

# K-SIM ENGINE



KONGSBERG



## K-Sim Engine - Diesel Electric Dual Fuel DEDF CFII

### KONGSBERG ENGINE ROOM SIMULATORS

Our range of K-SIM Engine Room Simulators provide realistic, hands-on experience in a ship-like environment. Systems include vital components, such as main engine remote control, engine-room local panels, controllers, engine telegraph, alarm systems, power supply switchboards, engine sound etc.

We have an extensive model library of different propulsion plants and engine types.

Our library includes models of diesel engines such as MAN B&W, Wärtsilä, Sulzer, Pielstick, MaK and MTU as well as gas turbine, diesel electric, water jet and steam propulsion plants.

Our systems can be easily networked with our full ship's bridge simulator for total ship training.

The DEDF Cruise Ferry model is based on a Diesel Electric Dual Fuel engine room configuration from a passenger ship operating on LNG. The model has a multiple installation of the 8L50DF medium speed (four stroke) Dual fuel (LNG) gas and/or Diesel Oil /Heavy Fuel Oil that generates power to a High Voltage Switchboard. The main object for the simulator is to cover the operation and system understanding of a dual fuel diesel electrical configuration with the engine room systems on-board a Diesel Electric large passenger ship. The simulator includes a propulsion control station, panels and controls relevant for an advanced cruise ship type to enable the realistic simulation of entire engine room operations as well as ship/truck/shore to ship interface and the required checks/operations for bunkering.

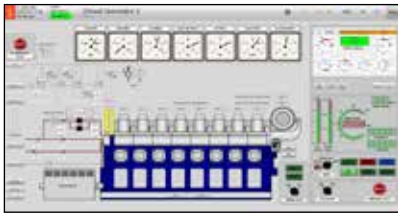
### Training objectives

The model is developed as a training tool, and can be used in courses that complies with STCW, such as ERM, High Voltage and the IGF code. When focusing on LNG bunkering, you can train on e.g;

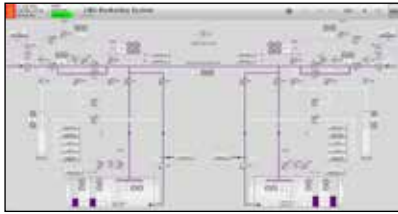
- Connection / disconnection of shore connection (LNG)
- Flow rate control and Purging control
- Emergency Shutdown implementation
- Effects of excess line pressures and resulting actions

### Compliant with industry requirements

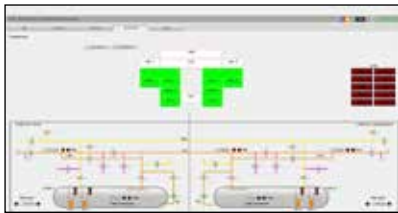
Kongsberg Digital simulator models exceed requirements in the STCW convention, Regulation 1/12 as well as both basic and advanced training for LNG bunkering operations. It provides a cost-efficient and safe way to build knowledge and test procedures, while fulfilling IMO's IGF Code and the STCW requirements in addition to being certified and fulfill DNV GL's standard DNVGL-ST-0033 for Maritime Simulator Systems.



Diesel Generator Process Mimic



LNG Bunkering Process Mimic



LNG Monitor System



Electrical Network IAS

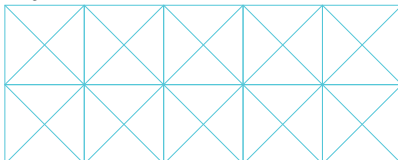


3D view Diesel Generator



3D view Bunkerstation

Datasheet version:  
K-Sim Engine Diesel Electric Dual  
Fuel Cruise Ferry- DEDF CF II  
August 2020



## MODEL FEATURES & DETAILS

|                         |                                      |
|-------------------------|--------------------------------------|
| Propulsion type         | 4 × Wärtsilä 8L50DF<br>(4 × 7600 kW) |
| Cylinder bore           | 50 cm                                |
| Number of cylinders     | 8                                    |
| Number of air coolers   | 1                                    |
| Number of turbochargers | 2                                    |
| Total installed Power   | 30400 kW                             |
| Propulsion Power        | 21000 kW                             |
| PEM                     | 2                                    |
| Length overall          | 218 m                                |
| Breadth moulded         | 31,8 m                               |
| Tonnage                 | 55000 GRT                            |
| Speed                   | 23 knots                             |

## MODEL MAIN SPECIFICATIONS

- Propulsion Plant Integrated Automation System. (Kongsberg IAS) incl. Alarm and Safety Warning, Power Management and Propulsion Control System, Remote Operation of Pumps, Valves and Compressors
- Electric Power Supply incl. 6,6 KV Switchboards and Distribution Centre
- Propulsion System
- Thrusters
- Dual Fuel Diesel Generator Sets and Support Systems
- Fuel Oil and Gas supply system for Diesel Generators
- Fuel Oil Bunkering, including Storage and Settling Tanks
- Fuel Oil Separator System
- Lubrication Oil Service System and Separators
- Sea Water Cooling System
- Fresh Water System, incl. Fresh Water Generator and Cooling Syst.
- Emergency Generator
- Steam Generation Plant (Dual Fuel boilers)
- Starting and Service Air System
- Ballast and Bilge Water Systems, including Oily Water Separator
- Stern Tube System
- Steering Gear System
- Onboard LNG storage and Bunkering System
- Shore side mimic for Bunkering: Selection of Barge, Tank and Truck Incl. Fuel Quality, Methane No, Wobbe Index, Density
- LNG Monitor system for bunker operation
- LNG Emergency Shutdown (Gas Trip)
- Gas Heating
- Ventilation Control System in Machinery Space
- Gas- and Fire Detection System
- Water Mist System
- Deck Machinery
- Watch Calling System
- Fin Stabilizer System
- Water Tight Doors
- Grey Water/Sewage Treatment
- Incinerator System
- 3D View Diesel Generators and Bunkerstation
- CCTV Diesel Generators, Bunkerstation and Funnel

Note: Specifications subject to change without any further notice.