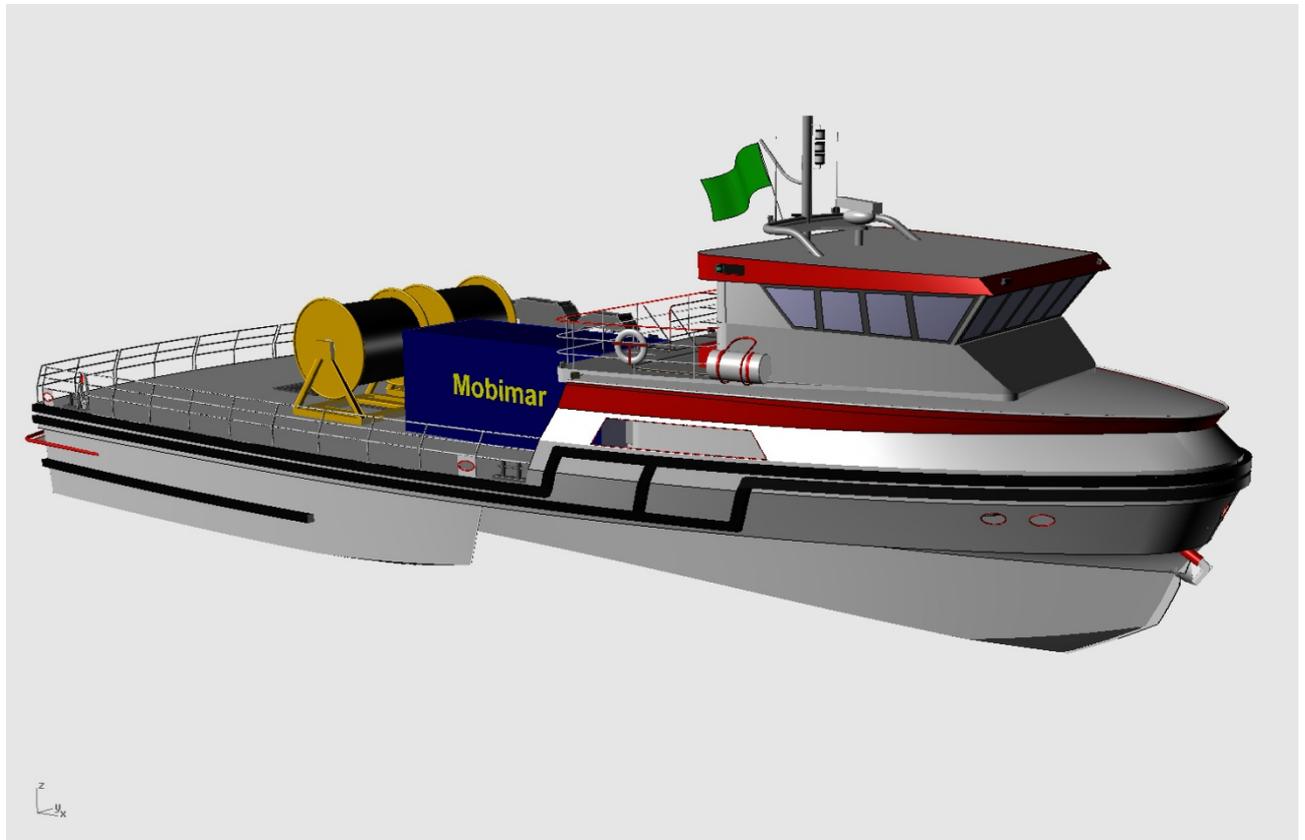


Marine and Submarine Applications

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Outline Specification - Mobimar 30 CORS Continuous Oil Recovery, Stand-by Offshore Rescue Vessel

1 GENERAL DESCRIPTION

Mobimar 30 CORS navigates fast to accident area and collects oil with the help of 2*300m booms, integrated oil recovery system Finn Sweep and Flexible Floating Storage Tanks. This way it can collect 5000 barrels of oil in 8 hours and can stay Offshore as long as the accident is over. There is no other system similar to it.

