BUILDING SPECIFICATION

40 M SLOOP

CONTENTS

000 GENERAL

001 Particulars of the vessel

Description:

Ocean going, round bilge, docking keel, sloop.
Construction of hull: steel.
Construction of deckhouse: aluminium.

Length over all	40.06 [m]	
Length Summer Load Line	39.15 [m]	
Beam moulded	8.95 [m]	(approx)
Beam over all	9.00 [m]	(approx)
Draft full loaded	3.85 [m]	(approx)
Speed (sea trial load)	13.5 [kn]	(approx)
Fuel capacity total	31.6 [m3]	(approx)
Fresh water capacity (max.)	7.5 [m3]	(approx)
Sewage	8.2 [m3]	(approx)

Motoring Range at 13.0 knots (20% margin included) 1700 [nm] Motoring Range at 10.5 knots (20% margin included) 2600 [nm]

Main engine 2xCaterpillar C18 rate B 500 kW (680 mhp) @ 2100 rpm Reduction gear ZF 550 3.042:1
Generator 2xCaterpillar C4.4 86 kW 50Hz 1500rpm, in sound shields 1xCaterpillar C2.2 24.5 kW 50Hz 1500rpm, in sound shields

04 Registration

The yacht will be registered under the flag of Malta.

05 General Arrangement

The General Arrangement drawing 149-001 by Ginton Naval Architects, further referred to as the G.A..
The General Arrangement shows the basic layout of the vessel.

06 This documentation

It is recognised by the builder that the information provided in this building specification is preliminary and will be elaborated in due course.

008 The owner

The owner of the yacht Extreme Yachting Ltd, further referred to as “the owning company”. The owner can appoint representatives and technical surveyors. The owner and his appointed representatives and surveyors will further be referred to as “the owner” and/or “the owner’s representative.
The builder will allow the owner to take pictures of the vessel, in all stages of the build.

010 Workmanship

The level of finish and details will be first class and of “best yacht standard”. The owner will have the right to reject equipment, material or workmanship that is not up to proper standard, not merely when they are faulty.

The builder will notify the owner of all principal sub-contractors prior to their appointment and will supply all reasonable information required to assess their experience and standard of work. The owner will have the right to object to such appointment if the qualifications of the sub-contractor have not been established to the owner's reasonable satisfaction.

015 Modifications

A modification is:
- Any part of the vessel to be built not according to the contract documentation. And/or
- Any changes to be made on the vessel after the commencement of building of the subject in question.

Any modification of the design and construction, interior, equipment etc. shall only be carried out after the change order of the owner. The costs are to be agreed upon prior to executing the modifications.
Copies of change order must be signed by the owner's representative (with a copy to the owning company).

020 Classification

RINA. Rules for the Classification of Charter Yachts Class notation:
C + HULL ● MACH Ych (MCA) Unrestricted Navigation, EFP, DMS AUTO-UMS (Y)

025 Compliance

The vessel is to comply with the following:
- MCA; Maritime and Coastguard Agency, with unrestricted area of operation, referred to as the administration. (MSN 1792 (M) The Large Commercial Yacht Code (LY2)).
- International Convention of Preventing Collision at Sea, 1972
- International Convention for the Prevention of Pollution from Ships, 1973/78 as amended.

028 Certifications

All necessary certificates and documents for the proper operation of the yacht under its flag will be obtained by the builder and supplied to the owner at the time of delivery of the yacht and will include the following:
- Letter of Compliance with (MSN 1792 (M) The Large Commercial Yacht Code (LY2)). unrestricted area of operation. (issued by RINA)
- Classification Certificate issued by RINA.
- International Tonnage Certificate ITC 69
- International Load Line Certificate ILLC 66 as far as practicable.

033 The builder

The builder of the yacht is Mengi yay, further referred to as "the builder", or "the yard".
The builder will build the vessel according the G.A. and this building specification as appropriate, and according to drawings supplied to him by the owner and his representatives, the designers and the naval architects.
The propriety rights and the design rights belong to Ginton Naval Architects. The builder will be granted building rights to build one vessel of this design.
Building rights for more than one vessel, if applicable, must be agreed explicitly between the builder and Ginton Naval Architects prior to execution.

35 *Design and naval architecture*

The designer and naval architect is Ginton Naval Architects, further referred to as "the designer" and/or "the naval architect".
For drawings delivered by the naval architects – See Drawing List Appendix I.
The builder will allow the naval architect to take pictures of the vessel, in all stages of the build. Questions relating to the interpretation of the specifications and/or plans, whether raised by the Builder or Owner, shall be referred to the Naval Architect for determination.

36 *Publicity*

The builder and the designer of the vessel are entitled to publish the vessel for advertising and promotion purposes.
In all these publications xxxx, will be mentioned as the builder of the vessel and Ginton Naval Architects as the designer of the vessel.
If pictures or renderings are made of the vessel by either the builder or Ginton Naval Architects both will have full rights to use them for promotion or publicity.
The matter of acquiring the rights for pictures or rendering is the responsibility of the party giving the assignment to make the pictures or rendering.
The builder and the naval architect will not go public with name of the owner.

37 *Interior design*

The owner may appoint an interior designers and notify the builder. The interior designer is further referred to as "the interior designer".
The builder will build the interior according to the interior designers instructions.
The builder will allow the interior designer to take pictures of the vessel in all stages of build.

042 Name

The name of the vessel: "xxxx"
The name will be marked at the stern and the vessel's sides with metal letters.

045 Stainless steel

All stainless steel fitted must be AISI-316-L, high polished, unless otherwise specified.

050 Galvanising

All galvanizing, where applicable, will be carried out by a hot dip process and will be given proper even coats with a smooth surface finish.
All items to be galvanized are to be properly dismantled and prepared.
Once galvanizing is completed and the galvanized items are installed, no further welding shall take place.

052 Ballast

During the building, fixed ballast will be fitted according to drawings of the Naval Architects. After completion of the vessel, additional ballast will be added as necessary (e.g. for correction of trim and list).
All fixed ballast will be secured against movements.

060 Manufacturers/ suppliers

Where names of manufacturer/ suppliers are mentioned in this specification they are not intended to be restrictive, but any items similar or equal in design, performance, material and suitability are not excluded, if the equivalence can be demonstrated.
Any substitution will be carried out only after the approval of the owner, which shall not be unreasonably withheld. This is not applicable for the main-engines and generators.

062 Discrepancies

In case of discrepancies between the flag administrations requirements and regulations and RINA, the intent of the flag administration requirements will prevail.
In case of discrepancies between RINA regulations and this building specification, the intent of RINA will prevail.
In case of discrepancies between drawings and this building specification, the intent of the building specification will prevail.

070 Inclination experiment

After completion of the vessel an inclination experiment will be conducted for the determination of the displacement and the position of the center of gravity.
This inclination test will be conducted to the approval of RINA. On delivery of the vessel the stability booklet will be included in the ship's documents.

