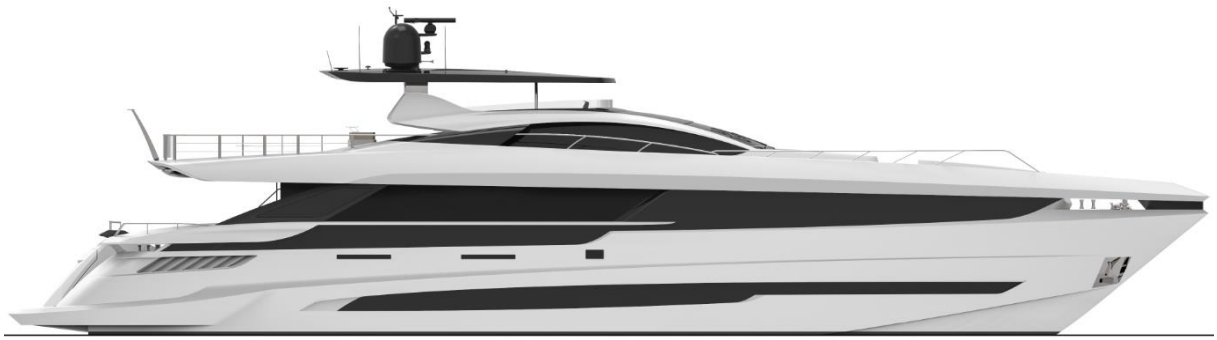
Technical Specifications for the

Gran Sport 33

Quadruple IPS Motor yacht



Built by:

DISCLAIMER

IMPORTANT NOTE

Any modification to the present specification will have to be discussed and approved with the Builder.

IMPORTANT NOTE

Listed Models of Equipment and Systems description are up to date. The Builder reserve the possibility of replacing Models/Manufacturer indicated if at the date of the Vessel construction improvements can be considered.

100 General

100.1 Purpose and intent

This specification is for a 33m fast Luxury Motor Yacht built in GRP equipped with four Diesel Engines and four IPS pods.

The yacht will be designed as a luxury motor yacht for private use by the Owner (on request for commercial service, restricted to max. 12 passengers according to Flag State authority's regulations) and in this respect will have the appropriate sea keeping, manoeuvrability, general handling characteristics, standard of comfort, safety systems and equipment reliability required to achieve this capability.

The Yacht interior design will be in the style of the well-known Mangusta yachts.

The Yacht's characteristics will provide generous and luxurious accommodation spaces for the Owner's party, with good recreational deck areas while maintaining a high level of sea-keeping performance.

The crew's accommodation and working areas will give the crew good comfort and will enable them to operate the Yacht effectively without unnecessarily disturbing the Owner's party.

General distribution will be according to the GA attached to the Contract.

The Yard will carry out the work with utmost precision and will make sure the yacht will be built to the highest Overmarine shipyard quality standard.

All the materials used and works carried out shall be in conformity with the Overmarine standards for this class of yachts.

100.1.1 Definition of terms

The following definitions shall apply for the purposes of this Specification and any subsequent correspondence and the Contract.

In the Specification, the following terms shall have the following meanings:

'Acceptance', means acceptance of the Vessel by the Owner.

'Builder's Certificate', means the certificate to be delivered by the Builder to the Owner upon delivery of the Vessel to the Owner.

'CISR' means the Cayman Island Shipping Registry.

'Classification Society or Class', means Registro Italiano Navale (RINa)

'Classification Surveyor', means a surveyor appointed by the Classification Society.

‘Construction Schedule’, means the construction schedule to be agreed between the Builder and the Owner relating to the time schedule/plan of the construction of the Vessel set out in a separate schedule.

‘Construction Drawings’, means all drawings produced by the Builder, that establish the design of the hull shape and all appendages, the construction details as required by the Classification Society and for the weight and stability calculations.