Finnsweep™

Due to integrated oil spill recovery brush skimmer system FinnSweep (Mobimar Trade mark) the vessel is extremely efficient tool in oil spill response. The brush skimmer can take abt. 100 tons of oil from the sea / hour. Theoretically this is 5000 barrels / 8 hours. This means at least 32pcs of 25 m³ Flexible Floating Tanks. The whole recovery system is designed for this capacity. This means that every hour 4* 25m³ floating tanks will be full. The change of tanks and arranging the logistics will be important. The vessel itself can stay at the sea as long as necessary if the fuel, crew and tank logistics are arranged.

Hi-Sprint™ Booms by Vikoma

The vessel has always two 300 meter long oil booms on ready to use position on main deck. In case of an oil spill the vessel goes to the accident area as fast as possible. When it arrives to the accident area it starts to take out the booms and fill them simultaneously with air. For taking the booms out and filling those effectively two auxiliary boats are needed. These auxiliary vessels need to be able to pull the booms with abt. 3 ton bollard pull each. The oil starts to arrive to the vessel with the help from currents and wind. The in hull integrated FinnSweep™ collection system will be started. A Floating storage tank will be towed behind the vessel and oil will be pumped to it. This whole process is Pat. Pend. by Mobimar.

Trimaran hull

The vessel has a trimaran hull. This gives a clear advantage compared to other hull types: The resistance and thus the fuel consumption is smaller. Due to combining the hulls with a deck the deck area is huge. Additionally the trimaran has good stability and the behaviour at sea is excellent. It has the deckhouse for operation control in the upper deck forward. Under it are the living quarters and cabins. **The fuel consumption of the vessel while in recovery mode will be abt. 40l/hour of MGO.**

Because the recovery system components are chosen carefully the components follow the waves and keep the recovered oil inside the area limited by the boom and the collection vessel. The vessel shall be classified for 4 mHs significant waves. Normal oil recovery is easily disturbed by the waves. CORS system together with the Finnsweep™ brush skimmer is not affected so much by the waves.

Explosion risk is avoided by choosing the components on oil spill work area so that they are EX certified. The exhaust gas pipes are of wet type, the air intake to accommodation and to engine room is arranged from above the deck house. There shall be gas analyzers on main deck to inform the crew of harmful gas existence.

In order to be able to pump the recovered oil to the FFST tanks we are using hydraulic Offloading pumps capable to deliver 140 m³ / hour. The hydraulic pumps for water circulation can be adjusted to from 0-200 litres/sec. There is possibility to connect simultaneously two floating tanks to the system.

