

# K-SIM ENGINE



KONGSBERG



## K-SIM ENGINE MAN B&W 5L90MC VLCCL11-V

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The K-Sim Engine MAN B&W 5L90MC VLCC 11-V simulates a very large crude carrier with a MAN B&W slow speed turbo charged diesel engine as propulsion unit modelled with fixed and controllable propeller. The main engine models respond dynamically to variations in operation and conditions of the ship model, and the ship models have mutual responses to the main engine models.

### **Kongsberg Engine Room Simulators**

Our 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 sounds etc.

We have an extensive model library of different propulsion plants and engines types, certified by the engine manufacturer as exact simulations.

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.

### **Model Description**

The model is based on real engine data that makes the dynamic behaviour of the simulator close to real engine response. The electrical plant includes 2 diesel generators, one turbo generator, one shaft generator/motor, and one 180 kW emergency generator.

The steam plant includes a D-type steam boiler, exhaust boiler, 4 cargo turbines, ballast turbine and condensing and feed water systems. Control room operator station and panels and bridge and steering panels are included.

### **Fulfilling the requirements**

The K-Sim Engine MAN B&W 5L90MC VLCCL11-V simulator model exceeds requirements in the STCW convention, Regulation 1/12 and fulfills DNV GL's standard DNVGL-ST-033:2014-08 Maritime Simulator Systems.

# MODEL FEATURES & DETAILS

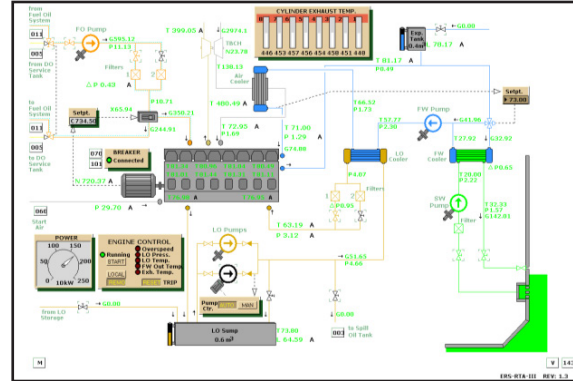
## Main Engine Data

Type	MAN B&W 5L90MC
Cylinder bore.	90 cm
Piston stroke	290 cm
No. of cylinders	5
No. of air coolers	2
No. of turbochargers	2
MCR	17400 kW
Corresp. Eng. speed	76 RPM
Mean indicated press.	13.0 Bar
Scavenge air press.	2.1 Bar
Turbocharger speed	8000 RPM
No. of propeller blades	5
Propeller pitch	1.2 P/D
Spec. fuel consumption	168 g/kWh
Fuel	DO/ HFO 700 cSt

## Vessel's Main Particulars

Length overall	305.00 m
Length between p.	295.00 m

Breadth moulded	47.00 m
Depth moulded	30.40 m
Summer Draught	19.07 m
CB	0.801
Dead-weight	187997 tons
Speed	14 knots



Diesel Generator

# MODEL MAIN SPECIFICATIONS

## The following dynamic models and features are included:

- Sea & LT/HT fresh water systems
- Incl. FW generator*
- Electrical power plant
- Incl. diesel-, shaft- generator and turbo generators*
- Start & service air compressors
- Incl. compressor intermediate coolers and emergency compressor*
- Electrical power and pump management
- Manual and automatic*
- Battery charging system
- Steam plant
- Incl. D-type oil fired boiler and exhaust boiler*
- Diesel/heavy fuel oil systems
- Incl. tanks, separators, viscometers*
- Lubricating oil systems
- Incl. separator*
- Stern tube systems
- Propeller servo LO system
- CPP bow thruster
- Steering gear/autopilot
- Incl. double acting IMO type steering gear and ship course control*
- Turbo charger systems
- Main engine control system

## *Incl. bridge, ECR and local control*

- Main engine control air system
- FO high pressure system
- Incl. VIT system,*
- Cylinder indication diagrams
- Piston ring monitoring
- Main Engine Load Diagram
- Main Engine bearing system
- Air ventilation system
- Bilge wells & bilge separator
- Air conditioning plant
- Sewage treatment plant
- Incinerator plant
- Ballast system
- Refrigeration system
- Ship loading system
- CO2 scavenging air box fire extinguish system
- Remote CO2 release, emergency stops and quick release valves
- Emission Control System (water emulsification & Pmax-reduction/ SCR/ Scrubbing)

Specifications subject to change without any further notice.

KONGSBERG MARITIME

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