

Main characteristics

Length o.a.	m	30.00
Beam	m	6.80
Guests cabins	4 (8 persons totally)	
Crew cabins	3 (6 persons totally)	
Fuel oil tanks total capacity	l	8.000
Fresh water tanks total capacity	l	2.000
Sewage water tanks total capacity	l	560
Liquids total capacity	l	10.560
Construction material	GRP	
Main engines	start from 2050 to 2450 Hp x 2	

Reverse/reduction gearboxes	ZF		
Propellers	2x Fixed Pitch – 4 ÷ 5 blades NIBRAL		
Traditional shafting	Make B.C.S		
Steering system	Make B.C.S		
Bow and Stern thrusters	SIDE POWER, electrical, 24 V d.c.		
NORTHERN LIGHTS Gen-sets 2x27 kW Mod. 27 EFOZ 380/220 Volt Three-phase			
Watermaker TECNICOMAR 240 lt./h (effective production)			
Performance @ half load (~80 t displacement)	Max speed:	33 kts	
Performance @ half load (~80 t displacement)	Cruising speed:	30 kts	

GENERAL DESCRIPTION

The vessel design has been studied for top performances as well as good sea-keeping qualities.

The chine hull is deep-Vee type to grant a good lift together with smooth response to the waves.

The multiple alluminium tanks fixed to the bottom structures grants a good range as well as good stability parameters; it also allows an easier longitudinal trim control. The E.R. insulation has been particularly studied; the M.E. silencing has been achieved by

means of an underwater exhaust system particularly studied for the high speeds, whereas, at lower ones, the exhausts are ducted above the W.L. in way to reduce the back-pressures on the M.E. turbo-chargers.

LAYOUT AND OUTFITTING

Four cabins version

1) Forepeak and chain locker

Nº2 POSIDONIA HV-HHP STOCKLESS hi-holding

power galvanized steel anchors in stainless steel hawse-pipes complete with Ø 16 mm 150 m galvanized steel studless anchor cables.

2) Crew area

- Nº2 crew cabin with two bunks, one of which with drawers underneath and one pullman type, one cup-board, one locker for dresses
- 1 off common sanitary room, complete with sink and mixer, shower and TECMA wc

- 1 off port-side Captain's cabin with one bed with two drawers underneath, one cup-board, one locker for dresses
- 1 off private sanitary room, complete with mirror, sink and mixer, shower and TECMA wc

5) Galley

- Marine type freezers/fridges with the maximum possible capacity
- One off five fires electrical cooking range
- One off electrical oven
- One off electrical microwave oven
- One off dish-washing machine
- One off stainless steel double sink
- One off extraction hood

6) Guests cabins area

- 1 off VIP cabin with one queen-size bed with drawers underneath, two cup-boards with reading lights 1 drawer and locker, one locker for dresses, one piece of furniture, one wall mounted LCD 27" TV, decoder, car stereo
- 1 off private sanitary room, complete with sink on a twin-locker piece of furniture with mirror on top and mixer, shower cabin with plexiglass door, adjustable shower and mixer, and TECMA wc
- 2 off guests cabins with two single beds with drawers underneath, one cup-board with two reading lights and drawers, one locker for dresses, one wall mounted LCD 20" TV, decoder, car stereo
- 2 off private sanitary room, complete with sink on

a twin-locker piece of furniture with mirror on top and mixer, shower cabin with plexiglass door, adjustable shower and mixer, and TECMA wc

- 1 off Owner's cabin with one king-size bed, two cup-boards with reading lights drawer and locker, one piece of furniture with two lockers on the port side, fwd sofas with 2 cup-boards and reading lights, one piece of furniture with vanity, mirror and small arm-chair, one wall mounted LCD 30" TV, decoder, car stereo, one safe
- 1 off lockers room with piece of furniture with drawers
- 1 off private stbd sanitary room, complete with sink on a four-locker piece of furniture with mirror on top and mixer, shower cabin with plexiglass door adjustable shower and mixer, TECMA wc and bidet

7) Engine Room

8) Garage

- 1 off hydraulic over-head crane
- 2 off CO2 fire-fighting fixed system bottles as per Rules
- 2 off stern-door hydraulic cylinders
- 1 off warm/cool water shower
- 1 off tender

9) Stern platform

- 2 off st. steel tender bollards
- 1 off manually operated boarding ladder

10) Weather deck

- 4 bollards
- 6 fairleads
- 2 windlasses complete with warping end
- 1 sun-bathing area
- 2 off pantograph hinged side doors (2 stbd, 1 port)
- 1 off aft glass sliding saloon door
- 1 off cockpit table with chairs
- 2 off vertical capstans
- 1 off aft hydraulically operated garage door
- 2 off side stairs (P & S) leading to the platform

11) Wheelhouse

- 1 off wheelhouse complete with M.E. instruments, navigation instruments, ship services instruments/complements
- 2 pilot arm-chairs