075 Sea trial

On completion of the vessel a sea trial will be conducted.
All systems as machinery, steering, bilge, electric etc. will be tested under working conditions. Maximum speed will be tested in calm deep water.
The sea trial will include running at 95% of power for 2 hours.
At the sea trial the vessel will carry 2500L water and 10.000 L fuel.

080 Acceptance

After the trial the owner will accept the yacht with all systems in good working order, afloat at the builder's yard. The vessel will be delivered with the fuel remaining after sea trial.
The vessel's acceptance can be subject to a snagging list agreed by both parties, including a time schedule for the completion to owner's satisfaction.

090 Instruction books and manuals

Prior to the delivery of the vessel the builder will supply a sets of original manufacturers instruction books and manuals of installed machinery and equipment, including manufacturer's drawings, spares, part's list etc. A complete set of plans and schematics of wiring, pipelines etc. will also be included.
CE-manual and stability booklet will be included. All documents will be in English.

100 CONSTRUCTION

101 *General*

The structure will be of fully welded steel and aluminum construction material type approval RINA.
The vessel will be built according to the drawings and instructions of the naval architect. Steel plating: shipbuilding quality yield strength 235 N/mm2
Aluminium plating:5083 H111or equivalent allows AMg-5M, 1561 yield strength 125 N/mm2 welded
Extruded aluminium members:6082 T6 or equivalent allows AMg-5M, 1561 yield strength 115 N/mm2 welded
Minimum scantlings are determined using the classification rules. The naval architect may choose to design the structure beyond the minimum scantlings of these rules.
The connection between steel and aluminium is to be made using "Triclad".
Bi-metal connections are to be avoided or otherwise to be insulated as appropriate.

105 Workmanship

Electric welding is to be performed by certified welders and with the latest improved welding rods and equipment.
Welding procedures are to be to the builder's latest practice and are to be consistent with, and appropriate to, the size and type of the vessel.
The welding schedule is to be strictly followed.
All welding is to be in accordance with good marine practice, and to the satisfaction of the Classification Society and the owner.
All slag and spatter is to be removed before sandblasting or cleaning.
Care is to be taken to produce a fair and smooth hull and deckhouse/superstructure.
All portions of the structure are to be carefully erected before final welding, and care is to be taken to eliminate welding stresses.

110 Hull

The hull is to be constructed from steel, with a longitudinal framing system, reinforced by transverses and bulkheads.
Engine and generator seats and areas subject to stress shall be reinforced. Thick insert plates will reinforce hull penetrations where necessary.
Above the propeller additional stiffeners shall be welded to the plating to reduce noise transmission.

115 *Watertight bulkheads*

Five (5) transverse watertight bulkheads shall be fitted:

- Collision bulkhead
- Chain Locker bulkhead
- Mid accommodation bulkhead
- Forward engine room bulkhead.
- Aft engine room bulkhead.
- Longitudinal bulkheads enclosing the Jetski storage from the after peak

All pipes, wires etc. passing through watertight bulkheads are to be fitted with proper watertight connections to maintain the strength and watertight integrity of the bulkhead, in accordance with RINA requirements.

116 Chain plates Steel

St. steel chain plates will be welded structure.

117 Keel

The keel will be welded as an integral part of the hull and will contain integrated tanks and fixed ballast

120 Hull side scuttles (port lights)

The side scuttles are to be made of safety glass, non opening type. They shall have steel welded flanges, and steel glass-flanges.
The glass will be glued to the metal.
Colour as specified by the designer. Dimensions and number of side scuttles: according to the General Arrangement plan.

125 Anchor Arrangement

The anchors will be housed in a steel support welded to the shell forward, as given on the GA. Provision for chain wash to be provided.
A protective st. steel plate is to be attached to the bow to protect the structure from the anchor (when stored) and from the anchor chain (when anchoring).

127 Anchor winches platform

The anchor winches will be on a platform, under the fore deck and accecible with hatches.

130 Propeller shaft brackets

P shape propeller brackets of NACA profile shape will be inserted to the hull and welded.

135 Swimming platform

The swimming platform is to be built at the transom, as shown on the G.A., with stairs leading to the main deck.
The aft door will be hydraulically operated and can be used as an extension of the swimming platform.

140 Fore peak

The entrance to the fore peak will be through a watertight fore deck hatch. The fore peak will be ventilated through a swan-neck vent on each side.

142 Chain-lockers

There will be two (2) chain lockers in a dedicated compartment after the collision bulkhead. They will be lined with wood.

147 Anodes

Zinc anodes to be mounted as recommended by the manufacturer.

148 Bulwark

Bulwark construction will be closed structure. It will include freeing ports, fair leads and visibility openings at the aft part.

150 Rudder

Two (2) balance type spade rudders shall be fitted. The rudders will be double plated steel, painted with primer and top layer as the anti fouling paint.
The rudders are to be pressure tested. Drain and ventilation plugs are to be fitted.
The rudder stock shall be made of Duplex or equivalent (water lubricated system), with a diameter of 170mm (prelim).

155 Scupper pipes

Thick wall st. steel scupper pipes with removable grating are to be fitted. The scupper pipes shall drain above the waterline.

160 Tanks

Tanks to be built-in and welded as integral part of the structure or as specified below. Space for piping will be reserved at the sides of the bottom tanks at midship area.
All tanks are to be pressure tested.
Cofferdams shall be fitted as specified by the naval architect. The following tanks are to be constructed:

- Fuel tanks
- Fresh water tanks
- Sewage tanks (possibly subdivided into grey and black water tanks)
- Lubrication oil tanks
- Dirty oil tanks
- Bilge tank

All integral bottom tanks are to be fitted with st. steel docking plugs, with suitable tack welded locking strips.
Inside the tanks all the welding is to be double continuous.

165 Manholes

Each tank will have bolted manholes as instructed by the naval architect.
At least one manhole per tank is to be accessible when the vessel is completed.

167 Pillars

Pillars are to be of pipe or bar, as specified in the drawings, and concealed wherever practicable.
Pillars are to be filled with dry sand.

170 Watertight hatches / doors in hull

One (1) transom door, non watertight, extension of the swim platform when open. One (1) hinged watertight door, giving access to the swim platform. (open to inside) Two (2) hinged watertight doors, giving access to the Jetski storage (from After Peak). Two (2) hinged non watertight doors, for launching the Jetski's.
One (1) hinged flush watertight (escape) hatch from the after-peak to the main-deck aft. One (1) hinged watertight escape hatch from the crew area bench on fore deck.
One (1) hinged watertight hatch, flush, at chain locker compartment. One (1) hinged watertight hatch, flush, as fore-peak entrance
One (1) hinged watertight door between the Engine Room and the After Peak One (1) hinged watertight Engine Room entrance hatch on Main Deck

Two large hatches (welded after closing) on main deck for inserting the main engines and the generators during building. (later to be covered with teak)

Additional hinged watertight escape hatches/doors as necessary.

