

# Altus Exertus



## **This is what you get:**

- Saturation & Air Diving Support
- Inspection, Repair & Maintenance
- Light Construction
- Decommissioning
- Well Intervention & Abandonment

# ALTUS EXERTUS SPECIFICATIONS

## GENERAL SPECIFICATIONS

<b>Classification</b>	DNV + 1A1, DSV III, DYNPOS, EO, HELDK, ICE-C
<b>Build Location</b>	Wartsila Shipyard, Turku, Finland - 1981
<b>Flag State Authority</b>	Liberia
<b>Port of Registry</b>	Monrovia

## MAIN PARTICULARS

<b>Overall Length</b>	80.00 m
<b>Breadth</b>	16.00 m
<b>Depth</b>	7.80m (Upper Deck),5.05m(Tween Deck)
<b>Draught Moulded</b>	5.50m, 5.512m (summer)
<b>Deadweight</b>	1500 Tonnes
<b>Gross Tonnage</b>	3080 Tonnes
<b>Net Tonnage</b>	924 Tonnes

## ENGINE POWER & PROPULSION

### MAIN ENGINES

#### 2 x Wartsila Vasa 6R32 engines

- Rated power 1820kW @ 750rpm each
- Coupled with 2 x Stromberg HSPOL 12/754 Alternator, 1780Kw, 660v, 50Hz each

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### Harbour Engine

- 1 x Cummins KTA 1150 C Diesel Engine 425 BHP at 1500 rpm driving Stromberg HFPT 7160 alternator, 300KW, 380v, 50Hz

### Emergency Generator

- 1 x Cummins KTA 1150 C Diesel Engine 425 BHP at 1500 rpm driving Stromberg HFPT 3160 alternator, 300KW, 380v, 50Hz

### Main Propellers

- 2 x Stromberg HK VOL 111644 electrical motors each rated 1470KW, 739rpm, diving 2 x CP Liaaen propellers in fixes nozzles. Propeller speed 252rpm

### Retractable Azimuth Thruster

- 1 x Sromberg HXUR 1009G3 electric motor rated at 1100KW 994rpm driving 1 x Liaaen TNCR 92-/68-216

### Bow Tunnel Thruster

- 1 x Sromberg HXUR 1005G3 electric motor rated at 1100KW 994rpm driving 1 x Liaaen TT83/68-200

### Stern Tunnel Thrusters

- 2 x Sromberg HXUR 100INS electric motor rated at 450KW. 993rpm driving 2 x Liaaen BC 16-6

## DYNAMIC POSITIONING SYSTEMS

<b>DP System</b>	Kongsberg Simrad SDP521
<b>DP Classification</b>	AUTR DP II
<b>Reference Systems</b>	<ul style="list-style-type: none"> <li>• Simrad HPR – Supershot baseline (SSBL) system consisting of HPR 410 control unit with two hull penetrating transducers, one a fixed head, the other fitted with a HiPAP 350 tracking head. This unit will track transponder and responder. The system operated on phase and range detection on frequencies between.</li> </ul>
<b>Transmitting</b>	22-26 kHz
<b>Receiving</b>	27-33 kHz
<b>Taut wire:-</b>	<ul style="list-style-type: none"> <li>• Two Bandak lightweight taut wires (port and starboard side) with wire drum capacity of 500 meters with dedicated inputs.</li> </ul>
<b>DGPS:-</b>	<ul style="list-style-type: none"> <li>• 2 Dedicated and separate DGPS inputs to DP systems, utilising</li> <li>• 2 x Fugro Seastar 8200HP Spot Beam set to different satellite HP differential corrections, XP fixing capacity with VBS fall back. capability can be subscribed to if required.</li> </ul>
<b>Fanbeam:-</b>	<ul style="list-style-type: none"> <li>• The vessel is fitted with a Fanbeam, system, approved by version Kongsberg Simrad. It was a MDL Mk 4 tracking head. Software 2.05. The laser is eye safe and poses no risks to platform personnel</li> </ul>

## DP OPERATORS

### DP Operators

- DSV operations with port moon pool and single diving bell
- ROV operations
- Subsea installation works (Manifolds, Plets, Plems etc)
- Spoolpiece tie ins
- Umbilical and Flexible flowline Installation
- Geotechnical and worksite survey
- Subsea Crane operations

