



Welcome to Royal Wagenborg

As experts in international transport by road and water, we offer custom made solutions for every transport need, expertly and with dedication. At Royal Wagenborg the word "impossible" does not exist. We believe that there is a solution for every transport requirement or logistical problem. We offer an integrated approach, including project support, equipment, experienced employees and a global network, reason why our clients have come to increasingly rely on our knowledge and expertise. At Royal Wagenborg safety and reliability are paramount. We are committed to providing you with the highest standard of quality.

SANABORG / SERKEBORG

The icebreaking multipurpose support and supply vessel (IMSV) "Sanaborg" and her sister vessel, "Serkeborg", were built at the Royal Niestern Sander shipyards and were delivered to Wagenborg in 2012.

These IMSVs have been developed for operations in ice-infested shallow waters. Their duties include icebreaking and ice management, towing and pushing of cargo barges, such as reefer containers and drilling tubulars, both on deck (the IMSVs' flush deck has a usable area of 425m3) and within the hold.

The twin IMSVs are "double action" meaning that they can break through the ice while sailing in both ahead and astern conditions. In ahead mode, the IMSVs can achieve a speed of 4 knots in 0.6m level ice while the vessel is capable of clearing over 30,000m3 of rafted and rubble ice within an hour during astern navigation.

Its propulsive arrangement means the vessel has the ability to operate at 12.5 knots at maximum draught. Bullard pull has been recorded at 36 tonnes when operating in 2.5m draught conditions. Each IMSV has a deadweight of 969 tonnes at a maximum draught of 3.15m and 417 at 2.5m design draught.

Additionally each vessel incorporates a citadel to safeguard crew against the potential effects of gas cloud formation, such as H2S or CH4, with an endurance of two hours.



Wagenborg Offshore

international offshore As an specialist and with many years of experience in the global oil and gas transport business, Wagenborg Offshore has committed professionals at its heart, carrying out complex logistic projects worldwide.

Wagenborg Offshore is a specialist in shallow water transport and has been operating in the Caspian Sea for decades with its dedicated vessels. The company also has vast experience and knowledge of ice navigation in Baltic and Scandinavian waters.

Wagenborg Offshore has state-ofthe-art equipment and technologies that comply with the highest quality industry standards.

GENERAL Yard:

Year: Classification:

Flag:

DIMENSIONS

Length overall:
Length dwl:
Breadth over all:
Breadth (moulded):
Depth:
Deadweight (max draught):
Maximum draught:
Deadweight (design draught):
Minimum operating draught:
Gross Tonnage:
Nett Tonnage:
*Salinity seawater

CAPACITIES

Fuel oil bunkers : Fuel set and day tanks : Treated water : Potable water · Zero dumping : Cargo Deck :

PROPULSION

Main Diesel Generators

Rating: Voltage: Propulsors:

Rating: Ice Class: Propulsion Drive System:

AUXILIARIES

Aux Diesel Generators Rating: Voltage: **Emergency Diesel Generator** Rating: Voltage: Bow Thruster

ACCOMMODATION

Complement : Cabins:

Other facilities :

Royal Niestern Sander, NL 2012 BV I; +HULL; +MACH; +AUT-UMS; Tug; Supply Vessel; Special service: Ice Breaker; Ice Class 1A Super (equiv. RMRS Ice class ULA); Strength bottom; Unrestricted navigation; ALM (main deck crane); INWATERSURVEY; CLEANSHIP 7+; Dangerous Goods on Deck according SOLAS reg 19 Dutch

68.20 m 65.85 m 14.30 m 14.00 m 5.10 m 991 t 3.15 m 417 t* 2.50 m 1520 GT 456 NT 1.01t/m³

780 m³ 37 m³ 263 m³ 330 m³ 29 m³ 425 m² (5 t/m²)

Caterpillar, 2x 3516 HD (Tier II) 2000 ekW each 3 ph 690 VAC / 60 Hz Wärtsilä, 2x ICEPOD FS 1750BOP-ICE 1750 kW each PC-5 ABB, 2x Type: ACS 800 / AFE

Caterpillar, 1x C9 250 kW 3 ph 440 VAC / 60 Hz Caterpillar, 1x C4.4 58 kŴ 3 ph 440 VAC / 60 Hz VETH, 1x 200 kW

12 persons 3 single cabins, 4 double cabins treatment room/ spare cabin, Citadel function with BA plugs on aft deck with an endurance of two hours, day-/messroom and wheelhouse.

