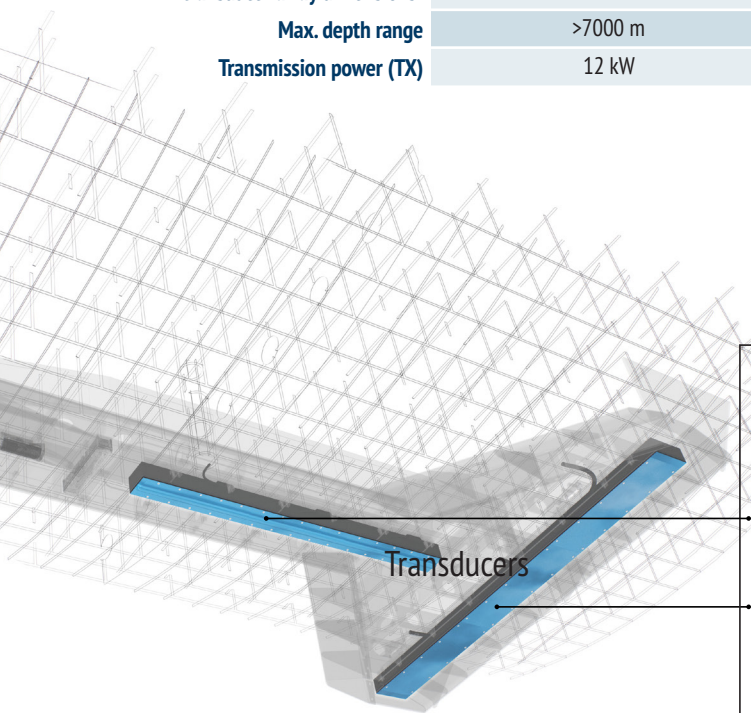
Medium Depth
Multibeam Echosounder



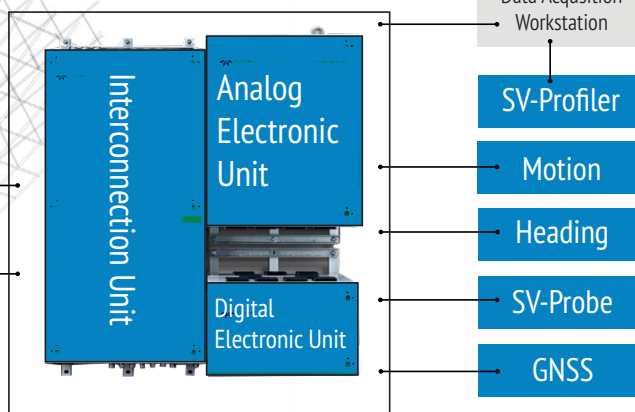
SYSTEM SPECIFICATIONS

PRODUCT VARIANTS	1.0° x 1.0°	1.0° x 1.5°	1.5° x 1.5°
Transmission beam width TX	1°	1°	1.5°
TX transducer array dimensions*	2355 x 170 x 127	2355 x 170 x 127	1587 x 170 x 127
Reception beam width RX	1°	1.5°	1.5°
RX transducer array dimensions*	300 x 3198 x 127	300 x 2172 x 127	300 x 2172 x 127
Max. depth range	>7000 m	>7000 m	>7000 m
Transmission power (TX)	12 kW	12 kW	8 kW

* Along x across x height, relative to ship's direction, in mm
*All array dimensions include required 2 end caps



Transceiver Electronics



Typical Hydrosweep System Configuration

Depth Range	5 – 7000 m, depending on local bottom and environmental conditions
Operating Frequency	24 to 30 kHz Frequency modulation (Chirp)
Multi-Ping and Ping Rate	4x multi-ping Max. 10 Hz ping rate
Beam Width	1° or 1.5° along track 1° or 1.5° across track
Number of Beams	960 soundings per single ping via High Order Beamforming 313 receive beams per single ping

Motion Correction	Roll ±15° stabilised Pitch ±10° stabilised Yaw ±5° stabilised by active multi-ping
Acquired Data:	Bathymetry, backscatter snippets and up to 10,000 sidescan values per ping, water column recording
Resolution and Accuracy	Max. range resolution 6 cm Max. output sample rate 12 kHz Depth accuracy (RMS), average across the swath sector better than ±0.5m respectively ±0.2% of water depth



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