

K-SIM CARGO



KONGSBERG

K-Sim[®] Cargo LPG/Ethylene

KONGSBERG CARGO HANDLING SIMULATORS

K-Sim liquid cargo-handling simulators provide quality training in complex load and discharge operations. Reality-based exercises can simulate various cargo system configurations and load conditions, providing improved competence in safe, sustainable, and competitive cargo operations.

Our model library is based on actual ship specifications and performance data. It includes product tanker, chemical tanker, LPG/ethylene tanker, LNG tankers, Suezmax tanker, and very large crude carrier (VLCC).

K-Sim Cargo can be customized to exact requirements, upgraded and expanded at any time and integrated with our other ships simulators, enabling interdepartmental training.

Operators of LNG tankers must maintain control at the start of loading and discharging. If the cargo boils off too fast or the tank is cooled down too fast, pressure or vacuum can lead to extreme temperatures damaging the tanks or the hull structure. LPG tankers may also act partly as oil product tankers (naphtha) and chemical tankers (ammonia). So can our model.

Model description

Our K-Sim Cargo-LPG/Ethylene model is based on a real LPG/Ethylene tanker. The model consists of three double independent tanks type C able to take fully refrigerated or semi-pressurized cargoes. A compressor room is fitted with three compressors and two R22 plants. The ship can take two separate grades. Booster pumps and cargo heaters are situated on deck. It is fitted with a separate ballast system, a nitrogen generator, and an inert gas generator with dryer system. The cargo temperature and environment data may be set individually. The tank atmosphere and temperature data are calculated continuously.

STCW requirements

The LNG-M model meets the requirements of STCW section A-II/1, A-II/2, A-II/3, A-III/1, A-III/2, and A-V/1. These sections cover

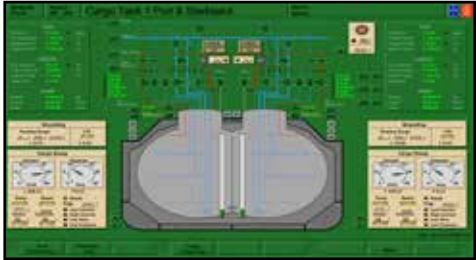
- planning and ensuring safe loading
- care during the voyage and unloading of cargoes
- trim, stability, and stress to maintain seaworthiness of the ship

DNV GL certification

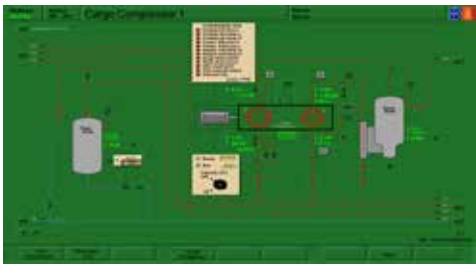
This model is certified and approved according to DNV GL's Standard for Certification of Maritime Simulator Systems ST-033 March 2017.



CCTV



MD 201 cargo tank 1 – port and starboard



MD 301 cargo compressor 1



MD 360 gas detection

MODEL FEATURES AND DETAILS

Vessel's main particulars

Tonnage	7095 GRT
Length overall	126.20 m
Length bpp	122.02 m
Breadth moulded	17.80 m
Depth moulded	11.90 m
Summer draught	8.60 m
Design speed loaded	15.5 knots

Vessel details

Cargo tanks	6 bi-lobe, indep. type C
Cargo capacity	8240 m ³
Max. pressure	5.4 bars abs
Max. vacuum	0.5 bars abs
Min. perm. temp.	-104°C
Max. perm. specific grav.	970 kg/m ³
Disch. pump capacity	170m ³ /h at 125 mlc
Ballast tanks	25

Note: Specifications subject to change without notice

TRAINING LEVELS AND OBJECTIVES

Training levels

The simulator is suited for the following training:

- Junior officers in basic cargo operations
- Senior officers in full-scale cargo operations (loading/discharging/ tank cleaning /venting)
- Senior officers and captains in advanced cargo-handling operations

Training objectives

The training objective of this model is to understand the total cargo-handling operation. Specific training objectives include the following:

- Familiarization with all parts of the cargo system
- Planning a cargo-loading or discharge operation using booster pump and cargo heaters when required
- Lining up for loading and ballast handling simultaneously (check atmosphere)
- Controlling the flow into each tank and the trim/list of the ship
- Controlling the atmospheric pressure and temperatures
- Topping up and finalizing loading
- Loaded voyage
- Preparing and lining up for discharge
- Starting up discharge, one or more grades
- Emptying and draining tanks
- Finalizing departure ballast
- Inerting tanks after docking, and cooling down before loading
- Inerting and venting tanks for inspection/docking

Datasheet version:

K-Sim Cargo LPG/Ethylene
February 2019.

