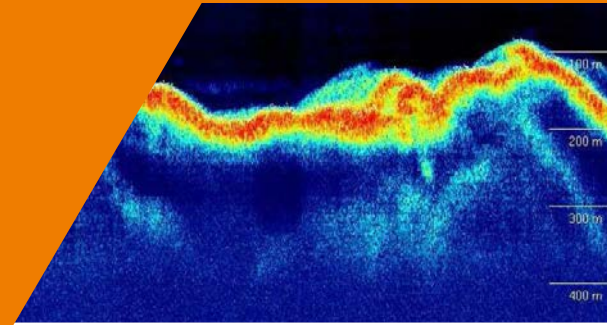


Wärtsilä ELAC HydroStar 4900

Survey echo sounder



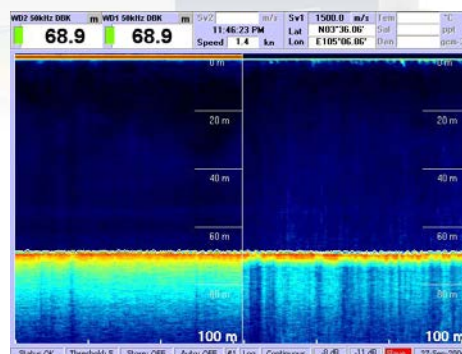
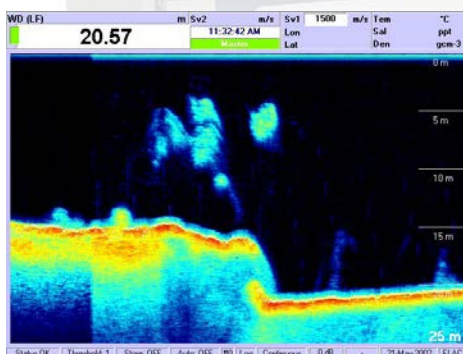
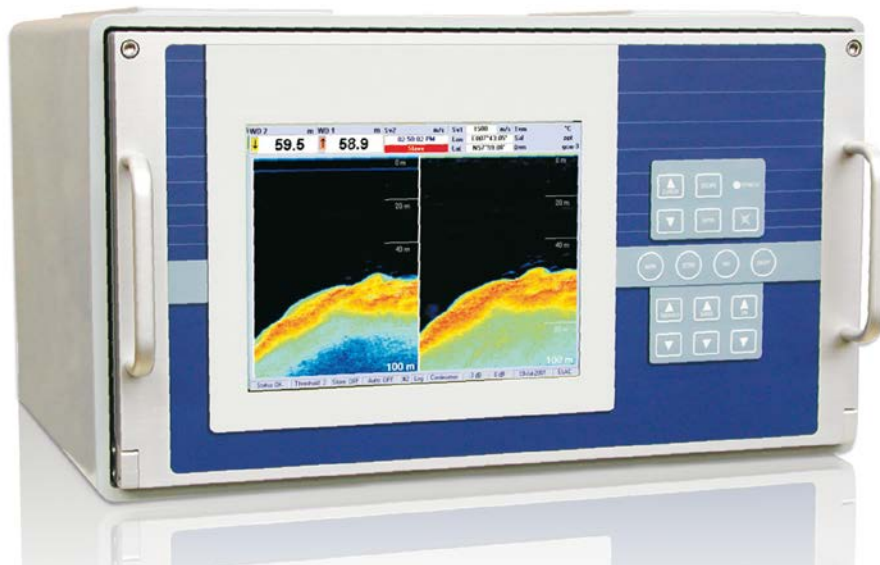
ELAC HydroStar 4900 is a high-precision single-beam survey sounder for medium waters and the deep sea. It incorporates the reliable electronic components and is ideal for hydrographic and commercial survey vessels.

The hydrographic echo sounder ELAC HydroStar 4900 is a modular echo sounder system, available as stand-alone equipment or integrated into a 19" rack. The control and display unit SEB 4900 houses the human-machine interface (HMI) and all the electronics required for transmitting, receiving and processing signals.

ELAC HydroStar 4900 displays the measured values on a colour graphical display and stores the data on an internal hard disk. For additional records on paper, the unit can be interfaced to a standard printer.

ELAC HydroStar 4900 is the designated measurement tool for oceanographic and hydrographic surveys. It offers precise depth data and highest resolution, compliant with IHO regulations. The acquired data can be used for naval charting purposes as well as for scientific research.

Data can be used for navigation charts, sediment classification research and habitat mapping. Standard interfaces to DGPS and heave sensor are provided for. Data processing software packages are available. Echo strength measuring can be offered as an optional tool for bottom backscatter.



One-frequency mode (left) and two-frequency display (right)

Specifications and technical data

Wärtsilä ELAC HydroStar 4900 at a glance

Technical data	
Frequency range	10 kHz - 1 MHz
Max. standard scale settings	0 - 1,000 / - 3,000 / - 6,000 / - 10,000 m
Units (selectable)	Metres, fathoms, feet
Gain control	TVG and AGC for depth finding or manual control
Measuring accuracy	Better than $\pm 0.25\%$ of scale end value
Minimum sounding depth below transducer	< 0.3 m
Draft correction	0 - 30 m, in steps of 0.01 m
Sound velocity	1,400 - 1,650 m/s (manually) or in steps of 1/0.1 m/s (automatically)
Bandwidth receiver	10 kHz - 30 Hz (depending on transmitting pulse length with digital filter)
Transmitting power	Max. 2,000 W RMS (depending on transducer)
Pulse length	Automatically switched to suit selected range
Depth resolution	Up to 25 mm (depending on the range)

Interfaces / software and power requirements	
Interfaces	
Input	Log, VRU, DGPS, trigger
Output	NMEA 0183 (RS422), video, blanking, trigger, printer
Power supply	115 / 230 V AC, 50 / 60 Hz
Power consumption	< 210 VA

Physical characteristics	
Reliability	
MTBF Electronics	> 6,000 h
MTBF Transducer	> 30,000 h
Display	10,4" VGA TFT, 640 x 480 pixel Echoes: 256 colours or monochrome
Weight	
Stand-alone unit with housing	approx. 40 kg
For integration into 19" rack	approx. 25 kg
Dimensions	
Stand-alone unit with housing	368 (H) x 512 (W) x 447 (D)
For integration into 19" rack	6 HU



All our transducers are manufactured and tested in Germany at our facility in Kiel.

Transducers*				
	LSE 179	LSE 131	LSE 297	LSE 313
Frequency	12 kHz	30 kHz	50 kHz	200 kHz
Depth performance	> 10,000 m	> 2,000 m	> 600 m	> 200 m
Elements	37	7	7	1
Beamwidth	14°	16°	32°	12°
Output power	2,000 W	1,000 W	300 W	200 W
Weight (with housing)	260 kg	32 kg	6.2 kg	6 kg
Diameter	602 mm	267 mm	174 mm	174 mm
Height	190 mm	151 mm	145 mm	145 mm

* Programmable synthesizer transceiver also allows use of transducers of other manufacturers.

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