173 Cementing

Un-drained wells in the hull bottom shall be filled with cement of two-component type, with smooth finish.

175 Deckhouse/ superstructure

The deckhouse is to be constructed from aluminum, with a longitudinal framing system, reinforced by transverses. The minimum plate thickness shall be 5 mm.

177 Chain plates Aluminium

Chain plates shall be welded structure. Inside the holes, st. steel bushes shall be inserted to protect the aluminium from the stays.

180 Windows

All windows in the deckhouse are to be of safety glass, non opening type.
The windows are to have aluminium flanges, welded to the structure. The glass is to be glued into the flanges. Type, colour and dimensions as specified by the designer.

182 Salon aft doors

The salon aft door shall be a sliding door with large windows. The sliding door is to have: a stainless steel frame, electronic control, manual "anti-panic" system, opening/closing control with electronic key and push button, emergency battery in case of power shortag, manual release and door handles with locking mechanism from in- and outside. Provision shall be made for safe operation of the door when the vessel is heeling (due to sailing)

185 Deckhouse side doors/ hatches

All weathertight doors are to be fitted with windows, door stops, cleats and door handles with locking mechanism from in- and outside. All door fittings will be made of stainless steel.
All weathertight hatches are to be fitted with stops for when in open position, cleats and door handles with locking mechanism from in- and outside.
All hatch fittings shall be made of stainless steel. Sill heights are to be in accordance with the regulations.
The doors are to have a wooden lining, or as per designers request, on the inside. The amount and location of doors/hatches as given on the GA.
Additionally, all external furniture shall be built with access hatches.

195 Drainpipes

The fly bridge deck is to be fitted with drain pipes with removable grating, fitted as necessary to avoid accumulation of water in corners. All pipes are to drain to hull's scupper pipes.

196 Lockers and storage spaces

All lockers are to be weathertight. Hinges and handles are to be stainless steel.

200 PAINTING

201 *General*

All paint and fairing compound used is to be of two-component type and supplied by Hempel, The finishing layer is to be Awlgrip
All paint used is to be of high quality yacht type.
The application instruction given by the manufacturer must be followed.
The paint is to be applied in a humidity and temperature controlled environment.
Final paintwork on exposed areas (hull & deckhouse) is to be done after fairing compound is applied to these areas, to eliminate dimples or unfairness.
The inside of the aluminium structure is to be primed and painted if exposed (e.g. inner side lockers etc.)
The inside of the steel structure is to be primed and painted.
Hull and deckhouse colour; as instructed by the designer or the owner. Colours elsewhere; as instructed by the designer.

210 Surface preparation

All bare steel surfaces to be sandblasted/ treated and cleaned as required by the paint manufacturer. All bare aluminium surfaces to be degreased and cleaned as required by the paint manufacturer. Primer to be applied shall be of two-component type.

215 Tanks interior

Fresh water, fuel, sewage and other integral tanks are to be painted according to paint manufacturer's instructions.

220 Antifouling

All areas below the waterline are to be painted with Hempel antifouling.
Decision of colour to be made by the designer, type to be approved by the owner.

225 Non-slip area

Where deck areas are painted, non slip deck covering is to be applied

250 MAST RIGGING AND SAILS

251 *General*

Sloop rig. Mast rigging and sailing system and material to be of "best sail yacht standards". All necessary blocks, cars, rails, cleats, stoppers, bits, fittings, deck-organisers, winch-feeders, brackets etc will be provided by the builder to ensure the standard above. Bi-metal connection are to be avoided or otherwise to be insulated between the metals as appropriate.

255 Mast and Boom

Aluminium (painted) mast inserted into the hull. Four spreaders swept backwards (in order to reduce the number of backstays). All halyards are to run in the mast.
Height of mast above superstructure penetration level: 47m. Total length of mast: 52.8m Navigation lights and anchor light attached to the mast . Radar, TV, Satcom, radar reflector, Flag halyards, VHF and other antennas bracketed to the mast.
Boom: Aluminium, painted, roller- reefing type. Hydraulic boom-vang. Length of boom: 14.5m

260 Reefing

Jib: hydraulic roller reefing. Main sail: hydraulic roller reefing into the boom.

265 Rigging and halyards and sheets

Oversized St. steel rod standing rigging. St. steel bottle screws, with protection cover. Halyards and sheet, Dyneema pre-strached type
Each sheet and halyard can be stopped by clutches

270 Sails

Main sail 377 m2 , Jib 397 m2

275 Sails operation

Jib, reefing and unrolling from the fly bridge. Jib sheets operation from the fly bridge sides.
Main sail hoisting and reefing, operation from the fly bridge. Main sail sheet operation from the fly bridge.
Each sheet and halyard can be stopped by clutches

280 Winches

All winches to be oversized, two speed, self trailing, hydraulicly powered. Winches to be fitted: (sailing operation)
2x Jjb captive-winch SB & PS
1x Jib roller reefing motor (integrated at the stay lower edge) 1x Main sail sheet captive-winch
2x halyards captive-winches.

285 Sheet Rails

2xJib sheet rail with cars

300 DECK OUTFIT

301 *Teak decks*

Where wood is abutted directly against metal, it is to be bedded in a heavy coat of a suitable bedding compound.
Decks, benches, horizontal hatches and swimming platform shall be sheathed with teak planks, glued to the deck.
Teak will have a total thickness of about 12 mm when fitted to decks.
Teak will be of first quality and will be well laid out, with margin planks. The planking will follow the curve of the gunwale and is to be checked into a king plank.
Deck drainage pipes will be fitted to avoid standing water. All seams are to be filled with black rubber compound.

305 Exterior ceilings

The exterior ceiling is to be lined with painted marine plywood (or Forex) panels glued to the structure.
Colour is to be decided by the designer.

310 Exterior stairs

All exterior steps are to be planked with teak.
Exterior stairs shall be equiped with handrails of stainless steel, diameter 40 mm (approx). The railing are to be fixed to the aluminium structure with insulations bushes.
Exterior stairs are to be protected at the top by a stainless steel railing.

312 Anchor and chain

Anchors and chains are to be of galvanised steel.
Two (2) anchors of equal weight shall be fitted. The weight and size of the chain is to be at least as required by the class.
(CQR 2x180 kg and 2x 165 m, 16mm U2 chain)

315 Anchor winch/ windlass

Two (2) vertical shaft electrical 400v anchor winches/ windlass, devil claws, chain rollers and chain stoppers, all on a welded painted steel base plate.
Winch: Lewmar, with hand-held remote control.
All in a locker under the bowdeck, accesible by hatches on the bow deck

317 Scissors lift deck

At the stern, an aluminium platform of about 9m2 shall be built.
This platform will be operated by a hydraulic scissors lift. When raised, it will be flush with the aft deck.
When lowered it will have the function of a swim platform.
Guiding rails shall be fitted SB and PS.
When in up the platform will be locked by hydraulic, or electric pintles.
Safety sensors will be fitted to ensure the platform can't be lowered when people are below.