‘Contract’, means the legal yacht construction Contract between Builder and the Owner regulating the purchase and delivery of the vessel;

‘Design Drawings’, means all drawings produced by the Designer, further in this specification referred to as the Designer, establishing the vessel’s the exterior styling of the vessel.

‘Equipment’, means all equipment, machinery, parts and materials used or intended to be used in the construction of the Vessel but excluding Owner Supplied Equipment.

‘Flag’ or ‘Flag State Authority’ means the Port authority where the Yacht will be registered

‘Interior Drawings’, means all drawings to be produced by the Shipyard Interior Department that establish the design of all parts of the interior and are required for the manufacture, outfitting and finishing of all interior components and parts.

‘Owner Supplied Equipment’, means equipment purchased by the Owner, for inclusion in the Vessel by the Builder, that may or not be included the Specification.

‘SOLAS’ means International Convention for the Safety of Life at Sea, 1974.

‘Specification’, means the document at hand, which is referred to in the Contract between Owner and the Builder.

‘Systems Drawings’, means all drawings to be produced by the Builder’s technical department for the design of specific ship on board systems including all the drawings required by the Classification Society;

‘Trials’, means the dock & sea trials undertaken to demonstrate the satisfactory performance of the Vessel.

‘Vessel’, means the 33m Gran Sport motor yacht described in this Specification;

100.1.2 Parties

Builder: Overmarine Group S.P.A.

Classification Society: Registro Italiano Navale (RINa)

Owner’s Representative: Owner’s appointed Surveyor

100.1.3 General Arrangement

The General Arrangement attached to the Contract or signed and agreed between parties, is to be intended as the General Arrangement mentioned in this specification.

100.2 Main Dimensions and Characteristics

Lenght Overall	33,3	[m]	109 ft, 3 in
Lenght on Waterline	27	[m]	88 ft, 7 in
Beam	7,4	[m]	24 ft, 3 in
Max Draft	~ 1,9	[m]	6 ft, 3 in
Displacement at Full Load Cond.	~ 135	[ton]	~ 297.621 [lbs]
Tonnage (ITC 69)	< 300	GT	

It is noted that the yacht is custom built and therefore the above-mentioned dimensions are subject to minor logical variations.

100.2.1 Tanks Capacities

Fuel Oil - Main tank	~ 10.500	[litres]	~ 2.774	[gal]
Fresh Water Tank	~ 2.000	[litres]	~ 528	[gal]
Grey/Black Water Tank	~ 2.500	[litres]	~ 660	[gal]

It is noted that the yacht is custom built and therefore the above-mentioned values of the tanks are subject to minor logical variations.

100.2.2 Weight allowances

Crew and Guest Effects ~0,9 t (50Kg each person*)

Provisions food and drink: ~1,0 t

Tender & jet Skis & Toys: ~1,6 t including the followings:

- Tender ~5.0m (~900Kg)
- Jet Ski ~400Kg
- Owner’s allowance ~300Kg

Tools and spares ~0,2 t

(*) max 12 passengers + 4 crew + Captain

100.2.3 Performances

At Half Load Displacement, the following performances will be granted:

Top speed	~ 25 knots
Cruising speed	~ 20 knots
Range at 10 knt (1)	~ 1050nm
Range at 20 knt (1)	~ 370nm

Half Load Displacement Condition - Yacht completed (including Extras as per paragraph 900.3 and 900.4 of this Specification) with Liquid in Tanks (or equivalent weights) as follows: Fuel Tank at 50%, Fresh Water Tank at 50%, Grey Water Tank at 50%.

Fuel consumption rates as given by the main engines and generator manufacturers.

In the following conditions and as per paragraph “Sea Trial”:

- On her design Waterline;
- Clean Hull & Propellers;
- Deep water, not less than 1,5 times the Yacht waterline length;
- Current free environment;
- Not more than Sea State 2 on the Beaufort scale;
- Wind speed less than 5,00 knots;

(1) Range calculation under following assumptions:

Usable Fuel considered to be 90% of Total Fuel Capacity.

Four engines running.

