The Mermaid pods are built in consortium between GE Power Conversion for the electrical motor, drive and control and Rolls Royce for the hydrodynamic design and mechanical parts.

The Mermaid STD electrical pod propulsion system offers flexibility in machinery and vessel arrangement and excellent maneuvering capability. With a customized and focused design, optimal performance can be achieved for each individual vessel.

The outboard part is 360 degrees rotatable for maneuvering purposes, or +/- 35 degrees in transit, by the means of a steering gear. The motor in the outboard part is directly connected to the propeller shaft requiring no gears. There is no shaft or brackets in the way of the propeller and the shaft is not directly connected to the hull. This results in a decoupled shaft line and a uniform propeller inflow, leading to high efficiency and low noise and vibrations.

The motor is synchronous, with brushless excitation, and the stator is shrink-fitted in the pod housing to accommodate direct cooling, as well as optimal hydrodynamic performance. A remote controlled shaft brake and locking device is fitted on the shaft, allowing the vessel to be operated with the shaft locked, up to 10-12 knots. This also includes a turning device to slowly turn the shaft in order to assist maintenance work.

The propeller is a fixed pitch high skew type, characterized by low noise and vibration, and can be delivered either as a complete cast monobloc or with separately bolted blades, which allows replacement of faulty parts. All seals against seawater are designed to protect the environment, i.e. a seal failure will not create any oil spill into the water.

The Mermaid pod has a modular design, built according to customer specifications. Each vessel will therefore be fitted with pods adapted to the specific hull, to ensure that optimal performance is achieved.

With Pulse Width Modulation (PWM) motor drive technology, and with improved hydrodynamic performance, the pods can now be delivered one size smaller than previous models, still maintaining sea proven technology in all critical parts.
Mermaid standard pod size range

<table>
<thead>
<tr>
<th>Motor type</th>
<th>Synchronous</th>
<th>PWM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pod size</td>
<td>185</td>
<td>210</td>
</tr>
<tr>
<td>Power Synchronous (MW)</td>
<td>6-11</td>
<td>8-16</td>
</tr>
<tr>
<td>Shaft speed (rpm)</td>
<td>210-110</td>
<td>195-105</td>
</tr>
<tr>
<td>D propeller (m)</td>
<td>3.6-5.4</td>
<td>4.1-5.9</td>
</tr>
<tr>
<td>Weight (ton)</td>
<td>70-115</td>
<td>110-155</td>
</tr>
<tr>
<td>Ship speed (kn)</td>
<td>up to 24</td>
<td></td>
</tr>
</tbody>
</table>

Owner/operator benefits
- Increased cargo capacity or reduced vessel size
- Increased propulsion system efficiency
- Reduced total installed power generation
- Reduced total fuel consumption & exhaust emissions
- Reduced noise & vibration levels
- Improved maneuverability

Mermaid special benefits
- Cooling by surrounding sea water gives compact air cooling cubicle
- Optimized drive/motor and hydrodynamic design for excellent overall efficiency
- Modularized design to provide optimal adoption to hull for each project
- Minimized number of internal webs and stringers for optimal man access inside pod
- State of the art bearing technology for long service life
- Mermaid Anti-Pollution Seal System (MAPSS) to ensure environmental safe operation
- Safe handling of brake/locking and turning without need of man access into pod
- Hydrodynamic Research Centre to support customer in hull/pod optimization
- Safe and easy fitting of pods to hull without heavy lifting equipment
- Underwater mounting feasibility
- Strong operational support. Both for system monitoring and maintenance

Shipyard and construction benefits
- Flexible machinery arrangement
- Modularized design
- Simplified vessel machinery installation
- Simplified hull form and structure
- Reduced installation time and cost
- Fewer components
- Reduced shipyard/sub-supplier co-ordination work

Contact information
- Brazil +55 31 3330 5800
- France +33 (0)3 84 98 10 00
- Norway +47 67 838250
- Singapore +65 6332 0940
- South Korea +82 51 465 9050
- United Kingdom +44 (0)1788 563563
- United States +1 713 895 0068