12) Weather deck saloon

- 1 dining table complete with chairs
- 1 off L shaped sofa on the port side
- 1 small tables
- 1 off straight shaped 3 places sofa on the stbd side, as per g.a. plans
- 1 off piece of furniture on the stbd side with lockers and TV set lifting system, containing 1 off 42" plasma TV set

CLASS

The vessel, during the construction will be surveyed by R.I.NA. in order to obtain, upon delivery, the

"Maltese Cross 100 A1.1 Y" certificate, according to the relevant Rules. In order to release such a high level certificate, R.I.NA. will have to approve the construction drawings and verify the compliance to the same by means of periodical visits to the vessel, also requesting the test certificates of the main materials/machineries bound to be fitted on board; besides that a number of final tests and sea trials will be carried out by R.I.NA. prior than releasing the above said certificate.

HULL

HULL GENERAL DESCRIPTION

The material used for both the hull and the superstructure is G.R.P. consisting of glass fibre manually laid down protected by means of an EPOXY primer treatment against the osmosis. The weather deck is a GRP sandwich with "Laricell" 40 mm thick. The structure, certified by R.I.NA., is calculated for the impact on the waves. The hull stiffeners are omega shaped framing laid on top of polyurethan cores. The W.T. bulkheads are mixed structure with vertical and horizontal framing.

OUTFITTING

WINDLASSES - CAPSTANS

2 off LOFRAN'S Vertical Ercole complete with Ø 16 mm cable-lifter and warping end will be fitted ahead. The control will be both from the wheelhouse and local, by means of w.t. push-buttons with umbilical cable. In the aft cockpit, 2 off electrical capstans with

w.t. foot operated control will be fitted.

ANCHORS AND CHAIN LOCKERS

2 off high holding power hot galvanized steel anchors will be provided, equipped with Ø 16 mm studless hot galvanized steel anchor cable 150 m long. The above, as per R.I.NA. approved EN.

BOLLARDS – FAIRLEADS – HANDRAIL – GANGWAY

- 6 off fairleads out of which two ahead, two mid-ships and two astern
- 8 off bollards out of which two on the swimming platform, aft
- 2 off warping ends ahead and 2 off warping ends astern (on the windlasses and capstans)
- 3 windscreen - wiper
- 2 off stainless steel hawse-pipes and chain chutes
- Polished st. steel hand-rail on top of the bulwark, as per g.a. plans
- 1 off hydraulically operated mediterranean gangway

DOORS

Two pantograph hinged weather-tight doors are foreseen on either side of the superstructure for access to the wheelhouse and to the saloon. One manually operated porthole in the cockpit gives access to the E.R., which also is accessible from the garage, via a hinged water-tight door. A two/three shutters manually operated ample door, to be agreed with the Buyer, gives access from the saloon to the cockpit.

SIDE SCUTTLES, WINDOWS AND WIPERS

The scuttles are in stainless steel, as per Tecnomar standard measures (500x250 mm). The superstructure windows are fixed type, "Europe grey" tinted safety glass.

MEDITERRANEAN GANGWAY

1 off 5 m abt. telescopic mediterranean gangway will be mounted on the stbd stair aft, with porthole on the first step; the operation will be electro/hydraulic and the gangway will be complete with teak grating and the relevant stanchions.

OVERHEAD CRANE

For the tender operation a polished st. steel overhead 450 kg s.w.l. crane will be fitted under the garage ceiling aft.

WEATHER DECK LINING

The weather deck outside, the aft swimming platform as well as the relevant access stairs steps, to be lined with 15 mm thick teak planks mounted on a rubber leveling product.

PIPING AND SYSTEMS

FLAPS

Two stainless steel flaps are fitted on the transom, in line with the bottom.

RUDDERS

The vessel is steered by means of two stainless steel

spade rudders.

BOW E STERN THRUSTER

Both the thrusters will be 24 V d.c. electrically operated.

BILGE-FIRE SYSTEM

The bilge system foresees an E.R. manifold with suction branches in every compartment. The suctions will be such as to avoid big water surfaces on the bottom. Each individual compartment will be fitted with at least one hi-level alarm-switch. The said alarms will be led to a synoptic panel in the wheelhouse. The fire-fighting system foresees a fire-main with UNI delivery outlets placed as per Rules. The bilge-fire system is fed by electric pumps branched to the systems in way that one can be used as a spare for the other.

COLD AND WARM FRESH WATER

The f.w. reservoirs have a total capacity of 2000 lt abt. The reservoirs are aluminium and have inspection bolted man-holes and remote reading level sensors with reading gauge in the wheelhouse. The f.w. is distributed by means of two silenced hydrophores. The warm water system is fed by two adequate electric boilers.

BLACK AND GREY WATERS

The W.C. will be TECMA type discharging outboard or, via a 3-way valve, in the sewage holding tank on

which a piping with international Marpol flange will be applied for unloading the tank astore via a manual/automatic sewage pump. The grey water tanks, collecting the wash basins, sinks, showers, bidets, dish washing and washing machines will be discharged outboard via automatic pumps. The air vents will be studied in way to avoid bad odours on board.

