

# K-SIM ENGINE



## K-Sim Engine Thermal Power Plant

### 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 sounds etc.

We have an extensive model library of different propulsion plants and engines 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 K-Sim Engine Thermal Power Plant simulator is based on a real thermal power plant in Vasteras, Sweden. The main purpose of the Thermal Power Plant simulator is to train and assess operators in plant operation, including training in plant start-up and shut-down, emergency situations and safety procedures.

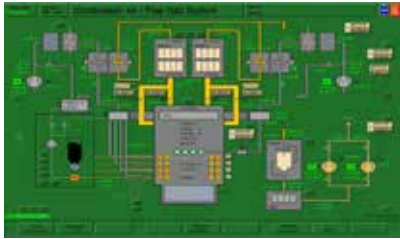
The simulated plant is made available to be fuelled with oil (mainly for start-ups with special start-up burners) or coal. At pure condensation operation the block produces a net electrical output of 255 MW (190 MW for coal). The utility heating hot water effect at back pressure operation is 350 MW with oil, and 260 MW for coal.

### Training objectives

The Thermal Power Plant model is designed to be a valuable tool in the basic and advanced training of 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

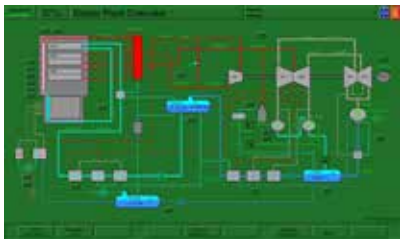
Kongsberg Digital simulator models exceed requirements in the STCW convention, Regulation 1/12 and fulfill DNV GL's standard DNVGL-ST-0033 for Maritime Simulator Systems.



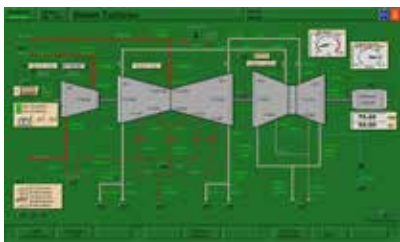
Combustion Air Flue Gas System



Thermal Power Plant SCR Reactor



Steam plant overview



Steam Turbines

## MODEL MAIN SPECIFICATIONS

All simulated models listed below have a corresponding interactive mimic diagram as illustrated to the left.

The following simulated systems are included:

- Steam Plant Overview
- Fuel Oil System • Secondary Steam System
- Burner Plane A • Burner Plane B
- Burner Plane C • Burner Plane D
- Boiler Combustion Control
- Block Master Control System
- Combustion Air / Flue Gas System
- Combustion Air Preheaters
- Boiler Water System
- Boiler Steam System
- Main Steam Lines
- Steam Turbines
- Electric Generator System
- Cold Condenser System
- Main Condensate System
- Low Pressure Feed Heaters
- Feed Water Deaerator System
- High Pressure Feed Heaters
- Makeup Deaerator System
- Hot Condenser/DHW System
- Direct Heater System
- Accumulator System
- DeNox Plant Overview
- SCR Reactors (1&2)
- De-Sulphurization Plant Overview
- Lime Silo
- Slake System
- Feeder system
- Absorber System
- Product System
- Slurry Mixing System

Note: Specifications subject to change without any further notice.

Datasheet version:

K-Sim Engine - Thermal Power Plant,  
September 2018.

