



23M “OCEAN SEEKER/NOMAD” SURVEY VESSELS

DIESEL POWER	VOLVO D13-600 SCR 441kW @ 1900 RPM X 2
PHT MODEL	PHT700A1S1 X 2 ratio 1.7
E-POWER	102kW E-MACHINE X 2

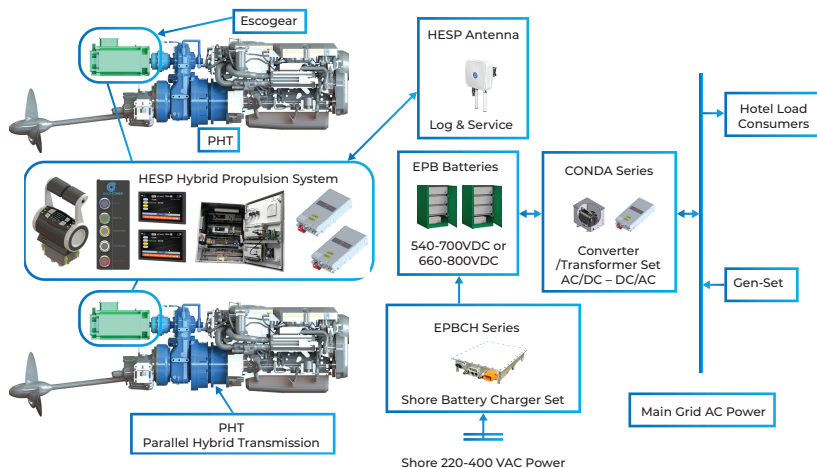
OCEAN SEEKER AND OCEAN NOMAD – HYBRID SURVEY VESSELS WITH ESCO POWER’S PARALLEL HYBRID PROPULSION SOLUTION

Built by Finish builder Kewatec AluBoat Ab 23M survey vessels named Ocean Seeker and Ocean Nomad ordered by the Swedish company Midocean AB will be used for survey work on Baltic Sea. The vessels have laboratory, research, and accommodation facilities for up to 6 people as well as equipment to be out on the sea for a few days.

Both vessels are identical, equipped with Volvo D13-600 SCR Imo Tier III rated engines, Twin Disc reverse marine gears and Escos Power parallel hybrid transmissions (PHT) and hybrid electric solution package (HESP) with two E-machines, delivering 102kW each. The vessels are equipped with electric batteries to be able to work a few hours and take samples without having the diesel engines running.

Both vessels are capable of sailing at over 19 knots on the installed Diesel power and over 9 knots on the installed E-power, the installed battery system will ensure for an uninterrupted few hours operation without the use of Diesel engines.





Parallel Hybrid Solution by Esco Power

PHT	Parallel Hybrid Transmission, to be installed between marine diesel engine and marine gear, brings diesel and electric power on one driveline
HESP	Hybrid Electric Solution Package, Complete hybrid command, control & command system, including E-machines, frequency drives, control & command screens, command station, mode select panel, software with various modes: diesel, electric, automatic, generation single and cross-mode, includes commissioning
HESP Antenna	Optional feature to ensure remote access & system updates and service
Escogear	Flexible Coupling to connect PHT secondary output to E-machine
EPB Batteries	Battery system, including BMS with operational voltage matching offered E-machines: 540-700VDC or 660-800VDC, with rack or frame mounting solution, power & communication cables, includes commissioning
EPBCH Series	Battery Shore Charger Set
CONDA Series	Converter/Transformer Set, to install between our EPB Battery System and the vessel grid 230/400VAC, making the batteries system available for on-board consumers as to charge it with Gen-set & shore charger connected to the on-board grid