AIR CONDITIONING

The system will be fan-coil reverse cycle (summer-winter) type. Each cabin will be provided with one fan-coil, whereas the big dimension ones and the saloon will have at least two. Each individual fan-coil unit, recirculating the air inside the compartments will be provided with temperature control thermostats and drip pans discharging in dedicated collecting tanks.

GALLEY VENTILATION

One extraction hood, complete with filter and ducted to the outside is foreseen on top of the cooking range.

SAFETY EQUIPMENT

The vessel is approved for totally 16 persons, crew included, hence the safety equipment is assessed accordingly. 2 off 8 persons each self-inflatable life-rafts are foreseen on the weather deck, aft. 2 2 off annular life-savers with reflecting stripes, smoke and light buoys

will be mounted on either side of the roll-bar. The Rules equipment to be provided.

VESSEL NAME

The vessel name will be painted on the garage stern door as per Buyer's instructions.

PROPULSION

GENERAL

The propulsion system consists of two turbocharged intercooled, flexibly mounted diesel engines each one driving a fixed pitch propeller shafting via flexible coupling, cardan shaft and V-drive reverse-reduction gearbox.

M.E. AND GEARBOXES

The main engines are two, make MTU, model 16V 2000 M92.

The two V-drive reverse-reduction gearboxes are ZF, driven via flexible couplings and cardan shafts. The M.E. to be fitted on their foundations by means of original supplied Silent-Blocks and the exhausts will be of the underwater type with minimum ducted to the transom or at side above the full load w.l. The high exhaust transversal duct will be fitted on resilient mountings. The shafting will be AISI 316 st. steel or AQUAMET 17/22, traditional type, with water lubricated bearings. The f.p. propellers will be four/five blades, statically and dynamically balanced. The rudders to be spade type with the tillers connect-

ed by means of a rod and actuated by an assisted hydraulic steering gear with two pumps and linked to the auto-pilot.

FUEL-OIL SYSTEM

The fuel (marine diesel oil) is contained in AA 5083 marine grade alluminium tanks with two filling caps (stbd & port aft), air vents ducted to the chain locker, optical level gauge in the E.R. for the daily tanks and remote reading electrical gauges in the wheelhouse. It will be possible to transfer, by means of an electric pump or a hand emergency one, the fuel from any D.B. tank to any other one in way to grant a proper vessel trim during the navigation. All the tanks will be provided with inspection man-hole. Two water separating make SEPAR supplied by MTU filters with bypass are foreseen on the M.E. feeding lines. The daily tanks will be provided with quick release remotely operated shut-off valves on the M.E. and gen-sets feeding lines.

EXHAUSTS

The M.E. exhausts is of the underwater type with minimum ducted to the transom or at side above the full load w.l. The silencers are all single skin carbon steel entirely insulated by means of ceramic materials. In the final portion of the exhaust piping a water injection riser is foreseen in order to cool the gases and to reduce the noise and smoke level. The gen-sets exhausts are ducted astern, underwater via AQUALIFT type gas/water separating muffler.

SEA WATER COOLING SYSTEM

The sea chests to be bronze; each end user to have its individual sea chest, whenever necessary. The size of the sea chests will be indicated by the engines suppliers.

The M.E. sea chests will have, in parallel, the E.R. emergency bilge suction.

ELECTRICAL INSTALLATION

GENERAL

The electrical system, all the switchboards, gear, motors, cables, switches and the installation itself to be as per R.I.N.A. and/or IEC rules for pleasure vessels not engaged in commercial operations. The system includes all the machinery and apparatus to produce, transfer, distribute and utilize the electrical energy, as well as the protection and safety gear. The cables to be fitted on cableways or fixed in a stable way; the cables to be easily inspectable and up-keepable.

SWITCHBOARDS

The following switchboards are foreseen:

- E.R. main switchboard with the bus-bars and switches for the distribution lines and gen-sets/shore connection protection breakers;
- Wheelhouse users switchboard
- Shore connection switchboard;
- Cabins auxiliary switchboards.

WHEELHOUSE CONSOLE PANELS.

The console panels will be oven painted and silk-screen printed alluminium; the cables will be grouped inside umbilicals. The cable ends to be connected to terminal boxes close to the panels and provided with identification numbers.

The wheelhouse console will contain, as an indication:

- The M.E. electronic controls and instruments
- Controls such as trim (flaps), windlass, E.R. ventilation, etc.

LIGHTS

The lights, fed both 220V and 24V, consists of spots, bulbs and appliques chosen by the Buyer between samples provided by the Builder. The aft stairs leading to the platform and the side passages on the weather deck will be lighted by means of leds.

TARPAULINS AND EXTERNAL COVERS

White stamoid tissue tarpaulins to be fitted by means of "tenax" type buttons will be supplied for the following external items.

- Fwd sun-bathing area and sofa
- Wheelhouse windows
- Table and arm-chairs in the aft cockpit.