



LOA - 60,5m
LPP - 55,5m
B -14m
D MAIN DECK -6,0m
D BOAT DECK -8,8m
T MAX - ~5,3m
Frame spacing - 0,6m

Cargo tanks - 2x~825m³ (Net volume for fish -1500m³)

Hull and superstructure of the vessel to be built of steel.

Wheelhouse, radar mast, mast house on forecastle deck and foremast to be built of aluminium.

- Steel weight: approximately 600 tonnes.
- Aluminium weight: approximately 15 tonnes

Ship to be built according Class notation DNV +1A 1 EO,

The vessel shall comply with rules of

- SOLAS, MARPOL
- Faroe Maritime Authorities, and
- other applicable Authorities.



The ship is designed for loading and discharging fish with pressure / vacuum.

Thus the cargo hold will be strengthened to withstand 0.4 bar over pressure and under pressure.

Main deck is continuous in full length and breadth of the ship. Inner bottom in cargo hold area is tank top for bottom tanks. (Fuel oil, ballast water, fresh water)

Forecastle on foreship of steel shall contain aux. engine (~250 kVA , 3x440V, 60Hz) and a hydraulic aggregate suitable for operating deck equipment, and two pcs. RSW - units (440kW). Fore peak tank to be built from bottom to forecastle deck, forward of fr. 87.

Anchor winches shall be located on forecastle deck. Two anchor pockets shall be built in forepeak tank. Two anchor chain lockers to be built aft of forepeak tank.

Between cargo tanks and forepeak tank below main deck is forward pump room, with side thrusters (electric, frequency regulated with ~ Ø1,375 propeller and ~450kW), pumps for cargo room, emergency fire pump etc.

PE-pipes (Ø400) to be installed in fore-ship and aft-ship from sea to cargo hold, via valves and pumps.

Fish well deck 4800 mm ab. BL to be continuous from fr. 17 to 80. Space between fish well deck and main deck will contain two large PE-pipes (ø400) from end to end on each side. Total length of PE pipes approximately 175m. The space shall also contain cable trays, hydraulic piping, water pipes, fuel oil overflow pipes etc.

Main routes with cable trays etc. shall be light with spray tight lighting fixtures.

Pipes in space between fish well deck and main deck shall at certain positions (2 places) have bypass-loop to skimmers (and ventilators) on main deck, where the CO₂ and organic contaminants can be flushed out of the water. This will ensure maintaining acceptable levels of CO₂ and contaminants in the fish hold. An oxygen production facility with redundant capacity shall continuously feed the water

Outline Specification 60M -1500m³ Live Fish Carrier

with new oxygen. All contaminant-, CO₂-, oxygen and temperature levels shall be monitored by a monitoring system on the bridge.

Cargohold sides and longitudinal and transverse bulkheads to have steel lining, and void space to be insulated/conserved with PU-foam.

Cargo hold transverse bulkheads (fr. 18 and 80) to contain several penetrations for pipes mentioned earlier.

High precision is required concerning straightness and shape of cargo hold and lining. (maximum 10mm deviation for all measurements).

In the tank top in each cargo hold there shall be two bottom canals with galvanized covers. The covers shall have some inserts with perforated plates. Oxygen-enriched water shall be injected in the cargo hold through these canals. For illumination of cargo hold, water tight light fixtures shall be welded in fish well deck, so that they are flush below fish well deck.

Galvanized, perforated bulkheads to be installed fore and aft in cargo hold. (-ft.20 and 78).

Perforated bulkheads shall have doors for access for maintenance and cleaning.

Longitudinally movable bulkhead to be installed on profiles welded to long. bulkhead or fish well deck. Transversely and vertically moveable bulkheads to be installed on profiles on perforated bulkheads (fr.20). Cameras to be fitted in watertight compartments in longitudinal centre bulkhead in cargo hold, close to suction openings of loading/discharging pipes.

Aft of cargo hold there shall be two pump rooms (fr. 12-18) and engine room. Sea-chests with coolers and sea water intakes to be placed on both sides. Pump rooms shall contain two large pumps each, with suction through ship bottom and/or cargo hold, and delivery of water to cargo hold/ pipes above fish well deck/overboard.

Engine room below main deck to contain hydraulic aggregate, transfer pumps, reduction gear with two frequency regulated electric motors (~1 000 - 1200kW each for 3x690Y 60Hz) and traditional propeller shaft, controllable pitch propeller and propeller nozzle.

Side thruster (electric, frequency regulated with ~Ø1, 375m propeller and ~450kW) to be installed aft of reduction gear, below propeller shaft. Fore and aft side thrusters including electric motors, frequency regulators and controls to be included.

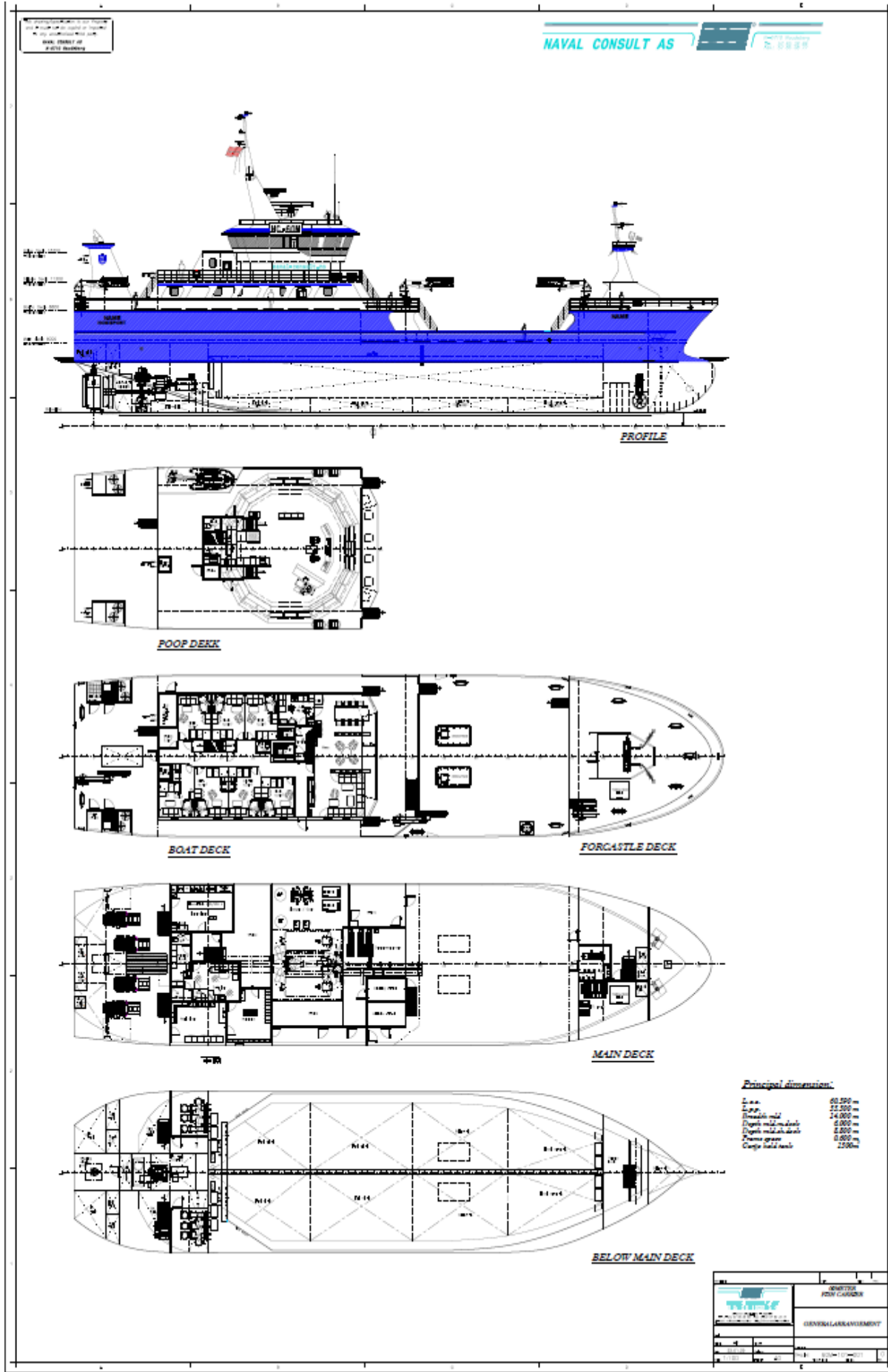
Fuel oil separator shall be installed, connected to daytanks.

Engine room shall be protected by an Inergen fire extinguisher system.

Ship hull shall have active corrosion protection in ways of an Impressed Current Cathodic System, and coolers shall have active anti-fouling system in ways of an Impressed Current Anti Fouling system.

The ship is to be built with a Becker-type rudder.

Engine room above main deck to contain 4 pcs. Aux. engines Cat C32B or similar, with output of ~940kWe.



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Main switch board for 3x690Y 60HZ, 3x440Y 60Hz and 3x120Y 60Hz supply. Main switch-board with frequency regulators and motors for propulsion.

Harbor-generator in fore-ship of approximately 250 Kwe to be included.

Propeller, shaft, reduction gear and electrical motors to be included.

Deck equipment including 4 hydraulic deck cranes (8 tm, 2pcs 45tm and 15tm), 3pcs 5ton mooring winches to be installed.