## APPROXIMATE FUEL CONSUMPTIONS

<b>Transit speed</b>	10m <sup>3</sup> / 24 hours (9 knot – economical transit speed)
<b>Full speed</b>	12m <sup>3</sup> / 24 hours (11 knot – full speed)
<b>DP Rough</b>	14m <sup>3</sup> / 24 hours
<b>DP Moderate</b>	12m <sup>3</sup> / 24 hours
<b>DP Calm</b>	10m <sup>3</sup> / 24 hours
<b>Harbour</b>	2m <sup>3</sup> / 24 hours (on one main engine)

## TANK CAPACITIES (100%)

<b>Fuel Oil (MGO)</b>	709 m <sup>3</sup> at 95% capacity (650 m <sup>3</sup> if heeling tank capacity is required)
<b>Lubricating Oil</b>	31.7m <sup>3</sup>
<b>Ballast Water</b>	442m <sup>3</sup>
<b>Potable Water</b>	273m <sup>3</sup>
<b>Reverse Osmosis Potable Water Plant</b>	1 x Ace Water Co – 25m <sup>3</sup> per day 1 x Sea Recovery - 20m <sup>3</sup> per day

## CARGO DECK

<b>Deck Area</b>	275m <sup>2</sup>
<b>Deck Strength</b>	Main Deck 2.25Te per m <sup>3</sup> ,hanger deck 1.6Te per m <sup>3</sup>
<b>Max Deck Loading</b>	400t (dependent on fuel, ballast & water)

## DECK CRANES

<b>Main Crane</b>	Stalprodukter Brattvaas A/S 3Q/50t SWL Hydraulic Deck Mounted Jib Crane Minimum working radius 4m Maximum working radiues with 50Te – 8m Maximum radius 17.4m with 15Te
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## ROV SYSTEMS

- Sub-Atlantic Super-Mohawk ROV
- Rated to 2,000m, 300m lift wire currently lifted
- Hydrolec 5-way manipulator fitted to vehicle on board, has work skid capability

## DIVE SYSTEM

<b>Saturation System</b>	
<b>Maximum Operating Depth</b>	193msw
<b>Main Living Chambers</b>	<ul style="list-style-type: none"> <li>• 1 x 6 person living chamber M/L1 (16.25m<sup>3</sup>) with entry lock E/L1 (7.1m<sup>3</sup>)</li> <li>• 1 x 3 person living chamber M/L2 (11.4m<sup>3</sup>) with entry lock E/L2 (7.1m<sup>3</sup>)</li> </ul>
<b>De-Compression Chamber</b>	<ul style="list-style-type: none"> <li>• 1 x 3 person M/L3 (11.4m<sup>3</sup>) without entry lock</li> </ul>
<b>SPHLB Evacuation Chamber</b>	<ul style="list-style-type: none"> <li>• 1 x 12 person internal plus x 3 person external crew</li> </ul>
<b>Diving Bell</b>	1 x 3 person (4.6m <sup>3</sup> )
<b>Gas Storage</b>	64 bottles (19390m <sup>3</sup> capacity)
<b>HP Gas Transfer Compressors</b>	<ul style="list-style-type: none"> <li>• 1 x William and James compressor, model no 175</li> <li>• 1 x William and James compressor, model no K977</li> </ul>
<b>HP Air Compressor</b>	<ul style="list-style-type: none"> <li>• 1 x William and James compressor, model no 175</li> </ul>
<b>LP Air Compressors</b>	<ul style="list-style-type: none"> <li>• 2 x Kaiser, Model AS 30, delivery 2.19m<sup>2</sup>/min @ 13 bar</li> </ul>
<b>Working Air Compressor</b>	<ul style="list-style-type: none"> <li>• 2 x Kaiser, Model DSV 170, delivery</li> </ul>
<b>Diver Gas Reclaim</b>	<ul style="list-style-type: none"> <li>• 1 x William and James, Gas Services, Electric Driven 300 meter</li> <li>• 1 x Gas Services Air Driven Unit (x3 Haskels)</li> </ul>
<b>Air Diving</b>	2 x Air Dive Chamber. Twin basket
<b>Dive Moonpool</b>	1 x moon proof (port)
<b>Dive system Classified to and complete with:</b>	<ul style="list-style-type: none"> <li>• Lloyds Register Class – IMCA – DMB – SOLAS-INO</li> </ul>