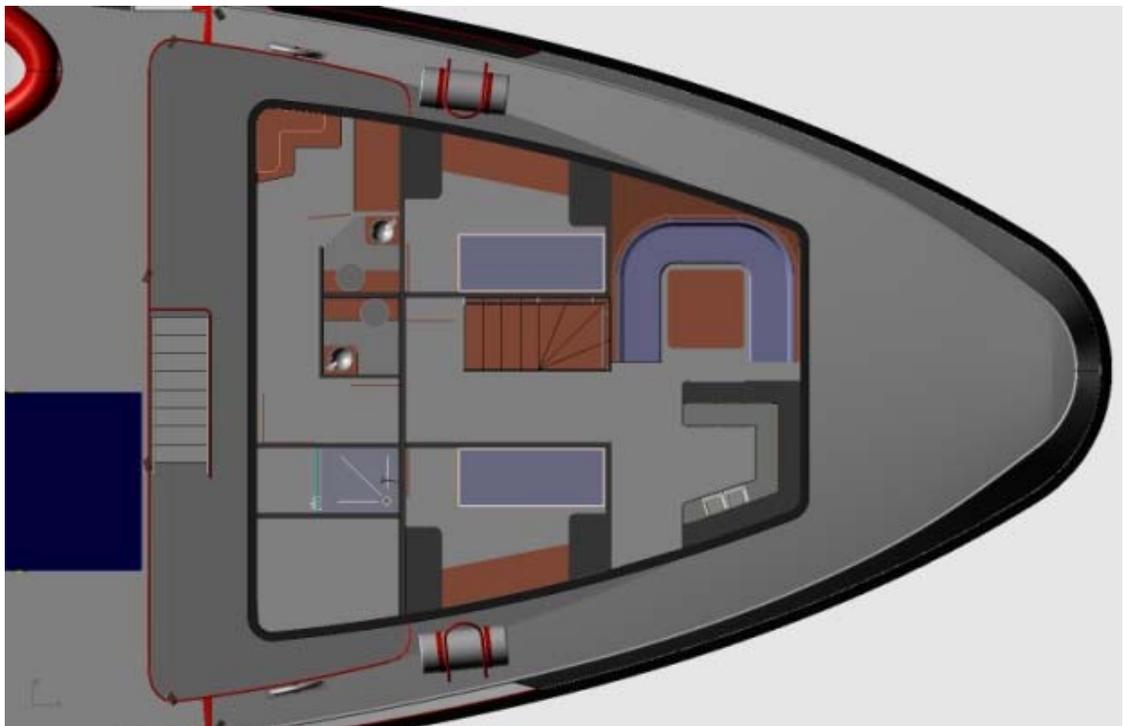
The vessel is intended for longer open sea expeditions, which can last one week easily.

Mobimar 30 has accommodation arranged so that there are three cabins: One for the Captain on bridge level and two cabins on main deck level for the crew.



Bridge deck level: Navigation area, Captain's Cabin, Operation Centre

The bridge is designed for two navigation persons. One at the helm and one as a co-pilot sitting next to the person in helm. A small sofa with table is mounted behind the pilots as shown in the GA.

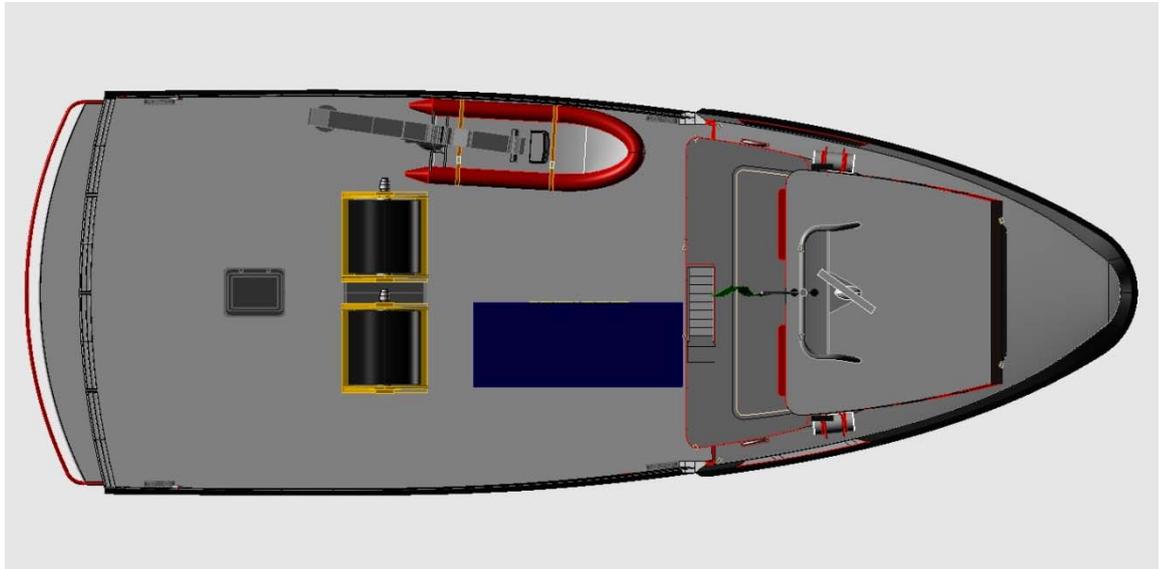


Main Deck level: Pantry, Mess room, two crew cabins, Two Heads, Shower, Change area, Deck Storage.

