



Engine Room Console 6 XL

Engine Room Console 6 XL (ERC6_XL) is an engine room simulator with a single hardware console which models a conventional, camshaft controlled low speed diesel main engine.



ERC6_XL has been developed to comply with:

- STCW 2010 Code (with Manila Amendments).
- ISM Code: Section 6 and Section 8.

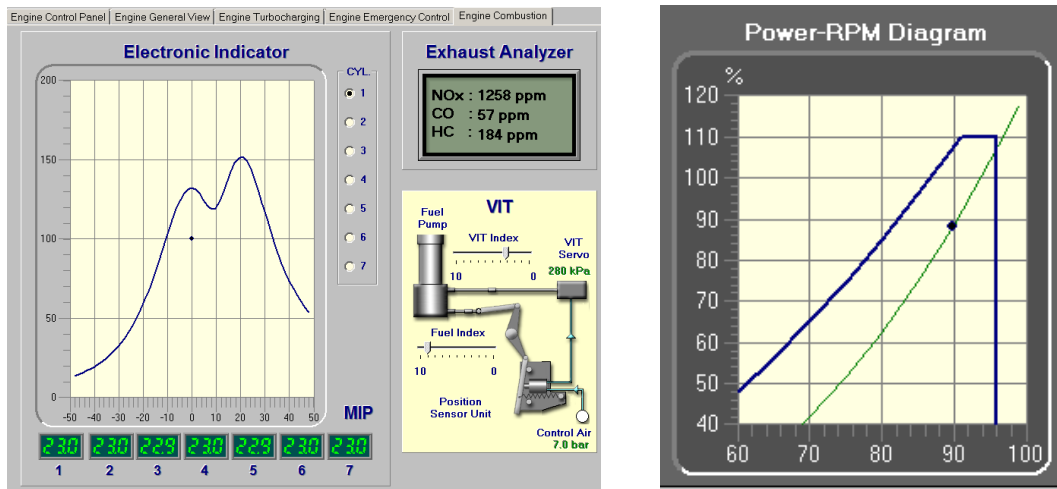
ERC6_XL is type approved by an EU classification company.

Main educational tasks accomplished with **ERC6_XL**:

- Learning typical ship's engine room **operating routines** with the support of integrated **checklists**.
- Ship's engine room **operation training**. The user will be able to accomplish any operational task starting from pre-prepared or previously saved **exercises**.
- Training in corrective action when faults occur. **Different faults** can be mixed in the run-time or loaded from disk.
- **Standardised and automated assessment** divided into 14 STCW compatible tests. These tests provide an independent and objective trainee evaluation.

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The low speed diesel engine with camshaft control modelled by **ERC_6XL** is an extended and improved version of the successful VER 4.8 software. VIT system and exhaust gas analyzer have been implemented as well.