One DDGG always running @ 70% (Range @10 knt is calculated for Long Transfer. In this condition, the vessel is assumed to be with reduced people and reduced power consumption on board).

It should be noted that Engine Power is based on a maximum outside ambient air temperature of 35°C and a maximum water temperature of 32°C. Higher air and/or water temperatures may result in a power reduction according to Engine manufacturer specification.

Final Performance Values to be corrected following Approved Change Order and Selected Optional.

100.3 Classification and documents

100.3.1 Classification

The Yacht will be built under survey to the latest rules and regulations of RINa applicable at the time of the effective date of the Contract with the notation:

C ✠ HULL ● MACH Y_{ch}

100.3.2 Flag / Port of Registry

If required Vessel can be built in Compliance to REG Large Yacht Code – part A - Short Range Yacht, as applied by Cayman Island Shipping Register.

100.3.3 Certificates

Rules, Regulations All applicable and Codes will be those current at the time of Keel laying date.

All necessary certificates and documents for the proper and unencumbered operation of the Yacht will be supplied to the Owner at the time of delivery of the Yacht and will include:

- Classification Certificate issued by the Classification Society (Interim and Final at a later stage)
- Builder's Certificate issued by the Shipyard
- Statement of Compliance to REG Ycode-A issued by CISR (optional)
- International Load Line Certificate (voluntary)
- International Tonnage Certificate according to the International Tonnage regulations (London 1969)
- Certificates or Statements as per application of MARPOL rules and regulations (IOPP, ISPP, IAPP, EIAPP), where applicable according to Flag requirements
- Navigation lights Certificate
- Magnetic compass Certificate and deviation chart
- All the certificates issued by the Classification Society for machinery/equipment and materials fitted on board
- Certificates of life saving equipment
- Certificates of anchor and chains
- Antifouling Declaration
- Keel laying date Statemen: 11th Feb. 2019

- Test certificates of machinery and electrical equipment as supplied by the manufacturer
- Others as per Class requirements

Preliminary certificates necessary for the registration of the Yacht will be provided. All certificates will be free of any subject or conditions at the time of delivery of the Yacht except as may be expressly agreed with the Owner. Eventual full term certificates will be supplied after Yacht delivery and on completion of Owner's related issues.

The Owner register the Yacht at its own costs. The Shipyard provide all documents of its responsibility necessary for the registration with no extra costs.

Provided that if, through no fault on the part of the Builder, definitive certificates are not available at Acceptance & Delivery, and the same does not affect the operation or use of the Vessel, interim certificates will be accepted by the Owner and the Builder will furnish the Owner with full-term certificates as soon as practicable thereafter, but not later than the expiry date of any such certificate. At yacht delivery, all certificates will have no reservations or conditions, unless previously agreed with the Owner.

100.3.4 Drawings

The Builder will provide the Owner's Representative with a drawing timetable showing when drawing approval is required by the Owner's Representative, such approval not to be unreasonable withheld before submitting to Class Society.

To enable the Owner's Surveyor to check the construction's conformity to the drawings, copy of all below listed drawings will be delivered to the Owner's Representative.

The following drawings and documents will be delivered by the Builder in the English language:

- External Profile
- General Arrangement
- External Paint Plan
- Inclining test report or Light Weight Check
- Stability Booklet
- Tank Capacity and Arrangement Plan
- Docking Plan
- Engine Room Arrangement
- External Paint Plan and Mooring Plan
- Stainless Steel Handrails Plan
- Mooring Plan

- Anode Plan
- Fire and Safety Plan
- Fuel Oil System
- Lubricating Oil System
- Sea Water Cooling System
- Bilge and Fire Fighting System
- Cold and Hot Fresh Water System
- Black and Grey Water System
- Compressed Air System
- Scupper System
- Hydraulic System
- Engine Room & Accommodation Air Changes Plan
- Fan Coil and A/C Unit Piping System
- Location and arrangement of store rooms, bilge wells, manholes
- Main AC Electrical Power Drawing
- Main DC Electrical Power Drawing
- Emergency Power Diagram
- Lighting Plan
- Navigation and Signal Light Plan
- Antenna Plan (Mast & equipment arrangement)
- Navigation & Communication Bridge Electronic Diagram
- Wheelhouse Arrangement
- Audio-Visual Equipment & CCTV Arrangement
- Integrated Alarm and Monitoring System
- Fire Detection Diagram
- CISR Stamped Drawings