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## ACCOMMODATION

<b>Total</b>	73 (+ 12 in Saturation)
<b>Single Cabins</b>	19
<b>Double Cabins</b>	27
<b>4 Men Cabins</b>	Nil
<b>Hospital</b>	2 bunks plus an examination table
<b>Messroom</b>	Seating capacity 36
<b>Recreation Room</b>	Seating capacity 19 (non – smoking)
<b>Gymnasium</b>	Equipped

### Client Office

Fitted with desks, shelving, cupboards, KU-band Sat Phone, VHF, combined printer, copier and fax, interface to survey system. A computer with access to mail and the internet via the vessels server

### Project Office

A room on the bridge deck fitted with desks, shelving, cupboards, LU-band Sat Phone, VHF, Video, interface to the survey system and monitors. Three Computer terminals to ship's server with access to e-mails and the internet. Project Meeting Room Facilities  
Dive Control  
Saturation Control

## HELIDECK

The vessel has CAA approval for helicopters up to Super Puma L1. Flight Deck. A 18.7 D value flight deck is installed above the bridge super structure all of the main mast. The flight deck is of sufficient diameter and clear of obstruction to comply with the relevant British regulations for opening the following helicopters in the North Sea.

Type	D Value (Metres)	Rotor Height (Metres)*	Rotor Diameter (Metres)	Max Weight (kg)	Landing Net Size
Bolkow 0 10SD	11.31	3.80	9.90	2300	Not Required*
Bolkow 117	13.00	3.84	11.00	3200	Not Required*
Agusta A109 Dauphin	13.05	3.30	11.00	2600	small
SA 365N2 Sikorsky	13.68	4.01	11.93	4250	Small
S76 3 and C	16.00	4.41	13.40	5307	Medium
Bell 212	17.46	4.80	14.63	5080	Not Required*
Super Puma L1/ Tiger AS332L	18.70	4.92	15.00	8599	Medium

\* With skid fitted helicopters, the maximum height may be increased when Ground handling wheels are fitted.

The Loading capability of the deck is sufficient to permit landing of a Sikorsky S61N helicopter should emergency conditions exist.

### illumination (for night flight ops)

Helideck Omni-directional alternatively spaced green perimeter lights and deck Level ORGA flood lights. The helideck lighting is on a separate UPS system.

### Non-Directional Beacon:

The vessel is fitted with a Sencea STR25 tuneable non-directional beacon, Identification No: AQM

### Helideck Motion Monitoring:-

A Seatex HMS 100 helideck motion monitoring system is installed providing continuous and historical VDU displayed pitch, roll and heave data for helideck

### Helideck Fire Protection/ Crash Equipment:-

Fixed AFFF, Fixed CO2 and Fixed DP Systems. Portable DP and CO2 extinguishers. 1<sup>st</sup> Aid hose-reel. Comprehensively equipped emergency crash Box. All helideck equipment is carried in full accordance with CAA Regulation

### Helideck Crew Competence:-

The Helicopter Landing Officer and Helideck Assistants are fully trained and Qualified to current OPITO standards.