322 Deck lockers

All lockers are to be weathertight and drained. Hinges and handles are to be of st. steel. Lockers shall fitted in all benches and other void spaces on deck.

All horizontal hatches shall be fitted with gas-springs of appropriate size.

323 Cover of stairs to swim platform

The stairs to the swimplatform shall have a GRP or aluminium, hinged, non-WT hatch, manually operated.

325 Deck crane

One (1) hydraulic crane on boat deck aft, with a lifting capacity of 1250 kg to hoist the tender and other equipment. (Man overboard tender expected to be 500kg)
Dedicated hydraulic power pack ,with 24V electrical motor will be installed in the vicinity of the crane.

326 Jetski Crane

Two (2) hydraulic crane inside the jetski's storage , with a lifting capacity of 400 kg to hoist the When open, the end of the crane will be about 2.6m outside the hull.
Dedicated hydraulic power pack ,with 24V electrical motor will be installed in the vicinity of the crane.

327 Life buoy fixing

Four (4) life buoys shall be fitted. Two in way of the fly bridge side, and two at the aft deck. Fixing points for every life buoy are to be made in recesses in the deckhouse wall.

330 Deck showers

A deck showers is to be fitted (behind a hatch) at the swim platform and provision is to be made to fix the shower head when used.
Deck showers shall have a thermostatic water-tap for mixing hot and cold water.

335 Seating areas

Seating areas are to be fitted as shown in the G.A.. All seating areas are to be provided with storage underneath.

340 Bollards and cleats

Eight (8) st. steel bollards/bits (4 PS & 4 SB) are to be fitted, they shall be welded on a foundation or a thick steel insert plate on the bow deck and main deck aft.
Four (4) st. steel cleats (2 PS & 2 SB), shall be welded to the top of the bulwark. Additionally, two (2) st. steel cleats (1 PS &1 SB) shall be fitted on the aft stern door (for mooring the tender when the door is open).

342 Fairleads

Fairleads fitted shall be st. steel, welded to the bulwark, as given in the G.A..

345 Fore-peak and chain Locker

A provision is to be made to store spare parts and tools in the fore peak.
Both the fore peak and the chain locker shall be fitted with a st.steel acces ladder from the deck.

347 Railing

A st. steel railing, diameter 40 mm (approx.), will be fitted as proposed on the G.A..

350 Wipers

All front wheelhouse windows shall be fitted with windscreen wipers with fresh water spray. The windscreen wipers are to be electrically operated, heavy duty, for marine use.

352 Flagpole

At the aft part of the vessel a st. steel flagpole will be fitted, with a length of about 1.25 m, with the national flag of appropriate size. The flagpole will be fitted in a drained st. steel socket.

355 Ship's bell

A ship's bell, engraved with the name of the yacht and the year of construction is to be fitted to a st. steel pole near the anchor windlasses.

357 Inventory

At least the following items are to be supplied and installed:

- Mooring lines
- 14 fenders PVC inflatable about 0.3x1 m with synthetic fabric covers
- 2 fenders PVC inflatable pear shape
- 2 boat hooks, one stored on the deckhouse wall above head height along the passage and one stored in the passage to the bow deck.
- 3 life buoys with the name of the vessel, with attached buoyant line of 30 m each.
- 20 adult life jackets, 5 children lifejackets.
- 4 rocket parachute flares.
- 6 red handflares.
- 2 buoyant smoke signals.
- Other items and life saving appliances to comply with flag, as appropriate.

360 Inflatable life rafts

Four (4) 10 person inflatable life rafts, ready to launch, in cradles at the fly bridge .

365 Tender and jetski

One (1) Rigid Inflatable Boat with inboard engine, length about 4.2 m. (aft fly bridge) One (1) Rigid Inflatable Boat with outboard engine, length about 5 m. (aft fly bridge) Two (2) Jetski's in locker in way of after-peak

Tenders and Jetski shall be supplied by the owner.

The owner will provide the builder the necessary data for the fastening of the tenders and jetski to the deck.

367 Swimmers ladder

Removable st.steel (or aluminium) swimmers ladder with teak steps.

370 Dive compressor

One dive compressor will be fitted in the aft peak. The dive compresser shall have a provision for taking clean air to a higher location. Owner supply.

375 Filling stations
In the superstructure side-wall on PS a filling box is to be made with a flush mounted hinged hatch.

382 Sunbathing areas
A sunbathing area shall be constructed in the front of the coachroof with cushions and cushion storage underneath.

385 Exterior bar
On the aft deck, a bar shall be built as given on the G.A..
The bar will include, hot/cold water tap, st.steel sink under removable counter top panel, Corian work top, refrigerator, ice maker and a chipboard.

387 Other exterior furniture
The exterior furniture on the maindeck aft and fly bridge is loose furniture: owner supply. All tables are to be fixed to decks. Cushions are to be provided

388 Aft Deck awning
A fixed large awning is to be built at the aft deck. Awning is to be made from a st. steel frame with a canvas cover. The frame will be fixed and the canvas will be removable.

390 Fly bridge awning
A fixed large awning is to be built at the flying bridge. Awning is to be made from a st. steel frame with a canvas cover. The frame will be fixed and the canvas will be removable.

400 MACHINERY

401 *General*

The E.R. entrance from the maindeck is to be a door in the superstructere sidewall aft at PS. Hull, bulkheads and ceiling are to have sound insulation. (See also chapter 700)
Engine room floor plates are to be chequered aluminium.
Guard plates are to be fitted in way of revolving machinery and parts that are possibly under current.
Removable st. steel grab-rail are to be placed around engines and pathways. Provision for expansion to be made in all pipelines where necessary.

405 Main engines and gearboxes

As specified in item 001 Particulars.
Engines and gearboxes are to be installed on flexible mounts.
Between the engine and the gearbox a flexible coupling will be fitted. (PENDING) Controls shall be installed for all steering positions inside the engine room.
An electric starting device and local emergency control shall be installed.

410 Free auxiliary PTO

Not applicable.

410 Shaft tube

The shaft tube is a steel thick-wall outer tube welded to the hull.
An inner tube with bearings in line will be fitted inside the outer tube with adjusting bolts fixed with two component resin.

415 Shaft and propellers

Two (2) , 4-blade propellers shall be fitted.
The propeller are to have a diameter of 40 inch.
The duplex shafts are to be made of one piece each, diameter 70 mm.
Thrust bearings are to be fixed to the hull structure. Flexible coupling shall be fitted between the thrust - bearing and the gearbox
Shaft locking is to be provided.

420 Generators

As specified in item 001 Particulars.

425 Bow thruster

The bowthruster shall be Dutch Thruster Group DGT420 with electrical 400V single propeller. (650 kgf)
Controls are to be installed for all steering positions.
The bowthruster tunnel is to be protected from debris by a st. steel bolted grating.