In the event the Buyer/Owner makes a future request for the Builder to supply a copy of the Line Plans for the Vessel, Builder shall remain obligated to provide them to a Class Admeasurement Surveyor (Rina, Bureau Veritas or ABS/American Bureau of Shipping) as selected by Buyer, and approved for issuance of an International Tonnage Certificate by the

U:.S. Coast Guard, for U.S. Documentation.

100.3.5 Documentation

On acceptance and delivery of the Yacht, as soon as possible thereafter, the Builder will provide one set of the final drawings.

On acceptance and delivery of the Yacht, the Builder will supply one set of operation and maintenance manuals, handbooks and/or drawings for all major items of equipment, machinery and outfit as issued by the respective manufacturers.

All technical documents are in English and will be delivered both printed in adequate size and in electronic format files, all the drawings will be updated at delivery of the vessel from “preliminary” to “as built”.

All electrical cables junction boxes and pipes and valves to be labelled in English and number coded (pipes shall be colour coded with arrow indicating the flow)

In the case the Owner will supply the builder with a yacht management software system like “SEAHUB” and dedicated hardware, the builder will support the owner with the right format information to be compatible with the equipment database, the maintenance plan and the documentation. Depending on the amount of work required from the Builder side this will be dealth with through a Change Order

100.4 Project Management

100.4.1 Project Manager and Owner’s Representative

A Project Manager will be appointed by the Builder as the interface with the Owner's Representative.

The Builder will advise the name of the Project Manager two weeks following signature of the contract.

The Owner can appoint one Owner's Representative acting on his behalf. The name of the Owner’s Representative will be given to the Builder within two weeks following signature of the contract. Such appointment is subject to the Builder’s approval. Such approval not to be unreasonable withheld.

The communication language will be English.

100.4.2 Supervision and Inspection

The builder shall, during normal working hours, keep the yacht available for inspection by the Owner, the Classification Society surveyor, the naval architect, the designer and the Owner’s Representative.

It shall be allowed that photographs are taken from the work in progress.

An office will be provided in the Builder's premises during the build and completion of the Yacht. The Owner's Representative will be provided with free Wi-Fi connection.

100.4.2.1 Inspections by Owner's Representative(s)

The scope and authority and responsibility of the Owner's Representative will be in accordance with the terms of the Contract.

As a minimum, the Owner's Representative shall:

- on a regular basis inspect the work in progress;
- be authorised, on behalf of the Owner, to make decisions relating to the execution of the work;
- direct all his comments and remarks with respect to the yacht under construction, in writing to the Builder's project co-ordinator within 48h from the moment of the finding;

The Builder shall:

- at regular intervals meet with the Owner's Representative for the purpose of evaluating the status of the project.

Any delay should then be brought to the attention of the Owner's Representative.

100.4.2.2 Change Orders

Any modification of the design, construction, furnishings, equipment, etc. which implies a change in price, weight, speed, range, noise levels, delivery time or whatever other feature as described in this specification or shown on the contractual drawings shall only be carried out after such modifications and any relevant change in price, weight, speed, range, noise levels or delivery time have been agreed in writing between the Owner's Representative and the Project Manager on a Change Order form signed by both parties.

Any alterations requested by the Owner shall be kept to a maximum specified weight allowance which will be advised by the Builder together with any relevant consequences in writing on a Change Order form to be agreed between the Owner's Representative and the Project Manager before the alteration is carried out.

The Builder will be entitled to refuse any requests in the last six months before delivery.

Change Orders will be regulated according to what stated in the Contract.

