

Maskinrumssimulator – RT FLEX

The Wärtsilä RT-Flex Container L-11-I model simulates a Panamax container ship of 4800 TEU, with a propulsion machinery based on the Wärtsilä RT-Flex 82 C, low speed. It has a 12 cylinder configuration, 2-stroke, turbocharged, reversible diesel engine. The model is based on real engine data which makes the dynamic behavior of the simulator close to the response of a real engine.

The electrical power plant includes three (3) diesel generators, one shaft generator, a steam turbine generator, and one emergency generator. The steam plant includes an oilfired boiler as well as an exhaust boiler. Control room operator station, panels, bridge and steering panels are included

1 TRAINING OBJECTIVES

The Wärtsilä RT-Flex Container L11-I 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.

PROPULSION PLANT

1.1 Main engine data

The propulsion machinery is based on one Wärtsilä RT-flex82C, low speed, 12 cylinder configuration, 2-stroke, turbocharged, reversible diesel engine. The main engine is coupled to a propeller shaft with both fixed pitch propeller and controllable pitch propeller (selectable by the instructor).

Main engine particulars

- Cylinder Bore 820 mm
- Piston Stroke 2646 mm
- Number of Cylinders 12
- Number of Air Coolers 6
- Number of Turbo Chargers 3
- Specified MCR 54.24 MW
- Corresponding Engine Speed 102 rpm
- Mean Indicated Pressure 19.5 Bar
- Scavenge Air Pressure 2.30 Bar
- Turbine Speed 9000 rpm
- Number of Prop. Blades 5
- Propeller Pitch 1.08 P/D
- Specific Fuel Oil Consumption 167 g/kwh

The main engine is equipped with the following auxiliary systems:

- HTFW cooling system including pre-heating system.
- LTFW cooling system
- Fuel Oil Servo Oil supply
- Common Rail System
- Main lubrication oil system
- Turbocharger and scavenging air cooling system.
- Manoeuvring system.
- Selective Catalytic Reduction System

The propeller system includes:

- Propeller servo system
- Stern tube lubrication oil system
- Steering gear system