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On main deck level there will be dedicated workshop/deck storage. There is a space for changing clothes and washing in a shower. From this space there is entrance to a separate water closet and shower.

Additionally there will be a small pantry and mess room.



On main deck there is 200 m² for Equipment area. This picture shows a 20' container, MOB vessel, two open ocean boom reels 500m of boom on each. There is still a good amount of working space around the deck.

In addition on hull level: One cabin for temporary crew, Engine room, Steering Gear room, Storage etc.

The vessel propulsion is marine diesel engine with conventional shafting and propeller arrangement.

Controllable pitch propeller is offered as an option for constant low speed working and maximum hydraulic power output in different sea states and load conditions. CP-propeller helps moving the vessel accurately and allowing simultaneous use of the needed hydraulic equipment.

The vessel has low wave making properties. Because of the relatively high speed low-weight materials and constructions are preferred throughout the vessel.

The vessel can be outfitted for many different types of operations with optional equipment. For example the vessel can be turned into an oil recovery version by equipping it with an integrated FinnSweep™ brush skimmer.

Operational requirements

The vessel described in this text is designed for any work operations in coastal waters and on open sea. However, oil spill response work can only be made in relatively calm waters due to the nature of the work.

The specified operational requirements are as follows:

Special service vessel / Open Sea.

The vessel shall be classified by BV, DNV, GL, Lloyds or equal.

Ambient temperature: + 0 °C - + 35 °C

Sea water temperature: + 0 °C - + 28 °C

GENERAL ARRANGEMENT

VESSEL DIMENSIONS ~

Length over all	32, 2 m
Length, moulded	30,0 m
Beam	12,2 m
Draft	2,5 m (with fixed-pitch propeller)
Working deck area	200 m ²
Speed, service	20 kn
Fuel Capacity	12 tons
Range	600 nm
Deadweight	Work 24 tons, (FinnSweep™ 4,5 tons incl.)
Accommodation	Crew 4, classified max capacity 12 persons.

Mobimar quality assurance system is based on ISO9001-2003. The whole project is inspected by BV, DNV, GL, Lloyds or equal. **I ✕HULL •MACH Special service/Workboat/Oil recovery.** Vessel also fulfils the requirements of many different flag states.

The Mobimar is responsible of the design of the vessel and takes care that the plans are properly approved by Classification Society.

Oil Spill Recovery Systems**FinnSweep™ oil recovery system**

The vessel has a well proven integrated FinnSweep™ oil recovery system. There shall be mounted two brush skimmers in a watertight compartment behind the engine room. Suction of oily water into the brush skimmer area is created by pumping water back to the sea behind the brushes and when oily water flows through the brushes oil is separated from the water. After the comb oil is pumped with a dedicated pump to Floating Tank Storages.

CORS system (Mobimar Pat Pend.)

Because it is impossible to go after the floating oil having the limited speed of 0.7 – 2 knots and to be able to collect the oil that keeps on spreading all the time. Mobimar has developed the CORS method. There the main vessel carries the booms to the accident area. The booms are pulled out and filled with air simultaneously. A abt. 400m wide opening is generated and the oil is captured into the system.

Flexible floating tank system

Because of limited tank capacity in all vessels and because of the price of fixed tank capacity in any vessel Mobimar feels that the most effective way to operate is to use Flexible Floating Tanks as the unlimited tank capacity.

The vessel delivery includes 32 pcs. of Flexible Floating Tanks of 25m³.