100.5 Construction Standard

100.5.1 Construction Buildings

Construction will be carried out under permanent cover, keeping the yacht under construction and its components and materials at all times protected from weather conditions.

The internal conditions and the available facilities must suit the requirements of the various aspects of the construction of a GRP luxury yacht as per Overmarine standard.

100.5.2 Owner's Supplies Storage

An appropriate reasonable secure storage area will be made available to the Owner for storage of Owner's supply items.

100.5.3 Housekeeping

The yacht and its immediate surroundings are at all times to be kept clean and free from any accumulation of debris and of vermin or insect infestation.

All areas will be thoroughly cleaned prior to internal lining and equipment being installed. If debris is found, where necessary lining will be removed and area cleaned.

Special care is to be taken that drain pipes and other locations, which are similarly difficult to reach at the later stages, are kept open and unclogged at all times.

The Builder will arrange for a suitable cleaning service of the Yacht to be carried out. At regular intervals, the building shed will be fully cleaned of all debris and waste.

Care will be taken to ensure that all inside surfaces of the tanks, pipe systems and machinery, so as storage spaces, bilges, accommodations and other spaces, are clean and free from any foreign substances and thoroughly cleared of all dunnage and dirt.

Precautionary measures must be taken to protect the completed or partially completed portions of the yacht and the installed components against any form of damage.

Special care will be taken to ensure that all soft furnishings, fabric surfaces, carpets, etc. are completely covered with protective plastic or wooden sheets as soon as these items are fitted on the Yacht.

Teak decks will be protected with protective sheets.

100.5.4 Working Hours

The normal Opening Hours by the Shipyard shall be:

Monday through Friday from 7:30-12:00 hours 13:30-17:00 hours.

100.5.5 Schedule

The estimated construction schedule is to be confirmed during the Building Progress

The Owner's Representative will be allowed to keep a photographic record and will keep the owner up-to-date with progress reports and photographs taken at interesting stages of the

building progress for example: Hull and Superstructure assembly, Engines embarkation, Launch, etc.

When the Yard needs an Owner's decision or information related to the design, technical details, interior finishes or changes, the Owner will give these details to the Yard within 5 working days.

A Gantt chart will be provided within 30 working days following signature of the contract, showing key milestone dates in order to assess the build progress. Delays and final delivery dates will be reported to the Owner.

100.5.6 Workmanship & Shop Practice

All work to the yacht or parts thereof shall be carried out by skilled and experienced tradesmen in accordance with the established Mangusta standard and the good boat building practices.

A suitable standard of cleanliness and safety measures will be maintained throughout the Yacht during the whole period of construction.

Appropriate measures will be taken, where necessary, to avoid wear and damage due to the construction and to prevent corrosion or other deterioration, specially to unpainted, polished and moving parts. Any defect or damage to equipment, caused during the construction, will be restored by the Builder to the initial condition of the part.

Furthermore, the Builder will take all necessary measures to avoid any risks of fire and environmental abnormalities.

On board smoking will be strictly forbidden.

The Builder's standard workshop practice, shall be acceptable, provided that the required quality level as set forth in these specifications shall be maintained.

100.5.7 Weight control

The Builder standard practice will be applied.

During project design and engineering phase a modification to the displacement could arise, due to layout, décor or outfitting difference:

- any significant extra weight will be analysed / evaluated from the Shipyard to define impact on the yacht performance.
- any extra weight leading to discrepancies in Yacht Performance comparing to what stated in the present Document and Contract, will be agreed with the Owner.

The Builder will inform the Owner if anything should occur to indicate that the predicted displacement of the Yacht is to be materially changed.

100.5.8 Trim

When fully commissioned, with all equipment on board and at Sea Trial Displacement bunkers, the yacht shall float evenly on her lines (slight trim Aft is foreseen being this Vessel a planning Hull).

The Builder shall be allowed to fit on board permanent ballast up to a maximum of 3% of the declared Fully Load Displacement in order to meet the applicable stability criteria and or for trim correction.