BOLLARD PULL/ SPEED

Bollard Pull	36.3 t at 100% MCR of drive motor
	at design draught
Speed open water	12.5 kn at 75% MCR of drive motor
	at maximum draught
	13.3 kn at 75%MCR of drive motor
	at design draught
Speed in ice	over 4 kn ahead in 0.6 m level ice
lce-management	Clearing of rafted/
-	rubble ice over 30,000 m3/h
Range	At design draught at least 14 days
J.	At maximum draught at least 21 days

DELIVERY RATES

Fuel oil:	54m3/ hr @ 4.0 bar/ 4" TODO
Sewage Water:	50m3/hr @ 3.5 bar/ 4″ TODO
Freshwater:	50m3/hr @3.5 bar/ 3″ TODO

DECK EQUIPMENT

Towing winch

Tugger winch Capstan aft deck Towing pins Chain stopper Deck crane **Reefer Container Sockets** 2 x 30 t line pull 2 x 5 t 1 x 5 t 2 x SWL 100 t 1 x SWL 100t 10 ton @ 8m, 5 ton @ 19.5 m 16x Optional

Waterfall

Stern Roll

SAFETY EQUIPMENT

Lifesaving arrangement in accordance with SOLAS. Fast rescue boat - Norsafe Merlin 615 diesel jet with NDA - type luffing davit Rescue zone and hoisting equipment for rescue operations 2 x Life rafts (16 pers each) 18 Survival suits 4 Anti-exposure immersion suits 20 Life jackets

NAVIGATION

Integrated bridge system fore and aft bridge X-Band Radars: 1x 8' Scanner & 1 x 5' Scanner 1 x Rutter Ice Radar system, with dedicated scanner 1 x gyro & 1 magnetic compass 1 x standard and 1 x shallow water echo sounder 1 x meteo system ECDIS: 1 x SAM Electronics & 1 x Transas 2 x 2000W Xenon Search Lights 2 x 1000W Halogen Search Lights COMMUNICATIONS Full GMDSS area A3 installation

1 x Mini V-SAT for data communication

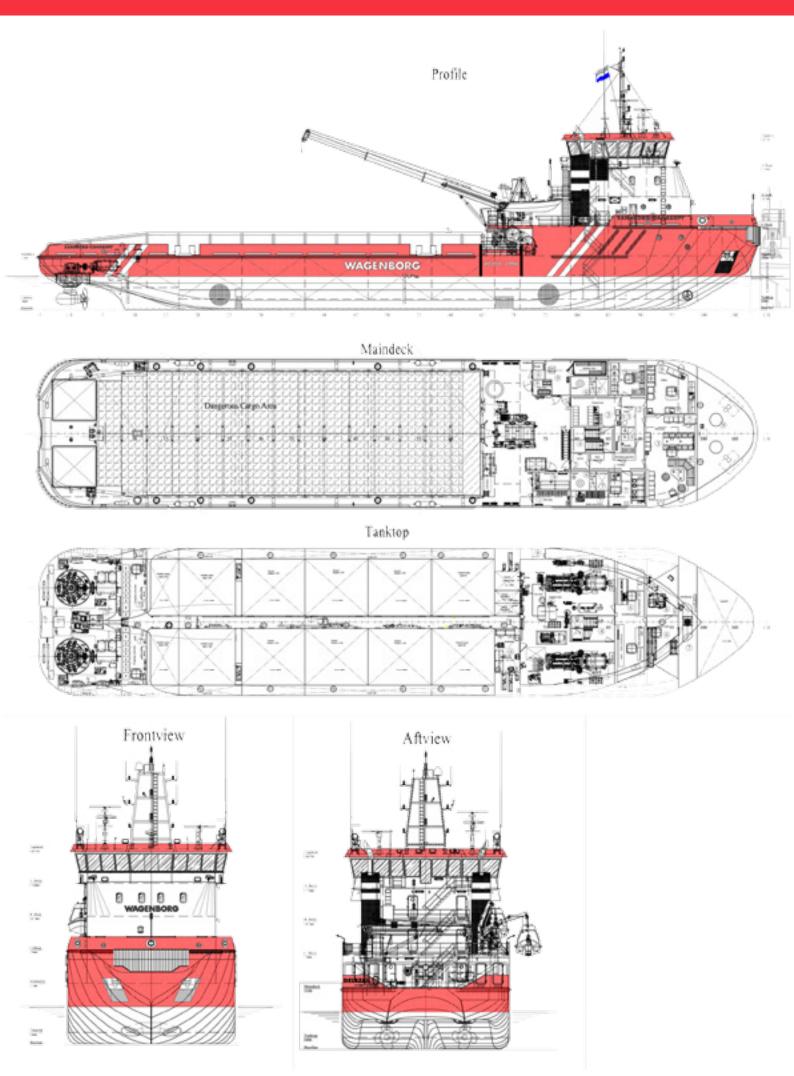
1 x Aeronautical band communication

WAGENBORG OFFSHORE

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