430 Cooling system main engines and generators

The cooling system for the main engines is to be a treated water system, cooled by a seawater heat exchanger.

435 Exhausts main engines

For each main engine the exhaust runs through a dry damper, a water injection, butterfly valve to a hull penetration above the waterline and under the waterline. The hull penetration under the waterline is to have a scallop to ensure suction when sailing.

436 Exhaust generators

For each generator the exhaust runs through flexible hoses, water-lock and water separator to a hull penetration above the waterline.

440 Sea-water system

A sea-water inlet cross-over is to be welded to the hull structure with a sea-inlet box. A flush grating-plate is to be bolted to the hull with st. steel bolts to protect debris entering the system. Inside the hull two water-strainer boxes (1 PS & 1 SB), with valves before and aft of the box to allow cleaning of the strainer while sailing.

Sea water will be used for:

- cooling main engines/ generators inter-cooler
- fire fighting
- deck wash
- air conditioning cooling pump
- elsewhere as necessary

Seawater piping is to be made of Cunifer.

445 Bilge-ballast system/ fire fighting

Valve chest in engine room with bilge pumping from watertight compartments and wells by two (2) main electrical self priming centrifugal bilge pumps. Each pump is to have a capacity of 25 m3/h. (Preliminary)

Each bilge pump suction line should be fitted with an efficient strum box.

Hydrant fire fighting connections shall be fitted on decks and in the E.R. as necessary.

The seawater suction line for engine cooling will have a three-way valve, allowing suction from engine room bilges in case of emergency.

Filling/suction from a dedicated bilge tank will be provided.

Bilge/ fire fighting piping is to be made of Cunifer or galvanized steel.

446 Emergency bilge/ fire fighting pump outside engine room

Outside of the engine room an additional bilge pump will be fitted as to comply with the administration. Additional bilge pump will have a capacity of 20 m3/h. (preliminary)

450 Fuel system

Integrated fuel tanks, valve chest in engine room with two (2) transfer pumps. One filling point to be fitted on main deck.

Level gauges to be fitted in the engine room and in the wheelhouse.

Each main engine will have a day tank (integrated wing tank) with gauge-glass and drain fitted in the engine room. Fuel filters are to be fitted between day tanks and engines/ generators.

All fuel tanks will have tank ventilation with “no smell charcoal filter” fitted inside filling stations at main deck.

Fuel piping is to be made of steel.

455 Engine room ventilation

See chapter 900.

460 Fresh water system

All water tanks are to have level gauges.
Two (2) main deck filling points (1 PS & 1 SB).
Fresh water consumers are: galley, washing machines, dishwashers, showers, washbasins, windscreen wipers, deck showers, wet-bars, toilets etc.
Hot water supply will come from a good sized boiler (150 liter, electrical operation). Pressure shall provided by a hydrophore of an appropriate size (about 50 l.) with two interchangeable pumps.
A reserve pump shall be installed, with a bypass so, in case of failure of the main pump, the reserve pump is ready for use.
Hot water to be supplied by a ring going around the vessel circulated by a pump so that immediate hot water can be obtained at every tap.
Tank ventilation, through a swan neck at main deck level.
Fresh water piping shall have smooth radius bends and no tight 90 degree angle connections shall be used.
All pipes are to be suitably insulated, acoustically and thermally to eliminate condensation.
Fresh water piping is to be made from st. steel and plastic where approved by the administration.

461 Water treatment

One (1) UV anti-bacteria system, with activated carbon filter and sediment pre-filter. Model and type: Tecnicomar UV20-BB I/SD.

462 Water maker

Two (2) water makers reverse osmosis system. Capacity 2x280 liter/hour (first year), maker, HRO.

465 Sewage system and treatment units

There will be built in sewage tanks for toilets, washing machines, washbasins, showers, wet bars and galley.
Sewage tank will be ventilated through swan neck with an accessible “no smell charcoal filter” and an opening at the topsides with a protecting scallop.
All toilets shall be of a marine system Tecma. All siphons of showers, sinks etc., are to be accessible and are to have sufficient capacity to prevent drying out and will drain to tanks through an automatic soil and waste water pumping unit (e.g. Sanisplit.)
Sewage tanks are to be fitted with a macerator pump and a low-high switch indication. Also to be fitted a high-level alarm with indication in the engine room and the wheelhouse.
A provision for shore discharge is to be provided. Treatment unit Tecnicomar ECOMAR 24.
The treatment system will have a suction pipe into the sewage tank for treatment of black and grey water.
The system is also able to discharge directly overboard.
Piping is to be made of st. steel and plastic (where approved by the authorities/ classification).

466 Lubricating oil system

Lubricating oil tank and dirty oil tank are to be positioned in the E.R. (about one frame spacing each).
Pumping by an electrically driven pump. Dirty oil will be discharged by a hand pump.
Tank ventilation: high inside the engine room.

467 Engine room fire fighting

There is to be a dedicated fixed fire fighting system for the engine room. The quantity, location and operation of the extinguishing medium is to comply with RINA.

470 Fire extinguishers

Portable fire extinguishers are to be fitted as required by RINA.

471 Smoke/ heat detectors

Smoke and heat detectors are to be fitted in the E.R. as noted in chapter 800 and according to the rules of RINA.

472 Fire control plan

An A3-size fire control plan, in colour and behind perspex is to be hung in the wheelhouse and lower crew cabin and other areas as required by the administration. Location as per designers instructions.

480 Hydraulic system

There will be no central hydraulic system. Each hydraulically operated system will have dedicated small local powerpacks.

485 Steering system

The craft will be fitted with two independent and identical steering systems, each is capable of steering the craft when the other system becomes inoperative.
At the stern, rudder tubes shall be fitted with stuffing gland and remote greas er in compartment. Hydraulic power steering system with control in the wheelhouse and other control stations.
Hydraulic pumps driven by 1x400V motor and 1x 24V motor (reserve)
Additionally, a hand pump emergency steering system will be built in the after-peak.

490 Labelling

All valves, cocks, filters, pumps, electrical components, etc. to be clearly identified by suitable labelling plated in English. Labels to be easily cleaned and to be of a size and type to be easily read, subject to the size limitation of the equipment to which it is attached.

500 ELECTRICAL INTALLATION

501 General

Two electrical systems to be fitted:

- 24 V DC supplied by batteries
- 400 V/ 220 V AC 50 Hz supplied by the generators and shore power supply. All in accordance with marine practise.

System quality, size of components and operational possibilities to be "best yacht standard" for this size of vessel. The installation is to be rated for a maximum internal ambient temperature of 45°C. All automatic circuits are to have manual bypass systems, or be duplicated. All automatic float switches are to have manual override. Main switchboard split bus system, positioned in engine room.
In the for a and aft ship, galley and where needed distribution boxes for lighting and power are to be fitted and will be easily accessible. Interference free operation of all electric equipment is to be guaranteed.
All cables are to be protected from mechanical-, water- and heat damage.
All data carrying wires should be separated and insulated from electric wires so as to prevent possible induction.