100.6 Testing

100.6.1 General

All tests and trials will be conducted in accordance with the requirements of the Classification Society and Builder's practices. All main equipment, where necessary, will be properly commissioned by a manufacturer's representative prior to trials being undertaken or a member of the manufacturer's staff will be present during the trial.

A Protocol for Dock and Sea Trials will be prepared in mutual cooperation with the Owner's representative.

The Builder will conduct tests and trials necessary to ensure that all structure, systems, equipment and fittings are in accordance with the specification and working satisfactorily.

The Owner or their representative will be notified and invited to attend all tests except the maiden one, according to the Protocol for Dock and Sea Trials. The number of places may be limited to one for these unofficial trials but ideally more places would be available for the Owner's team if it is possible and feasible.

In case of discrepancies during sea trial or other tests, between Builder and the Owner Representative, the Classification Representative decision will prevail.

The yacht's machinery, equipment and fittings will undergo shop testing according to the Builder and/or manufacturer's usual practices followed by such on board test as considered necessary to ensure that all systems, equipment and machinery are in accordance with the specification and working properly.

Further, in testing equipment, particular attention will be paid to vibration, seating, leaks and practical operating convenience.

Dock trials and preliminary underway trials will be carried out in accordance with the Builder's practice and at his discretion.

All mechanical, propulsion, piping, refrigeration and electrical systems will undergo satisfactory dock trials and will operate at various loads for a sufficient length of time to demonstrate to be in proper working order.

The Builder will collect data and official records obtained during the various trials, and will prepare a record booklet that will be supplied to the Owner at Yacht's delivery. The results will be signed by the Owner's and the Builder's representatives.

Machinery and systems will be operated uninterruptedly for time necessary to assess the proper working of each system, according the Protocol for Dock and Sea Trials

All main equipment, where necessary, will be signed off by a technical representative of the manufacturer to ensure the equipment has been commissioned and installed correctly.

The Owner, after discussion and mutual agreement with the Shipyard, will be able to request additional testing or retesting of equipment during the trial period or have additional trials carried out if there are any inconsistencies or problems. Such requests will have to be made known to the yard at the moment the equipment is being tested and the commission engineers are still at the yard.

When the yacht is substantially completed, except for such items of work as the Builder and Owner agree to be accomplished at a later date, the yacht will be subject to the acceptance sea trials.

100.6.2 Inclining test

The inclined test, if required from Class, will be done under the supervision of the Classification Society Representative.

The report of the inclining test establishing the vessel's lightship weight and centre of gravity position together with the final calculations of trim and stability, as required by Class, will be prepared and delivered to the Owner at the end of construction, as other remaining documents.

The results of the inclining experiment shall be in compliance with the requirements of stability criteria, as already mentioned in the foregoing: any deviation of the specified criteria will be corrected without affecting the specified performance and characteristics of the Yacht.

For Sister Vessels a Light Weight Check, in way of the inclining experiment, can be accepted according to Class Rules.

100.6.3 Dock trials

Dock trials will be carried out upon completion of the outfitting works, and will be conducted according to the Builder's practices. All mechanical, propulsion, hydraulic, electric and electronic systems, controls and alarm systems will be operated at various loads and by means of the Yacht’s own power source for sufficient time to demonstrate satisfactory installation and effectiveness.

All pumps will be operated sufficiently to demonstrate a satisfactory installation together with their associated system components.

Effective performance of anchoring equipment will be demonstrated by setting and recovery of the gear in the open deep sea.

The following tests and trials will be performed, as far as applicable:

- Weather-tightness of external hatches, windows, doors, portholes, etc.

