

K-SIM CARGO



KONGSBERG



K-Sim® Cargo Product carrier

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.

Our Product Carrier model is based on a real double hull vessel. The model includes seven tank pairs, where one pair is SLOPs. Each tank pair has its own independent lines for loading/discharging as well as for Vapour Emission Control (VEC) and Inerting. Submerged hydraulically driven cargo pumps are fitted in each tank.

Model description

For cleaning purposes clean-guns are fitted in each tank driven by two separate cleaning pumps able to clean with fresh water, salt water or cargo. Two separate ballast pumps and ejectors are fitted. Inert gas is made from flue gas or by the use of an inert gas generator, and run through a scrubber and onto the deck. The cargo temperature and density can be set individually. Water and sediments will fall out over time. Tank atmosphere data is calculated continuously. Tank atmosphere is shown graphically on a combustion diagram.

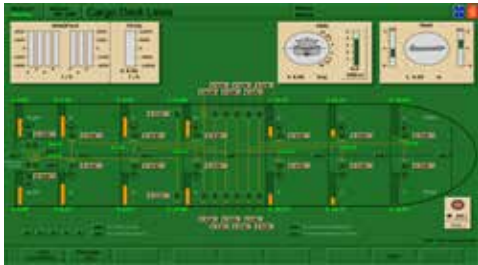
STCW requirements

The product carrier 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.



MD 108 cargo deck lines



No 1 tanks P&S cargo



CCTV

MODEL FEATURES AND DETAILS

Vessel's main particulars

Dead-weight	83890 GRT
Length overall	228.60 m
Length bpp	218.70 m
Breadth moulded	32.24 m
Draught moulded	21.60 m
Summer draught	16.06 m

Vessel details

Cargo tanks	14 – 2 are SLOPs
Discharge capacity	860 m ³ /h
Ballast pump	1100 m ³ /h
Vapour emission control	Yes
Number of cargo manifolds	7
Number of VEC manifolds	7

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 the Load Master load computer
- Lining up for loading and ballast handling simultaneously (check atmosphere)
- Simultaneous use of vapor emission control (VEC)
- Controlling the flow into each tank and the trim/list of the ship
- Topping up and finalizing loading
- Preparing and lining up for discharge including inert gas plant
- Starting up discharge from one or more tanks with one or more cargo types
- Tank washing (setting correct pressure and washing angles)
- Emptying and draining final tanks
- Finalizing departure ballast
- Heating cargo during laden voyage
- Venting tanks for inspection/docking using an explosion diagram for each tank (included in the model)

Datasheet version:
K-Sim Cargo – Product carrier
February 2019.