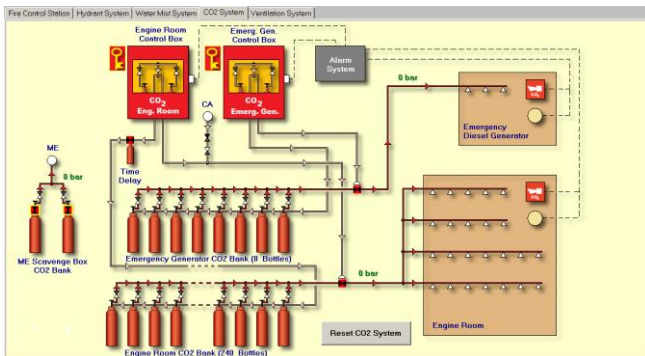
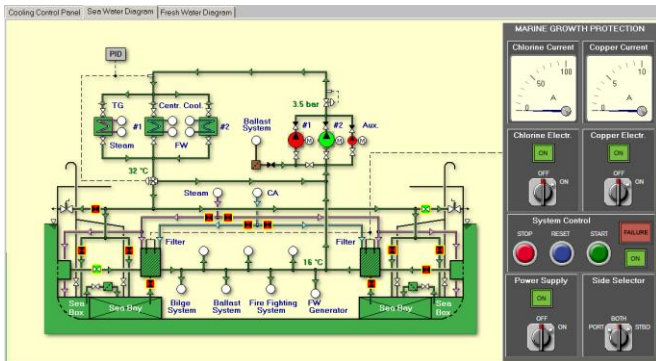
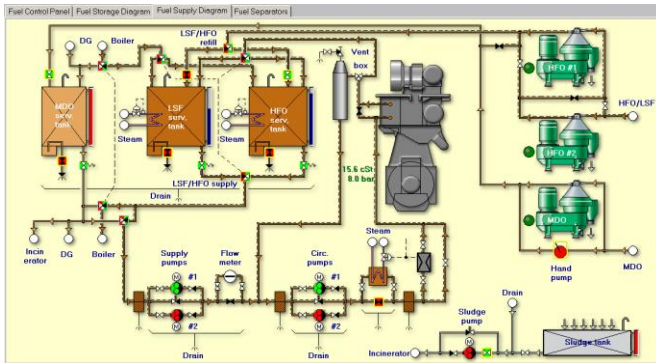


ERC6_XL main features:

- A **highly realistic simulator** with virtual controls for ship's engine room training.
- **Mimic diagrams** with active valves, pump status indicators, tank level indicators and selected digital gauges make the system easy to use.
- Multichannel **digitised sound** provides a very realistic ship's engine feel.
- **Synthesized speech** emulates the chief engineers advice
- The **Computer Aided Assessment (CAA)** is fully integrated and includes 3 generic and 14 STCW compatible tests with a **Test Editor** to create new tests and to edit the existing tests.
- **Exercise recording and replay** at different speeds.
- **Integrated checklists** with synthesized voice instruction.

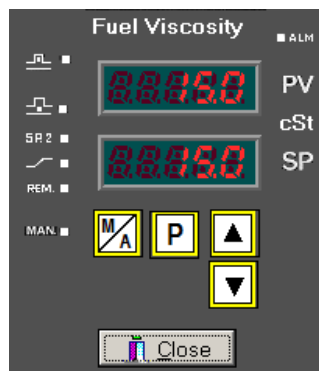
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ERC6_XL simulator model includes the following systems:



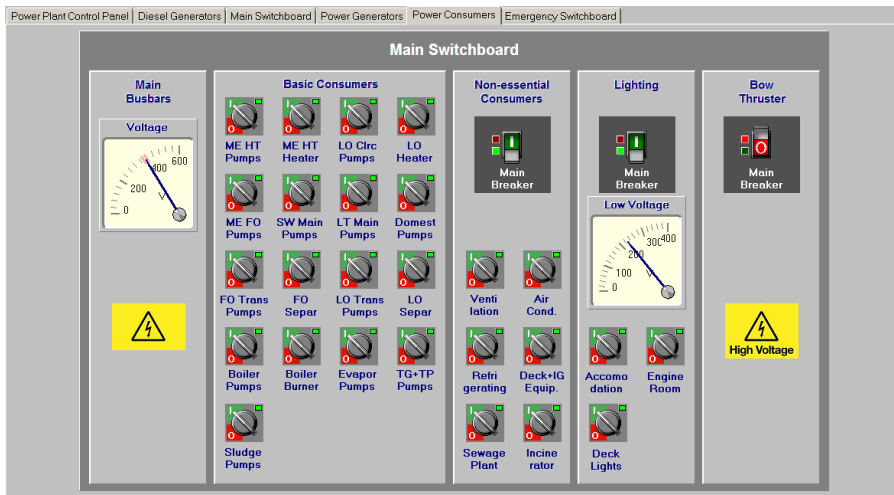
- Conventional main engine model with a camshaft and VIT.
- Main engine (2 stroke, low speed, 7 cylinders, fixed pitch propeller)
- Main engine remote control system (manual from CR, automated from the bridge and the emergency control at the engine side)
- Fuel system (MDO, HFO and **Low Sulphur Fuel**, including storage system and separators).
- Lubricating system (LO circulation and separator, LO storage and stern tube lubricating).
- Cooling system (sea water and fresh water central cooling).
- Compressed air system.
- Sewage treatment plant.
- Sludge and garbage incinerator.
- Steam system (auxiliary boiler, waste heat recovery, superheated steam, consumers).
- Power plant (2 diesel generators, 1 shaft generator, 1 turbo generator and 1 emergency diesel generator, multiple power consumers with separate circuits and bow thruster).
- Bilge system with oily water separator.
- Ballast system.
- Steering gear.
- Refrigerating system.
- Domestic water system
- Air conditioning system
- Simplified own ship model with ship speed modelling.
- **Engine room ventilation system.**
- **Inert gas system.**
- **Turbo pump.**
- **Engine room ventilation system.**
- **Water mist firefighting system.**
- **CO₂ firefighting system.**
- **PID controllers**