- Watertight and fire doors operation (if any)
- Shell door(s) operation (if any)
- Stern gangway and side boarding operation (if any)
- Bathing ladder operation
- Safety equipment. For some of the Safety Equipment (e.g. Fireman's outfit) test will be carried out by the Owner's representative (if required)
- Lifting appliances (tender and jet-ski handling)
- Engines starting sequence and operation
- Engine room auxiliaries
- Ventilation system
- Fixed firefighting system
- Fire shut down systems for ventilation, valves and required pumps
- Bilge and water firefighting system
- Fuel system
- Main engines and auxiliaries cooling systems
- Sanitary systems
- Hot and cold fresh water system (desalination system will be tested during sea trials)
- Air conditioning and heating equipment
- Hydraulic systems
- Compressed air system and horn operation
- Electrical systems and generators
- Black-out test
- Lighting systems
- Navigation lights
- Navigation and communication equipment (radio licence and subscription to LRIT service -if any- to be provided from Owner's Representative)
- Monitoring, alarms and fire detection systems
- Smoke and heat detectors
- Entertainment equipment
- Galley equipment

- Refrigeration systems

Modifications, adjustments or corrections which are considered necessary, according to Class Rules or Equipment Supplier, will be carried out at Builder's expenses and, if necessary, trials of modified, adjusted or corrected parts, machinery and systems will be repeated to ensure proper operation. Any defects found during the dock trials for those systems necessaries for the sea trials shall be rectified before proceeding on sea trials unless agreed otherwise between Builder, Owner's Representative and Class Surveyor.

100.6.4 Sea trials

The Shipyard reserves the right to carry out sea trials for internal purposes whenever necessary. Official sea trials will be carried out according to what agreed in the Contract and agreed Protocol for Dock and Sea Trials.

Official sea trials will be carried out upon completion of all works as described in the present Technical Specifications, at Builder's expense.

The official sea trials will be conducted under good weather conditions and with sea conditions of not more than Sea State 2 of Beaufort scale and Max Wind Speed 5 knots. In case of unfavourable conditions, the date of sea trials will be postponed.

In case the Yacht should be not completely fitted, the sea trial displacement will be reached adding fuel and/or water as necessary.

The vessel shall be set in sea trial trim under Builder's responsibility.

The yacht's speed will be measured by use of a Differential GPS and two runs will be conducted at each speed point.

Sea trials will be carried out as per Engine Builder requirements. A representative of the engines manufacturer shall note engine parameters. At each run, the engine power and engine rpm shall be noted and reported.

An endurance test will be performed as per Classification Society requirement.

A controlled crash-stop test will be performed from full ahead to full astern, with the boat running on a straight course; time from full speed to zero speed will be recorded.

All systems, machinery and equipment necessary under normal operation of vessel, will be tested thoroughly, continuously and simultaneously as far as applicable.

The engine manufacturer shall calculate, if not directly available, actual engine output power (Engine Load or Injection quantity) during above tests.

At the end of above trials all measurements will be recorded as tables and diagrams and will be collected in the delivery documents.

The fuel necessary for sea trials will be at Shipyard expenses; the unused fuel quantity that will remain in the ship storage tanks will be at Owner's expense.

100.6.4.1 Manoeuvring Trials

The yacht will be subjected to manoeuvring trials which will include ahead steering at maximum and minimum speeds, turning circles to port and starboard, maximum speed "Z" manoeuvre, Crash Stop. The turning circle diameter and the time to complete it will be recorded.

Emergency steering system will also be tested under power.

Bow thruster will be tested to determine the rate of turn.

100.7 Delivery

After the satisfactory conclusion of the dock-trials and sea-trials and any necessary modifications and adjustments by the Builder and the final completion of all rest items, the builder shall have the yacht thoroughly cleaned, upon which the Owner will take delivery, whereby the yacht will go over in the care and responsibility of the Owner's captain and crew.

The Yacht will be afloat in a seaworthy condition, ready to sail

The Yacht will be by all means completed with all systems in proper working condition, as described in the present Specification, and all documents (eventually provisional ones), manuals and certificates on board.

In the event that certificates are interim in nature the Builder will provide full certificates as soon as these became available.

Care will be taken to ensure that all painted surfaces are touched up and cleaned, that all machinery are in good running order, and that all equipment and spare parts are properly stored.

