



Application Report Chemical/Products Tanker (45.000 dwt)

CARGOMASTER® tank monitoring systems on a series of 10 chemical tankers at SLS Shipbuilding



- Full CARGOMASTER® systems monitoring 22 cargo tanks with OPTIWAVE radars, all ballast and fuel tanks, 4 draughts and 25 cargo manifold pressures
- Independent high level system

1. Introduction

The ships are being built for United Arab Chemical Carriers (UACC), who is majorly owned by United Arab Shipping Company (UASC). The tanker design is new, and has an improved EEDI (Energy Efficiency Design Index) compared to existing LR1 designs. UACC has built up a fleet of 9 ships, one already equipped with CARGOMASTER®. The tankers carry chemicals and products in Middle East and Far East Asia.

2. Project data

Project	Newbuilding of 10 x 45.000 dwt
Shiptype	Chemical/Products Tanker
Yard	SLS Shipbuilding Co., Tongyeong, Korea
Owner	UACC (United Arab Chemical Carriers)
Class	DNV, IMO II, III
Year of delivery	2011 / 2012

3. System design

Cargo level gauging	22	OPTIWAVE 8300 C Marine (radar beam type)
Cargo inert gas pressure	22	P-110, Monitoring and alarm
Cargo temperature	22	3 points per tank, in pump stack
Cargo high/overflow alarm	22	Scanjet Macron system
Cargo manifold pressure	22	P-140, High speed pressure monitoring and alarm
Ballast manifold pressure	2	P-140, High speed pressure monitoring and alarm
Ballast/FW tank level	16	Kockum Sonics H8 system (integrated)
Fuel tank level	9	Kockum Sonics H8 system (integrated)
Draught	4	Kockum Sonics H8 system (integrated)
Monitoring system	1	CARGOMASTER® Version 5, computer workstation
Interface to loading calculator and automation system		

4. Products used

OPTIWAVE 8300 C Marine

Non-contact Tank Level Radar (FMCW) for cargo tank level gauging

- High precision (2 mm)
- Redundant ullage indication
- Fully stand-alone unit with touch screen
- Closed tank service and cleaning of all components
- Designed to operate in rough conditions on main deck



P-110

Cargo Inert Gas Pressure (IGP) Sensor for measurement of tank pressure

- Absolute gauging technique, sensor completely sealed
- Diaphragm and housing material stainless steel AISI 316 L
- Semi flush diaphragm



CARGOMASTER V. 5

Tank monitoring system, versatile and easy to use



Kockum Sonics H8 system (integrated)

Level-gauging using the electro-pneumatic principle (bubble measuring)



Cargo high/overflow alarm system

System based on magnetic floats