ERC6_XL includes multiple PID controllers which can be set both automatically and manually.

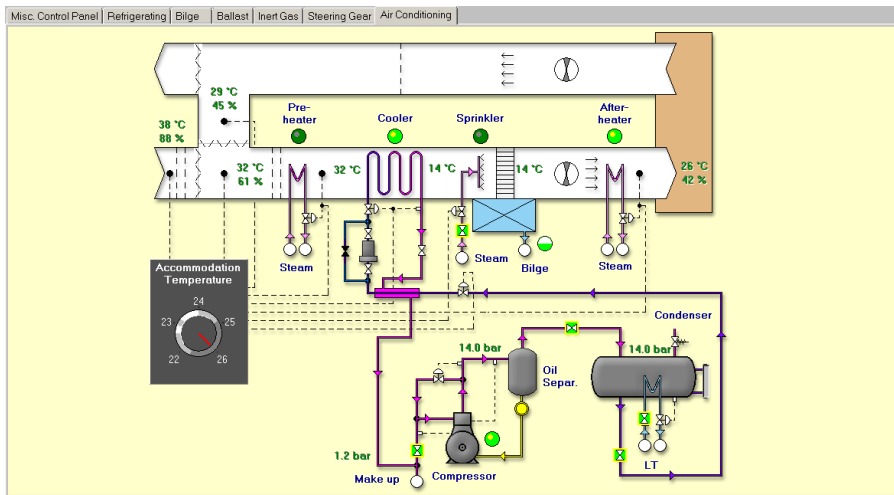


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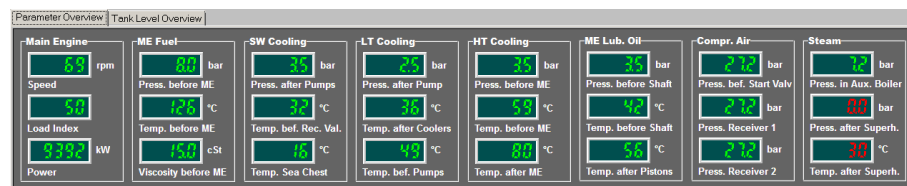
ERC6_XL offers different types of user interface:



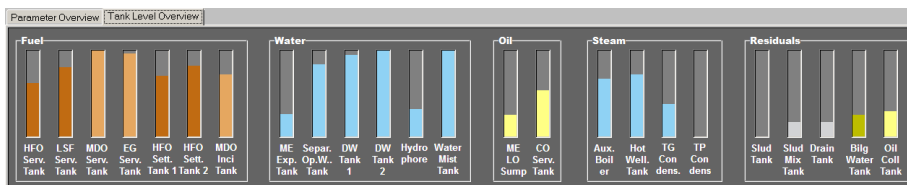
The control panels include very realistic, animated virtual controls like switches, gauges and lamps. The control panels imitate the most important parts of the control room equipment.



