

Icebreaking Supply Vessels Arcticaborg and Antarcticaborg

Aker Arctic



Two shallow draft icebreaking supply vessels for Caspian Sea operations

A requirement to support year round operation of drilling platforms in the Northern Caspian Sea has produced two interesting vessels whose design is tailored to some very special needs.

Arcticaborg and Antarcticaborg were ordered from Kvaerner Masa-Yards Helsinki New Shipyard (today Aker Yards Oy) in December 1997 and they are operated by Wagenborg Kazakhstan BV, a company in the Dutch Royal Wagenborg ship owning group.

These shallow draught ice breaking supply vessels serve drilling platforms operated by AGIP KCO which has taken them on long term charter.

They are the first full developments of the double acting ice breaker principle developed by Aker Arctic and perfected at the Arctic Technology Center. The bow is designed for good sea keeping and open water characteristics and in light ice conditions or open water, the vessels will proceed conventionally bow first.

In heavy ice conditions the ships go stern first and in this configuration they can break about 1m thick level ice and they can also penetrate ice ridges which in this operating area are far greater than the draught of the vessels and in some cases may reach the sea bottom.

These two sister vessels will carry dry cargo, fresh water, fuel oil, oil mud, cement and baryte, they will also remove sewage and waste water from the rigs. Fire fighting, rescue and pollution control

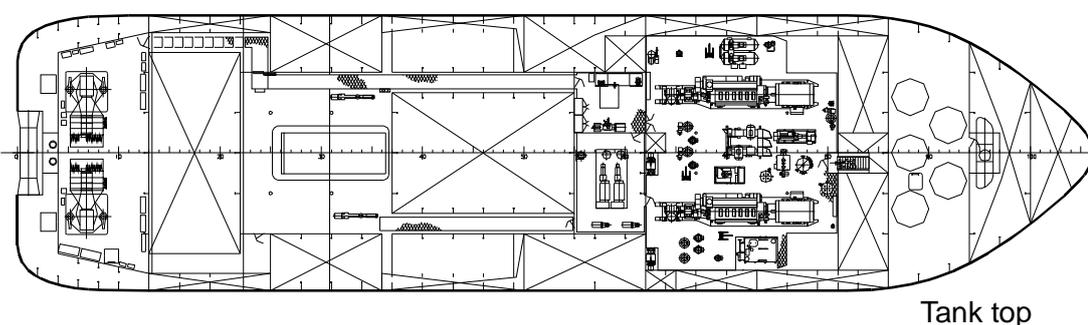
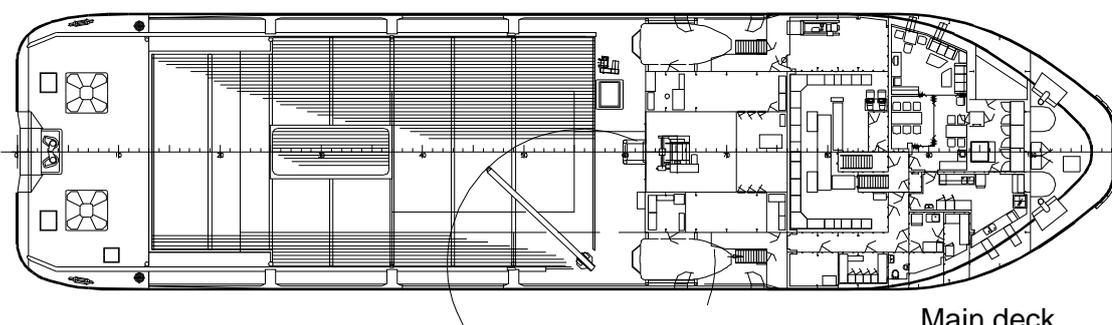
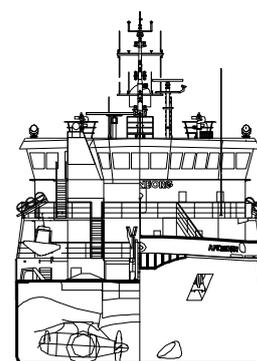
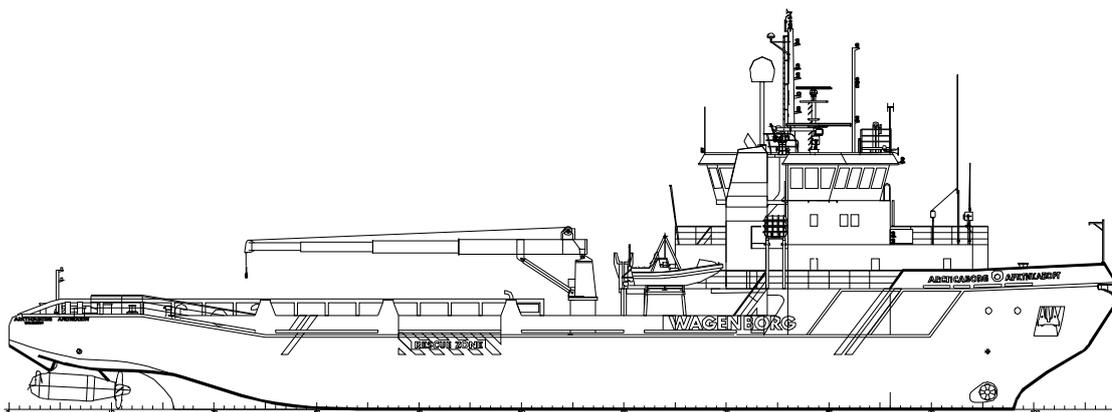
capabilities have been included and there is towing and anchor handling equipment. The towing arrangements also allow them to function as assistance icebreakers if required.

Aker Arctic has long experience of icebreaker design and construction including very shallow draught units. The Aker Arctic Technology Centre can test promising hull forms and propulsion layouts.

The ideas used in the latest Caspian supply boats can be traced to the diesel electric river ice breaker Rothelstein built in 1995. This vessel operates on the Danube and has two Azipod thrusters, each of 560 kW. The advantages of bow propellers for icebreakers have long been recognised as they reduce friction and create a flow of water which helps the breaking process.

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Main particulars

Length overall:	65.1 m	Machinery:	Diesel-electric
Length CVL:	60.6 m	Main engines:	2 x Wärtsilä 6 L 26, á 1 950 kW
Breadth:	16.4 m	Main generator:	2 x van Kaick DGS, á 2 250 kVA at 690 V
Height:	4.4 m	Main drive:	ABB ACS 600 Multidrive
Draught, loaded:	2.9 m	Propulsion:	2 x Azipod, type 11, á 1 620 kW
Deadweight:	675 tons	Harbour engine:	Sisu Valmet 611, 135 kW
Speed:	13 knots		

Icebreaking performance: ahead, 60 cm, astern, 1 m

Bollard pull: 34 tons

Fire pumps: 2 x 1 500 m³/h

Cabins: 12

Classification: Bureau Veritas

Owner: Wagenborg Kazakhstan B.V.

Deliveries: 1998

Builder: Kvaerner Masa-Yards,
Helsinki New Shipyard

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