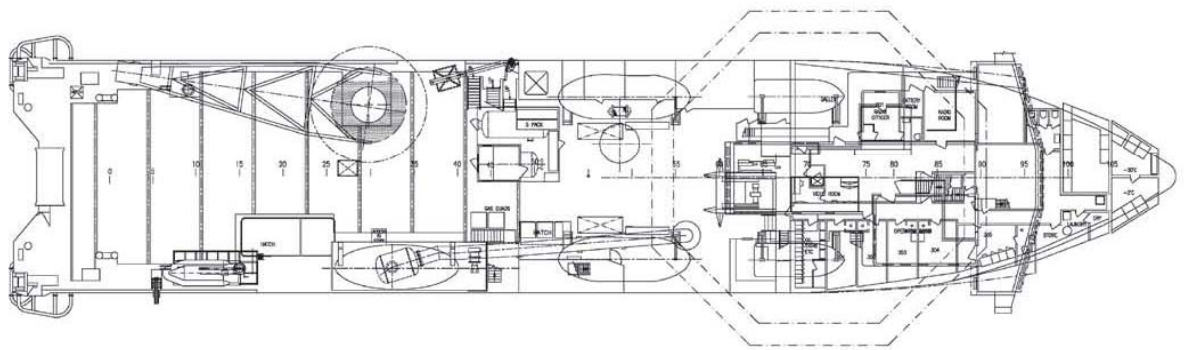
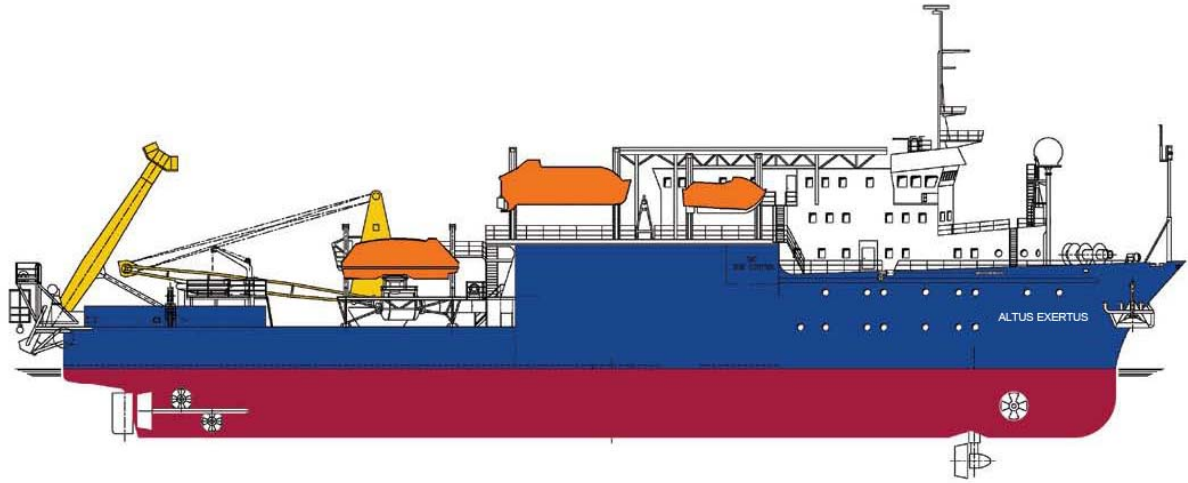
## COMMUNICATION SYSTEMS

1 x GMDSS Radio Station, consisting of  
1 x Inmarsat B. ABB-Nera Salum B (telephone and tax)  
2 x Inmarsat C. Sailor (Transceiver H2095B, message terminal H2098B, Printer H1252B, Monitor H1253C) ID Number 463668530 and 463668630  
1 x Sailor compact GMDSS alarm unit C2149  
1 x Sailor remote alarm H1604B (Sat printer and alarm unit)  
1 x Auto 24V battery charger system POWEC AS SC-8  
1 x Lead acid batteries for GMDSS 24V 240 Ah  
1 x Sailor compact MF/HF SSB DSC system MMSI number 636008162 (Scanning receiver RM2150 with built-in DSC and telex modem transmitter T2130 SSB 250W, Power supply N2161 and N2165)  
2 x Sailor DSC VHF RT2048 and RM2042  
3 x VHF GMDSS portables, Sailor SP3520 with spare batteries and charges  
1 x Navtex receiver – Skanti  
3 x Sailor compact VHF RT 2048  
12 x UHF Motorola portables with spare batteries and charges  
1 x VHF airband base station ICOM ABS200 for helicopter operations  
1 x VHF airband portable IC-A3E (fixed antenna option, base station back-up)  
1 x VHF airband portable IC-A3E with headset and PTT (heliops)  
1 x Sencea STR25 NDR Heli-beacon  
1 x Auto telephone exchange STEENHANS SM11 416  
1 x Dual DMS KU Band Communications system for tele, fax, and email  
1 x Sarsat 406 MHz float free emergency beacon TRON 45 SX  
2 x Emergency beacons Jotron SART TRON. Bridge  
1 x SeaTel TVRO system (not functioning at present)  
A 'round robin' Duddons hardwire communication system.

## DOCUMENTATION AVAILABLE ON REQUEST

<b>Dive System Design Audit</b>	circa 140 pages
<b>Dive System FMECA</b>	circa 100 pages
<b>Vessel FMEA</b>	circa 200 pages
<b>DP Trials Report</b>	circa 66 pages
<b>Stability Booklet</b>	circa 80 pages

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Marine Engineering Diving Services