503 Main switchboard

The main switchboard will be positioned in the engine room. It will be constructed of light steel, hinged panels, painted in a light colour. Adequate ventilation shall be provided. The main swichtboard will contain the main copper bus bar system with circuit breaker switches, panels gauges etc.
The switchboard shall include Volt-meters, Ampere-meters, frequency-meters, kW-indicators, phase sequence indicators, for all input and output components.
Inputs:
Generators
Shore power connection Invertors
Outputs:
Consumers 400 V 3 phase
Consumers 230 V 1 phase
Selection shore power/ generators power: manually.
Shore and generators connections will be protected by automatic main fuses.

505 Batteries

Main batteries are to be fitted on separate banks with change over and interlock switches.

- Starting batteries bank SB engine
- Starting batteries bank PS engine
- One emergency batteries bank in the vicinity of the wheelhouse, capable of providing energy as to comply with the administration requirements.
- Consumers batteries bank.
- Main engines electric system.

The generators can be switched to charge any battery bank.
Batteries to be maintenance free, closed type, 24 V, securely housed in boxes. Total capacity 2000 Ah.
PENDING.

510 Alternator

Manufacturer alternator: Mastervolt
Main engines to be fitted with an alternator, belt driven.
The alternator will first charge start batteries and then the ship's supply banks.

515 Generators

See item 001 and chapter 400.

520 Battery charger/ inverter unit

A combined battery chargers/ inverters unit of sufficient capacity (10 kW and 1.5 kW) is to be installed in the E.R.. Inverters will be protected by a short circuit current stop.

525 Shore power transformer

The shore power transformer is a 50 kVA shore master. To be fixed on rubber flexible mounting. Shore power cable shall be 30 m with connection plugs.

530 Alarm system

The alarm system is to be divided into the following groups:
Main engines and accessories Generator and electrical faults Tank, bilge and other level alarms Fire alarms Stand alone intruder alarm, indicating whether hatches/ doors are open. The intruder alarm is to be able to transmit to a (mobile) telephone. The bilge alarm will be connected to this system.
The main alarm panel will be fitted next to the chart table. An acoustic and optic alarm with reset button will be fitted next to the chart table.

545 Emergency lighting

A 24 V emergency system is to be installed. The emergency lights are to switch on automatically in case of a black out.
System endurance is to be at least one hour, when fully loaded.
In general, lamps will be 15 W, but in the E.R. 40 W lamps will be provided throughout the ship, including the aft swim platform area.

570 LIGHTING

575 Main lighting

Lighting to be in general 220 V AC. Tivoli type lighting to be LED strips DC. Switches, sockets, dimmers etc. to be fitted where needed.

Walk-in wardrobe light to be automatically switch-on when opened. Sockets in underside of special plinth every 2 m.

Lighting as follows:

Salon & dining room Ceiling lighting, reading lights, wall lighting (direct). Cove and plinth Tivoli type lighting or equivalent (indirect).

All cabins Ceiling lights, wall lights, reading lights (every berth). Cove and plinth Tivoli lighting or equivalent (indirect). Wardrobe lighting.

Bathroom & toilets Ceiling lights, shaving sockets. Galley Fluorescent lighting above worktop, ceiling lights.

Wheelhouse Ceiling lights, chart reading light, lights over equipment. Covered decks Weather tight ceiling lights.

Engine room Fluorescent lighting.

Fore peak Fluorescent lighting and lamps protected by a metal grill at the corners of the chain lockers.

Mast Weather tight deck lights illuminating the mast forwards and backwards. Swim platform 4 watertight lights under water.

Interior stairs Tivoli lighting under each tread.

577 LED lights

LED lights will be installed on the vertical wall of each stair, around the superstructure, in the inner bulwark and in way of the swimming platform. LEDS to be placed every 1 m.

580 Navigation lights

Navigation lights to comply with the International Regulations For Preventing Collision At Sea, 1972 as amended.

Visual monitoring of the integrity of all circuits is to be seen in the wheelhouse.

The panel is to be in mimic form, showing the outline of the vessel, with light positions.

585 Search light

A search light is to be installed on the wheelhouse roof. The search light is to be have remote control from the wheelhouse console.

600 ELECTRONIC EQUIPMENT

605 Navigation- and communication instruments

The builder will supply and install the following equipment:

- Main radar
- Secondary radar
- Speed & distance log
- Auto pilot
- One (1) echo/ depth sounders
- Wind speed and direction indicator
- Water-, fuel- and sewage level indicators and sensors.
- GPS Navigator
- GSM triple band
- VHF system
- MF/HF radio telephone with digital selective calling (DSC)
- INMARSAT ship earth station
- NAVTEX receiver
- One ship's computer
- Marine horn
- Barometer/ clock/ hydro
- Magnetic compass 2x
- GPS compass
- Rudder position indicator
- Engine instrument panels
- Wiper controls

610 Audio receiving equipment

In all guest cabins and the salon a stereo system with radio/MP3 and surround speaker system is to be installed. A car radio/MP3 device with speakers is to be installed in the crew cabins and the galley. Extra speakers to be installed in all guest and master bathrooms, and external deck areas (aft main deck and fly bridge deck).

615 TV system and internet

Flat screen TV & DVD player and "home cinema system" to be installed in:

- Salon (pop-up type)
- Owner cabin
- Guests cabins
- Crew mess

In all cabins, the salon and the galley, TV/video and internet sockets will be fitted. All preparations are to be made for satellite TV system.
WIFI internet system is to be installed throughout the vessel.

630 Closed circuit television

Four camera's for closed circuit television to be installed. Monitoring from the wheelhouse.

700 SOUND & THERMAL INSULATION

701 General

Noise reduction will be achieved by combined measures, aimed at the source of the noise and at transmission. It will contain structural measures, insulation and floating interior throughout the boat.
Thermal insulation of the interior will be achieved by insulating all exposed areas with an approved type of glass wool or foam.

702 Noise levels

The following noise levels will not be exceeded, with one generator running, and the yacht cruising in calm water with main engines running at 85% rpm:
Open main aft deck 72 db(A)
Guest cabins 56 db(A)
Crew cabins 56 db(A)
Owner suite 56 db(A)
Living rooms, salon 56 db(A)
Wheelhouse 69 db(A)
The builder will comply with these noise levels, within a margin of 3 db(A).

705 Noise sources

The main engines, generators, pumps and other noise producing equipment to be flexibly mounted.
All pipes connected to these sources must have a sufficient length of flexible hose to prevent transmission through the piping system to the hull.
Propeller shaft tube, thrust bearing and flexible coupling as given in chapter 400.

710 Transmission

Main engines, generators and other foundations to be stiff and aligned with the structural members of the hull. Damping material (Baryvibro with steel plate on top) to be applied to the plating in way of the propellers, to the E.R. bulkheads and to the E.R. ventilation duct.

