NEW-BUILDING PROJECT STARFISH

Six Anchor Handling Vessels

The Project Starfish new-buildings consist of six DP2 deep water anchor handling tug supply vessels (AHTS) of SALT design. These state-of-the-art vessels are built for deep water anchor handling and oilfield operations with reliability, safety and minimized environmental footprint as a top priority. Powered by five medium speed engines with total output of more than 23,000 horsepower, a fuel efficient and flexible hybrid propulsion system and fixed pitch on all side thrusters, these vessels provide good fuel economy, low emissions and excellent station keeping capabilities. Also designed for safe deck operations, the vessels are equipped with a multi deck handler system, anchor recovery frame, gypsy handling system and other aids. The expected delivery for all the Starfish AHTS vessels is during 2017.

Key vessel features

- Dynamic position class 2 (ERN 99.99.99.99)
- Hybrid propulsion system to optimize fuel economy
- 230 t bollard pull (minimum)
- 838 + 102 (covered) m² deck area
- 450 t drum anchor handling winch and 500 t double drum towing winches
- Two 170 t secondary winches
- 200 t anchor recovery frame
- Multi deck handler
## New-building project Starfish

### Classification

- +100A1 Offshore Supply Ship, Anchor Handling/Tug/Supply
- Ice class 1A FS
- Oil recovery
- Fire Fighting Ship 1 (2400 m³/hr)
- DNV Clean design

### Dynamic positioning
- DP2

### Reference systems
- 1 x DGPS Kongsberg
- 1 x HIPAP Kongsberg
- 1 x Laser Kongsberg
- 1 x Radius Kongsberg

### Motion reference units
- 2 x Gyrometer Sperry
- 1 x Motion sensor Kongsberg
- 3 x Wind sensor Gill

### Deck Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor handling winch</td>
<td>1 x 450 t</td>
</tr>
<tr>
<td>Tow winches</td>
<td>2 x 500 t</td>
</tr>
<tr>
<td>Secondary winches</td>
<td>2 x 170 t</td>
</tr>
<tr>
<td>Chain lockers</td>
<td>2 x 286 m³ + 2 x 322 m³</td>
</tr>
<tr>
<td>Shark jaws</td>
<td>2 x 700 t</td>
</tr>
<tr>
<td>Stern rollers</td>
<td>2 x 4.0 m x 3.0 m</td>
</tr>
<tr>
<td>Stern roller SWL</td>
<td>2 x 625 t</td>
</tr>
<tr>
<td>Towing pins</td>
<td>2 x 300 t</td>
</tr>
<tr>
<td>Tugger winches</td>
<td>2 x 24 t + 2 x 15 t</td>
</tr>
</tbody>
</table>

### ROV

- Covered ROV garage for 1 x WROV

### Dimensions

- Length (LOA): 95 m
- Beam: 25 m
- Depth: 11 m
- Draft scantling: 8.7 m

### Deck capacities

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deck load capacity</td>
<td>2500 t</td>
</tr>
<tr>
<td>Deck strength</td>
<td>10 t/m²</td>
</tr>
<tr>
<td>Free deck area</td>
<td>838 + 102 (covered) m²</td>
</tr>
<tr>
<td>Length</td>
<td>49.5 m</td>
</tr>
<tr>
<td>Width</td>
<td>21 m</td>
</tr>
</tbody>
</table>

### Propulsion / Bollard pull

- Main engines: 23000 BHP
  - 2 x Wärtsilä W8L32
  - 2 x Wärtsilä W6L32
  - 1 x Wärtsilä W9L20
- Thrusters: 2 x CP main propellers
  - 3 x bow tunnel 1580 BHP
  - 2 x stern tunnel 1580 BHP
- Bollard pull: 230 t

### Accommodation

- Person capacity: 52

### Tank capacities

- Base oil: 1555 m³
- Brine: 1555 m³
- Drill/ballast water: 2260 m³
- Dry bulk: 347 m³
- Fresh water: 1011 m³
- Fuel: 290 m³
- Cargo fuel: 2325 m³
- Oil based mud: 620 m³
- Oil recovery: 1880 m³
  - Including multi-purpose tanks

### Fuel consumption per 24hrs

- Maximum speed: 47 t @ 16 kn
- Eco speed: 12 t @ 10 kn

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*All figures and data believed to be correct, but not guaranteed*