K-Sim Engine
DE AC/AC Cruise Vessel DE22-III

The K-Sim Engine DE22 AC/AC Cruise DE 22-III model is based on a large cruise vessel with two synchronous propulsion motors, each rated 14MW. Each propulsion motor has two separate three phase winding which enables “half motor” operation. The vessel is fitted with two direct coupled fixed pitch propellers.

The electrical power plant consists of a 6.6kV system, fed by 4 medium speed diesel generators each rated 13.9 MVA. and two 440V high speed diesel emergency generators each rated 750 MVA.

The control and automation systems include sophisticated power management, pump control and propulsion control systems. The steam plant includes two large oil fired boilers and feed water system. Control room operator panels as well as bridge and steering panels are included.

Training objectives
The K-Sim Engine DE22 AC/AC Cruise DE 22-III model model is designed to be a valuable tool in the basic and advanced training of marine engineers. The training objectives are to train junior engineers in basic engine room operations, senior engineers in emergency operations and trouble shooting, and to train senior and chief engineers in optimal operation, fuel economy and energy conservation. This is achieved by controlled training, leading to better understanding of the total plant operation, as a result of realistic simulation of a real engine room.

Compliant with industry requirements
Kongsberg Digital simulator models exceed requirements in the STCW convention, Regulation 1/12 and fulfill DNV GL's standard DNVGL-ST-0033 for Maritime Simulator Systems.
MODEL MAIN SPECIFICATIONS

High fidelity engine room systems include:
- Sea & LT/HT fresh water systems, incl. FW generators
- Electrical Power plant, incl. 6.6kV, 440V & 220V AC/DC switchboards
- Start and service air compressors
- Steam Plant
- Diesel and heavy fuel oil systems,
  incl. bunker, settling and service tanks, separators
- Fuel oil supply systems, incl. viscometers
- Lubricating oil systems, incl. LO purifier
- Stern tube systems
- Steering gear/autopilot systems,
  incl. double acting IMO type steering gear Autopilot
- Propulsion control system, incl. Bridge, ECR and local control
- Propulsion power drive system, incl. Transformers, freq. converters and excitation
- Propulsion motor cooling system, incl. Sea & FW system
- Main bilge system
- Bilge & sludge system, incl. Bilge separator
- Ballast system, incl. Heeling system
- Fire main & sprinkler system

Note: Specifications subject to change without any further notice.

MODEL FEATURES & DETAILS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Diesel generators</td>
<td>4 x 6.6kV / 13.9 MVA</td>
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<tr>
<td>Diesel generator speed</td>
<td>514 RPM</td>
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<tr>
<td>Fuel consumption</td>
<td>188g/kWh at MCR</td>
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<tr>
<td>Emergency generators</td>
<td>2 x 440V/750kVA</td>
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<tr>
<td>Fuel consumption</td>
<td>228g/kWh at MCR</td>
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<tr>
<td>Propulsion motors</td>
<td>2.2kV / 14MW</td>
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<tr>
<td>Bow thrusters</td>
<td>2 x 6.6kV / 1700 kW</td>
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<tr>
<td>Stern thrusters</td>
<td>2 x 6.6kV / 1400 kW</td>
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<tr>
<td>Propeller speed</td>
<td>145 RPM</td>
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<tr>
<td>No. of rudders</td>
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<tr>
<td>Length overall</td>
<td>261 m</td>
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<tr>
<td>Breadth moulded</td>
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<tr>
<td>Draught</td>
<td>7.95 m</td>
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<tr>
<td>Displacement</td>
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<tr>
<td>Tonnage</td>
<td>77000 GRT</td>
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<tr>
<td>Speed</td>
<td>18.5 knots</td>
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Datasheet version: