

VESSEL TECHNICAL SPECIFICATIONS

Principle Particulars:

Overall Length	27.25 m
Overall height from Baseline to Cabinroof	7.50 m
Molded Length	24.30 m
Molded Beam	7.50 m
Displacement full	97.00 Tonnes
Draught	0.90 m
Main Power generator	175 kW (2 Pcs.)
Propulsion	323 kW (2 Pcs.)
Productivity (oil recovery)	10.8 Tonnes/ hour

Accommodation Arrangement:

Wheelhouse	Airconditioned, 2 x pilot seats
Shower, Wash Basin & Toilet Units	2 off
Galley	1 equipped tea room mess (AC)
Office / Control Planning Area	Desk, chairs and cupboard space (AC)
Deck store	1 off (lockable)
Insulation	Rockwool or Equiv.
External Doors	Weathertight
Internal	B15 Fire rated
Ceiling, Floor & Panelling Systems	Fire Retardant / Class Compliant

Propulsion System:

Main Engine	Volvo or Yanmar (Medium Duty)
Main Engine Power	TBA kW (2 off)
Propulsors	Hydraulic Pod Azimuth thrusters (2 off)
Propulsor power	323 kW (2 off)

Auxiliary Equipment:

Auxiliary Engine	Volvo or Yanmar (Medium Duty)
Generator Power	175 kW (2 off)
kVA	205 kVA/ 50 Hz
Hydraulic Powerpack	Multi-service powerpack, engine driven, clutched
Ventilation	Forced ventilation with AC in accommodation spaces
Fire Suppression Systems	Automatic engine compartment inert gas suppression systems
Fire Fighting Systems	Engine driven firefighting / bilge pumps (2 off)
Pumps	Hydraulically driven transfer pump for transferring collected oil
	Portable diesel driven transfer pump
Bilge Pumps	Electrically driven bilge pumps in each watertight compartment
Main bilge pump	Engine driven emergency firefighting / bilge pump in both engine compartments

Deck Machineries:

Fwd Facing Knuckle Boom Cranes	2 Units that can be fitted with oil collection heads or garbage grabs (approx. capacity 1.2t)
Aft Facing Knuckle Boom Crane	1 unit (approx.. capacity 3.0t)
Anchor	Dual
Anchor winches	Dual (hydraulic)
Oil Skimmers	Dual Lamor Oil Skimmers
Oil Booms	Dual Oil boom spools (Hydraulic)

Wheelhouse & Navigation Equipment:

Wheelhouse	Accommodates all operating controls, navigation and communication equipment in ergonomic layout
Pilot / operator seats	Fully adjustable (2 off)
Navigation Equipment	
Compass	Magnetic and GPS
Chart Plotter Combination	GPS, Echo Sounder, Chart Plotter (17 inch)
Chart Table	With Perspex cover and lighting
Radar	Garmin Radar (S-Band)
Radio	VHF Marine radio & Handheld VHF radios (2 off)
Engine Controls	Twin throttles (Electronic)
Steering	Wheel and Joystick control (hydraulic)
Engine Display	Digital Engine gauges
Generators	Digital Engine and power generation display
Navigation lights (SOLAS)	Full suite of nav lights on switch panel
Search Lights	1 x 1 000 W movable searchlight with bridge control
Windshield wipers	2 sets (pantograph type)
Deck Lights	LED deck lights (6 off)
Fog Horn	Electric
Alarm Panel	Remote alarms for all critical equipment on-board
Fire Monitoring	Full electronic fire & smoke detection system

Engine Room

The engine rooms are to house all machinery and equipment at appropriate convenient locations considering the size and layout of the available spaces. They will be finished to Class standards and be fully insulated. Access to the engine compartments will be via an approved watertight door or hatch.

The engine room compartments will also house the generators and all associated switch boards for the distribution of electrical power to the vessel. All electric cables and materials are to be suitable for marine application and in accordance with requirements for safe and efficient operation of the vessel.

Hull Coating And Protection

Due to the nature of work this vessel will fulfil, the hull and superstructure will be painted with an appropriate marine paint system that will protect the hull from oil spills and or any other flotsam & jetsam it may encounter in the course of its primary function as a clean-up vessel.

Below the waterline, the hull will have an anti-fouling paint system. Above the waterline a multilayer marine paint system will be selected. The paint system selected will be of an international standard such as Sigma or Jotun and will give a minimum of 5 years of protection.

The hulls will also be protected against corrosion with the addition of externally fitted sacrificial anodes in accordance with the naval architect's recommendations.

Oil Spilled Removal / Collection System

The Larmor brush chain-type free-floating oil skimmer is specified on this vessel. It is designed to recover oil in fast-flowing rivers, oil ponds and harbours. The skimmer can be used in all terrains and environments. The one 3-row oleophilic V-brush chain bank separates the oil from the water effectively and lifts it to the specially designed brush cleaner from where the oil is directed to the oil transfer pump. The skimmer has a special flow design to improve oil recovery in stationary conditions. The double rotation direction capability enhances the recovery of light to heavy viscous oils. The skimmer has robust detachable aluminium floats, aluminium frame and single lifting point making it easy to lift, operate, clean and store.

The Larmor skimmer will be capable of cleaning TIER 1 oil spills (crude oil/ marine heavy oil) at a minimum rate of 6T within 5 hours (although the Larmor units have proved significantly better performance than this in reality).

Two hydraulically operated spools are provided to store and deploy oil booms as required.

All recovered oil is pumped to storage tanks from where it can be transferred to a barge or onshore facility. Storage capacity for up to 20 tonnes is allowed for.

Ship's Documentation

The vessel will be supplied with the following documentation:

- Interim Load line certificate (if required)
- Certificate of classification
- Record of condition of assignments
- Incline experiments and stability book
- Full trials documentation
- Full vessel data pack

All documentation and drawings will be delivered by the yard on delivery of the vessel. All documentation will be written in English. All manuals, warranties, and technical documentation, as supplied by the manufacturers of equipment, shall be provided with guidance notices in English as far as possible.

One complete set for the vessel and two sets for the office, will be supplied in hardcopy and a further soft copy on a cd. As built drawings, schemes and guidance notices necessary to ship running are to be delivered with the vessel, in line with normal ship building practice.

Crew and passenger safety instructions will all be written in English language.

Classification & Registration

The cost of all CLASS survey fees and any other associated costs are to be borne by the shipyard. The registration and flagging of the vessel will be the responsibility of the owners.

Insurance

During the construction phase, the "Multifunctional Vessel" will be insured by the yard as part of the yard's builder liability insurance policy. Responsibility will transfer to the owner on the completion of hand-over and acceptance.

Factory Acceptance Trials

The Factory Acceptance Test will be done at the shipyard and witnessed by the owner and or the owner representative. Post satisfactory Harbour Acceptance and Sea Trials, the vessel will be decommissioned and prepared for shipping.

On arrival in the owners home port, the vessel will be re-commissioned with the help of the shipyards commissioning team and the owners local crew and will include basic training in the use and operation of the vessel.

Warranty

The warranty period for the vessel, hull and machinery shall be (two) years calculated from the date of handover. The shipyard undertakes to remedy and repair of all defects reported by the client provided they were not caused by misuse or mishandling and given that they are reported to the shipyard within a reasonable time period.