715 Engine room insulation

Engine room hull, bulkheads and ceiling will be insulated as far as practicable. The insulation will consist of glass-wool and aluminium white plate (not perforated).
Ventilation ducts will be insulated as far as practicable.

720 Accommodation sound insulation

The concept of insulation of the accommodation areas is to create a floating interior by detaching the floors, lining, ceiling and bulkheads from the construction.
A great noise reduction can be achieved especially at the higher frequencies.
Floors shall be made of “sandwiches”, marine plywood - marine plywood - 4 mm Baryfol - marine plywood, fixed together. Connection seams are to be overlapping (to create one big solid surface). The floor are to be installed on battens of 40 x 12 mm Sylomer.
Linings shall be made of marine plywood and Baryfol.
Internal bulkheads shall be made of marine plywood with glass wool in between. Ceilings shall be marine plywood fastened to linings and walls.
Every 1.5 m (approx) the ceilings shall be fastened to the deck members with flexible mountings.

800 INTERIOR

801 General

The interior styling will be modern.
The builder shall note that the completed interior is to meet the best yacht standard. It is recognised by the builder that the information provided with and in this building specification is preliminary and will be elaborated in due course.
All features and facilities of best yacht standard will be included within the offer even when not given in this documentation.
Such features would include drawers, cupboards, cabinets, niches, shelves worktop, mirrors etc.
The exact amount, size, detailing and location of these features is to be decided on by the interior designer.
All interior metalwork shall be fully corrosion resistant brass or stainless steel.

A selection of material for the interior will be carried out by the interior designer and will be presented to the owner for approval prior to the construction of the relevant area of the interior. In case of doubts or queries about materials, finishes etc the interior designer will immediately be consulted.
Interior joinery work is to be removable in a non destructive way in order to provide access to the main structure and equipment for maintenance and inspection, wherever necessary.
The final finish of workmanship will be of "best yacht standard".

Special attention must be paid to prevent creaking or squeaking woodwork, by using suitable beddings, felts etc. This also applies to decks and stairs.
All plywood is to be of the best waterproof marine quality.
All timber studwork is to be executed in materials of suitable quality.
All wood fixings are to be of bronze, brass, stainless steel or good quality galvanised steel. Adequate ventilation behind linings is to be ensured.

Accommodation for 8 persons plus 6 or 7 crew members as shown on the G.A..
The interior built-in furniture to be finished with traditional varnished wood veneer, coloured lacquer on MARINE PLYWOOD and/or hard plastic on plywood.
Finishing such as mahogany, teak, ash or similar, to owners choice. All finishes on panels to have hidden fixings.
No exposed plywood edges, but to be covered with veneer or solid wood. Hard plastic edges to be hidden or to be covered with solid wood.

802 Interior Fire Protection

Upon completion of the vessel, all interior upholstery will be sprayed with non-toxic flame retardant "Emalfon" (Marin Safety LTD, UK).
A certificate of compliance with IMO FTP Code, Annex 1, Part 7 and 8 (or equivalent) will be obtained.

804 Safes

A good quality safe will be fitted in the owners cabin, VIP cabin and crew cabin. All safes to have a digital key.

805 Floor covering

All floors, except for the crew cabin to be finished with wood, granite, ceramic tiles or carpet.

Flush hatches are to be allowed in floors and soles wherever required for bilge access. Granite floors are to have several drainage points.
The floor of the wheelhouse: wood with a compass shape wood mosaic

810 Ceilings
All ceiling panels are to be finished with wood, coloured lacquer on Marine Plywood, hard plastic, fabric, leather of vinyl.
The ceiling panels will be mounted so as to be removable wherever possible.

815 Lining and bulkheads
Linings will generally be constructed of marine plywood of 10 – 12 mm thickness. Partition bulkheads will be of a sandwich type, as necessary to meet the noise reduction criteria.
The sandwich bulkhead will be built up as follows: marine plywood – mineral wool – marine plywood.

Wood panelling will be traditionally constructed with attention for the direction of the veneers. The finishing layer of the linings and walls will be of wood, coloured lacquer on Marine Playwood ceramic tiles, marble, textile or hard plastic etc.

820 Doors
Generally doors are to be 40 mm thick and to be fitted with anti-vibration marine quality lock with stainless steel parts and three hinges.
All internal doors shall be of warp free, hollow core, type appropriately insulated with in the internal cavity the same fire standard as adjacent partition division.
All doors are to be fitted with incorporated stops to hold the doors in an open position. All doors are to have closing gaskets, which ensure an acoustic seal.
Doors and all other furniture are to be anti-rattle as directed by the interior designer. An allowance should be made for fitting enamel or engraved plagues, indicating the cabin number or name, as specified by the interior designer.

Doorsills are to have a protective cover, according to the specification of the interior designer. All doors to spaces containing fire-fighting equipment are to be discreetly marked.
All doors are to be flat, broken by panelling, matching adjacent woodwork, lacquered panelling of fabric-faced panelling.

Doorframes and thresholds shall be finished with appropriate materials to complement the décor of the spaces served, in accordance with the interior designers requirements.
Return air will flow through holes 20 cm above the floor, or slots through doorframe heads, or otherwise as agreed with the interior designer.
Lights with automatic switches shall be provided on doors to lockers and wardrobes.
A locking system is to be provided for all external and internal doors. The locks are to incorporate master keys and sub-master keys, with crew and guest subdivision. The locking system is to be approved by the owner.

821 Hardware
Interior hardware for doors, drawer, cupboard, coat hanger etc. are to be of stainless steel of high quality make and to fit the style of the interior as specified by the interior designer.

Wardrobes are to be fitted with chrome plated rails for coat-hangers.

Locks, hinges, vents, hooks and self-closing devices shall be of the highest quality suitable for marine application.

822 Hand grab rails

Hand grab-rails are to be fitted as to provide continues holding throughout the ship ‘s interior (wheelhouse, galley etc.).
Rails are to be fitted in special sockets.

824 Cabinets and wardrobes

The finish and style of cabinets and wardrobes is to match the wood selected locally.
All drawers are to be self-closing, lift to open and run on guided glides. To be constructed of selected woods, sides to have rebated or dovetailed corners.
All drawers are to be fitted with pulls and cabinets are to have locks and catches as directed. Where cabinets enclose technical equipment e.g. refrigerators, safes, icemakers etc the equipment is to be built in accordance with the manufacturer’s technical information and recommendations and is to have sufficient insulation, ventilation etc .

825 Stairs

Interior stairways as shown on the G.A. are to be constructed from selected hardwoods, faced in selected woods, lacquered or marble-faced materials.
All stairs are to have the necessary hardware, e.g. railings, balustrade and balustrade supports etc..

835 Curtains and blinds

All portlights and windows, except in sanitary space, will have curtains running on tracks. Sanitary spaces will have Venetian blinds.
Wheelhouse windows will have Venetian blinds which reflect sun light.

