



VILJA

Type: Hybrid icebreaking ASD escort tug

Hull material: Steel

Owner: Luleå Hamn - Port of Luleå (Sweden)

Awarded to GONDAN as the result of an international competition amongst world renowned shipyards, this compact icebreaker is the most powerful hybrid escort tug of this size in the world. It is equipped with an innovative hybrid propulsion system featuring diesel main engines, shaft motor/generators and batteries, which grant a great operational flexibility and results in lower maintenance costs, reduced emissions and fuel savings. Fully customized to operate in extreme climate conditions, this tug is designed to perform icebreaking, ice management, escort, ship-assistance, coastal towing, fire-fighting and navigation aids service duties on the icy waters of the northern Gulf of Bothnia.

MAIN PARTICULARS

General information

Hull material	Steel
Type	Hybrid icebreaking ASD escort tug
Delivery	2019
LRS Class Notation	✠ 100A1 Escort Tug, Fi-Fi 1 ✠ LMC, UMS Ice Class 1A Super FS, Descriptive Note "Icebreaker"

Dimensions

Length overall	36 m
Beam moulded	13 m
Depth	6,6 m
Draught	7 m

Capacities

Fuel oil	Approx. 150 m³
Fresh water	Approx. 18 m³
Water ballast	Approx. 230 m³
Energy storage: Battery Power Bank	600 kWh installed, fitted for future expansion approx. 1200kWh

Accommodation

Accommodation for	3 to 6 (normal service); 10 persons maximum
Cabins	5 single cabins (4 with second pullman bed + 1 pullman bed in office)

PERFORMANCE & MACHINERY

Propulsion / Maneuvering

Propulsion System	Hybrid with in-line shaft motor generators
Main Engines	2 x Wärtsilä 8L26, 2720 kW each
Motor/generator - PTO/PTI	2 x Permanent magnet electric motor/generator, 1000 kW each
Main Azimuth Propellers	2 x Rolls-Royce Azimuth Thruster US 355 CP, 3100 kW each
Bow Thruster	1 x Brunvoll Rim Driven Tunnel Thruster RDT-1000-F, 300 kW

Features

Maximum speed	Approx. 13.5 kn
Icebreaking capacity	Navigation at approx. 3 knots speed through 1 meter ice thickness
Endurance at electric "green" mode	1 hour (Batteries charged to 90% SOC) at slow speed navigation
Bollard pull ahead (diesel-mechanical mode)	85 t
Bollard pull ahead (electric boost)	100 t
Steering force at 10 knots	85 t

EQUIPMENT

Deck / Special equipment

Fire-fighting system	2 x Monitors capacity 1200 m³/hour water - 300 m³/hour foam
Towing winches	1 x Electric forward escort towing winch + 1 x Electric aft towing winch
Tow Pins / Roller	3 pin configuration, hydraulically actuated, integrated roller, SWL 100 t