The mimic diagrams present the layout of all vital engine room systems. They include active valves, animated status indicators and tank level gauges.



The Parameter Overview shows the most important parameters from the whole engine room combined into media groups

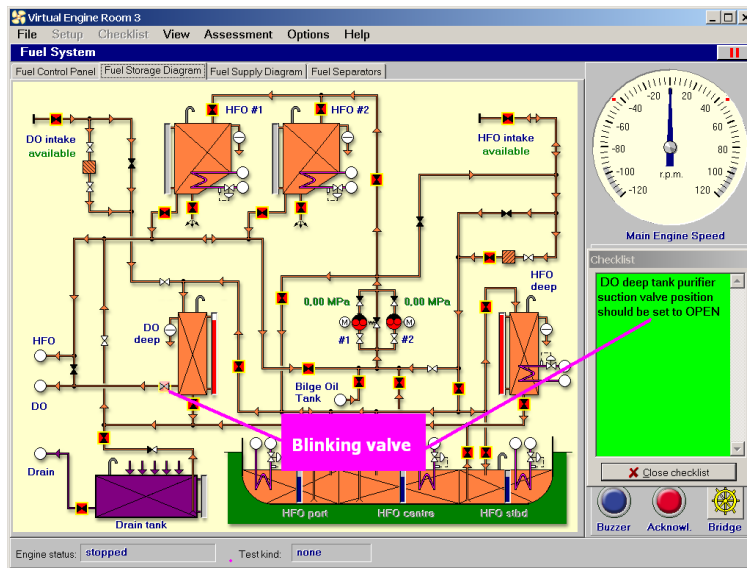


The Tank Level Overview shows the liquid level in the most important tanks from the whole engine room combined into media groups.

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Other **ERC6_XL** features are shown below:

The green **Checklist window** shows instructions relevant to the selected checklist. The appropriate system window will always open when a new checklist step is shown in the checklist window. The control lamp, switch or gauge specified in the checklist step "blinks" in order to make it easier to identify.



The **Assessment window** includes:

- A full list of errors with related penalty points.
- The total number of penalty points.
- Score in %
- The final results (Passed or failed).

TEST TITLE:
Scenario No.5 for Management Level
(Steam Boiler Operation)

TEST AIM:
To be able Start up and shut down main propulsion and auxiliary machinery including associated systems (STCW Table A-III/2) by operating the boiler safely until the steam pressure reaches 5.8 to 7.2 bars.

INITIAL SITUATION:
- Main Engine: stopped
- DGEN No.1 - Engine: running, Generator: on line.

Penalty points: **250 of 260**
Positive score: **4 %**
TEST FAILED

The **Test Editor** enables you to create custom tests and to edit existing tests.

It is possible to edit both the parameter test conditions (limit value plus the logic condition) and the state test conditions (required status). Penalty points can be assigned to every test condition.

PARAMETER TEST CONDITIONS

Parameter Name	Units	No.	Status	Limit	Value	Penalty	Use it
Diesel Generator No.1 Power	Mvar	211	above	value	0.14	100	yes
Diesel Generator No.2 Power	MW	214	above	value	0.14	100	yes
Turbo Generator Power	MW	222	below	value	0.01	100	no
Turbo Generator R.P.M.	rpm	256	below	value	700	100	yes

STATE TEST CONDITIONS

State Name	No.	Status	Penalty	Use it
Exhaust Boiler Steam Cutler Valve Position	10174	CLOSED	10	yes
Exhaust Boiler Superheated Steam Valve Position	10175	CLOSED	10	yes
Turbo Generator Superheated Steam Inlet Valve Position	10205	CLOSED	10	yes
Turbo Generator Gland Steam Inlet Valve Position	10208	CLOSED	10	yes
Ejector Motive Steam Inlet Valve Position	10211	CLOSED	10	yes
Turbo Generator Condensate Pump Switch Position	10251	OFF	10	yes

Please contact PC Maritime for further information or for a demo.