837 Mirrors

A large mirror is to be fitted in each cabin.
All mirrors are to be 6 mm thick and especially protected against humidity. Colour as specified by the interior designer.

840 Sanitary spaces

Bathrooms will be fitted with toilets, BD, washbasins, showers etc as shown on the G.A..
All bathrooms will have a granite top and back-splash with a sink and thermostatic water tap, water resistant floors, cabinets, mirror, soap holder, glass holder, toilet paper holder, hanging hooks, towel bars etc..
Shower walls are to be made of water resistant material. Each shower is to be fitted with a deep tray, thermostatic water tap, shower head and tempered glass doors.
Sanitary equipment and accessories are to be decided on by the interior designer. Walls and floors covered with marble tiles and decoration stripes.
Plumbing is to be PVC.

845 Berths

Built-in berths in all cabins as shown on the G.A..
All berths to have 6” mattresses with a well ventilated base.
Under the berths drawers are to be provided for the storage of suitcases etc.

850 Galley

All counter tops in the galley will be of st. steel or granite. Cupboards with doors and/or drawers will be provided above and below the counter top.

Securing arrangements for crockery etc. will be made. The following equipment will be fitted:

- 1x 220 V st. steel electric cooker with oven & grill and sea railing
- 1x st. steel extraction hood with filters over the electric cooker
- 1x st. steel sink with a food shredder and a hot/cold water tap
- 1x 220 V fridge/freezer
- 1x 220 V freezer to be placed in the aft peak
- 1x 220 V microwave
- 1x 220 V dishwasher
- 1x coffee/espresso machine Plumbing to be PVC.

860 Bars

A bar shall be built on main deck. The counter tops will be of granite of equally high quality. Cupboards below the counter top will have doors and/or drawers.

The following equipment will be fitted:

1x sink, hidden under removable counter top panel 1x fridge

865 Laundry

The laundry will be located in the bow compartment. The following equipment will be fitted:

1x 220 V front load washing machine 1x 220 V front load dryers

885 Smoke/heat detectors

Sufficient smoke detectors will be fitted in all accommodation areas. Heat & smoke detectors will be fitted in the galley.

887 Void spaces

All void spaces within the accommodation areas should be built as cupboards with accessible hatches or doors

890 Switches and socket

Light switches and socket outlets to be with European double socket outlets. Invertors shall be provided as required, and allowance made for connection to TV and Hi-Fi units when applicable.

900 VENTILATION & AIR CONDITIONING

905 General

Fore peak to be ventilated by swan-neck vents through the deck.
All stores to be ventilated by extraction system, possibly linked to the fan system of the crew accommodation. All fans to be installed on rubber mounts and connected to the solid ducting by means of flexible tubing.
Galley and toilet exhaust shall not pass their air to any intake grill of the accommodation. Where necessary cowl and mushroom ventilation caps are to be installed.
Ventilation ducts are to be made of rigid and flexible tubing as directed. Fire dampers are electric with 1x230V 50 Hz servo motor.

906 Accommodation

Bathrooms, toilet spaces etc. to be linked, with a delay switch, to one or more extraction fan systems. The galley is to be ventilated by extraction fans and a supply fan mounted in or near the hood over the stove.
The wheelhouse front windows will be de-misted by a supply fan or grill in the dashboard. Bilge ventilation will be connected to the extraction fan system.

910 Engine room ventilation

Engine room ventilation will be by over-pressure system. A two speed air fan will take air into the engine room, outlet will be by natural flow.
Capacity criteria of air-fan: engine room temperature not more than 17° above outside temperature.
Ducts are to be fitted with a fire flap that can be closed from outside the engine room.

915 Air conditioning

Capacity for cooling and heating design criteria:
Summer:
- outside air 35°C RH 80%
- inside air 22°C RH 55%
- seawater 28°C Winter:
- outside air 0°C
- inside air 22°C

Air in accommodation is to be renewed about 3 times every hour.

Cooling:
Full air conditioning system (seawater cooled chilled water system) fancoil units to be installed in accommodation areas.
Fancoil units with ample. Fresh air ducted to fancoil units from a central air handling unit. The central compressor unit will be installed in the engine room and will have a of frequency controlled electrical motor.
Aluminium alloy drip trays below chiller and fan coil units to be fitted. Drain to the sanitary system.
Heating:
Fancoil units will also ensure the heating of the vessel, the fancoil units will be supplied with hot water from the air conditioning system.

APPENDIX I DESIGN DRAWING LIST

General

General Arrangement Plan
General Construction Plan (hull & deckhouse) with tank top, decks, longitudinal section, typical frame sections
Docking plan Inclination test report Intact stability booklet After-peak lay-out Antennas plan Railing plan

Hull Construction

Faired Hull-lines (CAD) incl. transom, and hydrostatic data Tank arrangement with tank capacities
Construction drawings hull with longitudinal sections and frame section each frame Welding schedule with details
Construction drawing of keel stem and appendages Construction drawing of chain-plates
Construction drawing of bow thruster installation Main engines bed detail drawings
Generator bed detail drawing
Detail drawing of windows, portholes, hatch and door installations Detail drawing of bulwarks
Construction drawing of each deck showing all required reinforcements, foundations, and penetrations
Anchoring arrangement and detail drawing Plan indicating anode positions
Construction drawing of built in metal deck furniture Rudder construction and detail drawing
Typical hull skin fitting detail drawing Detail drawing of stern doors
Typical detail and arrangement drawing of scupper pipes Typical detail and arrangement drawing of tank ventilation pipes

Deckhouse Construction

Deckhouse lines plan, faired,(CAD)
Construction drawings deckhouse with longitudinal sections and frame section each frame Welding schedule with details (hull & deckhouse, 1 drawing)
Construction drawing of chain-plates
Detail drawing of windows, hatch and door installations
Construction drawing of each deck showing all required reinforcements, foundations, and penetrations
Typical detail and arrangement drawing of scupper pipes. Construction drawing of crane base
Construction drawing of built in metal deck furniture

Machinery

Engine room arrangement Propulsion lay-out Exhaust main engines

Exhaust generators Ventilation engine room Bilge/fire-fighting diagram Fuel/lub. oil diagram Seawater diagram
Sea inlet construction details Domestic water diagram Sewage diagram
Tank ventilation diagram

Cutting Files documentation :
Numeric Cutting Files (NC Files) are based on the drawing-list above, as appropriate.
The NC files contain the geometry of about 95% of the structural plates, in CAD .DWG) files, without cutting codes, with markings, text, and cutting lines given in different layers (or colour). Extruded members are excluded.
Included:

- Expansion of the bent plates of the hull/superstructure structure.
- Structural parts made of plates as brackets, girders etc.
- Marking part numbers on plates and on drawings
- Wood templates geometry of most of the 3D bent plates

During the production of the NC files, great care will be taken to avoid human errors, however due to the large amount of parts, it is not excluded that some parts might contain errors. In these cases, Ginton Naval Architects will correct the cutting files.