Fish handling water circulation and treatment system to be included, this includes (roughly) complete system for fish handling and cargo hold water treatment, including valves, pumps, sensors, skimmers, vacuum pump tanks-and compressors, ozone and oxygen generators, RSW-system, moveable bulkheads etc. *Circulation pipes are not included in this.*

Lice treatment system to be installed, (H₂O₂ injection in the circulated water in cargo hold.)
(H₂O₂ not included)

Electronic equipment for navigation, internal and external communication, "entertainment system" etc. Complete equipment for GMDSS A3 certificate, including radars, echo sounder, radio systems, compasses etc.)

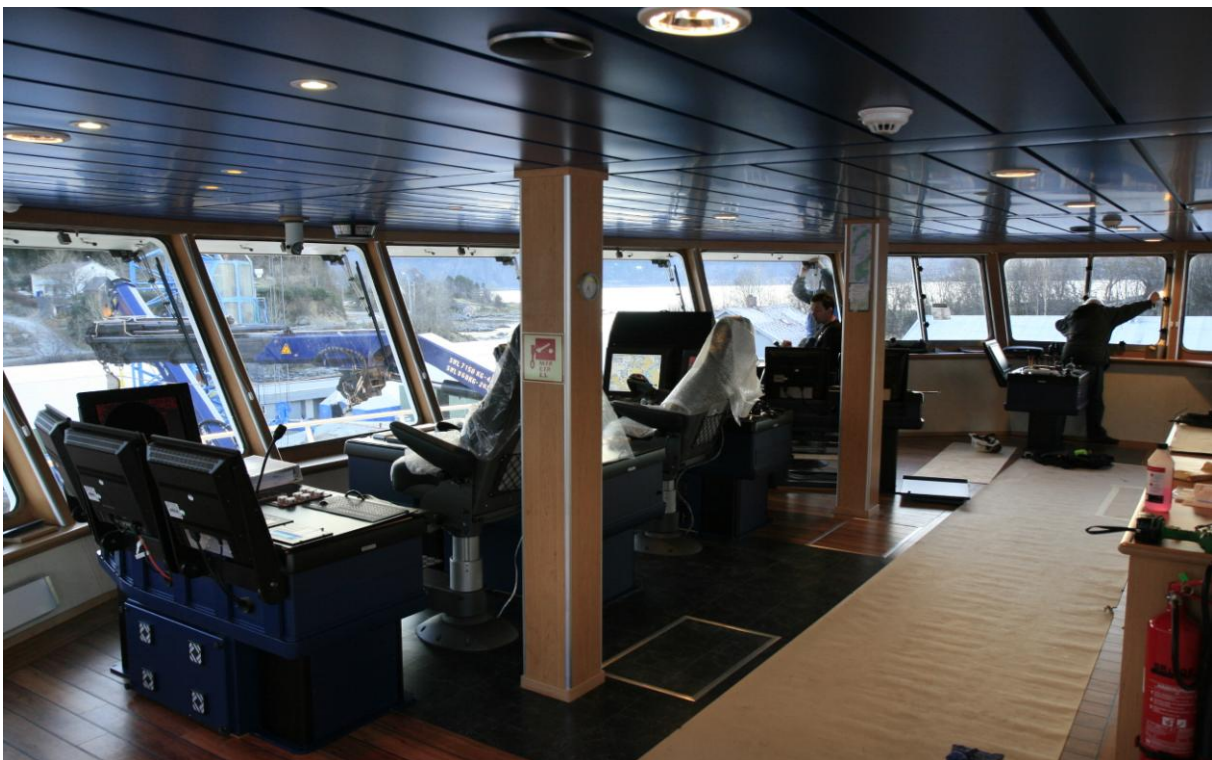
Rescue-boat and crane to be installed on bridge deck according to SOLAS requirements. Safety and rescue equipment to be delivered according to SOLAS requirements, and Faroese Maritime Authorities wherever applicable. Rescue-boat with crane that can be operated without power supply and 4 life rafts to be installed, each for 10 persons. Lifesaving appliances, fire detection and extinguishing equipment, in compliance with SOLAS regulations to be installed.



Accommodation to be of high standard, and shall include 7 single person cabins. Ventilation system for accommodation with air cooling and heating to be installed.



Wheelhouse shall have two maneuvering positions placed forward in center of the wheelhouse, and one small maneuvering position on each side (side thrusters, propeller pitch, speed).



Monitoring station for fish handling, water treatment, cargo hold surveillance and maneuvering of moveable bulkheads to be located in wheelhouse.



Captains office and toilet to be arranged aft of wheelhouse. 5 windows in the wheelhouse shall be open-able, sliding sideways, and 10 windows shall have electrical heating and window wipers with warm water flushing.

Delivery time can be arranged to 12 months after signing the final contract.