100.8 Spare parts and tools

Included only spare parts and tools as per standard manufactures supply.

200 Structures & Scantlings

200.1 General

Hull and Superstructure will be built according and in Full Compliance with Class Rules requirements.

Lamination will be according best practice as per Rules requirements.

Lamination will be carried out only from specialized workers and according to best practices as per approved drawings and Rules requirements.

The Hull shall be built as a single unitised structure in a female mould.

The deck and superstructure shall be built in a female mould.

200.2 Workmanship

200.2.1 Construction practice

Slots, air holes, drain holes, scallops and lightening holes will be provided where necessary and in accordance with a good working practice, subjected to the approval of the Classification Society.

All lightening holes or passage holes will be carried out according Class Rules and reinforced where necessary. These holes will always be in way of the neutral axis of the stiffener web.

Where penetration of longitudinal and transverse frames or stiffeners is necessary for the passage of cables, pipes etc., then such penetrations will be in compliance with Class Rules.

200.3 Design plans

All the construction drawings for the GRP structure are to be approved by the Classification Society.

The engine girders and surrounding structural members, under the engine oil pan, will be constructed to confine leaks from the engines and gears.

The deck plating will be suitably reinforced under local loads such as the boat windlasses, bollards, cranes, masts etc. Such reinforcements will be of inserted type or increased Single Skin type according to Class approved drawings.

Deck stowage lockers will be arranged and built into the superstructure where possible, according to what mentioned in Exterior Outfitting related part.

Scuppers position will be carefully evaluated in order to properly remove water from the deck.

All deck furniture will be built according Final design agreed between Owner and Builder.

Hatches will be suitably fastened to prevent opening by the wind or in heavy seas.

All exposed Lockers will have suitable recessed drainage.

200.4 Hull Structure

The construction of the Hull will be done in accordance with the construction drawings approved by the Classification Society.

All external laminations on deck, deck lockers, wet area, lower bilges, forepeak, beach club will be continuously lamination to prevent water penetration.

Water will not sit or pool on the deck under all normal trim conditions.

Care will be taken on steps to ensure water does not collect or drained gutter edge will be installed to allow water to flow away.

Main transverse bulkheads will be provided consistent with the sub-division of the yacht and to meet the required stability criteria and in accordance with Class approved drawings.

200.4.1 Hull Materials

Hull will be built in single skin technique using vinylester resin reinforced with E Glass and polyurethane for extruded stiffeners on decks and sides.

200.4.2 Hull construction

Hull structure will consist of transversal web frames and longitudinal girders, designed according to the Classification Society requirements. Bottom and deck girders will decrease the transversal frame span.

The main engine girders will continue in both the fore and aft direction, thus becoming an integral part of the girder system.

Double bottom tanks will be built into the hull according to the tanks plan.

200.4.3 Structural reinforcements

The Classification Society scantlings will be the minimum requirement for the engine foundations. Final thickness will be defined taking into consideration vibration transmission to the hull.

Additional reinforcements will be integrated in the structure design around engine’s foundations, stabiliser’s foundations, and bow thruster.

200.4.4 Watertight Bulkheads

Main transverse bulkheads will be provided consistent with the sub-division of the yacht and to meet the required stability criteria. They will extend from keel to bulkhead deck and will be of continuously laminated sandwich, with stiffeners, in accordance to Class approved drawings.

Main watertight penetration, where allowed, according to Classification Society requirement.

Other bulkheads will be according to Class Society requirements

There shall be three watertight bulkheads, located as follows:

- At the aft side of the engine room
- At the forward side of the engine room
- Collision Bulkhead

Final number of WT Bulkhead in accordance to Final General Arrangement and to Class approved drawings.

200.4.5 Tanks

Tanks will be built into the hull according to the tanks plan.

Tanks will be provided with drain holes to facilitate drainage and flow through and a suitable number of air holes, in order to prevent air pockets, will be provided too.

Air pipes will be fitted having cross section area 25% greater than the continuous filling/emptying connection.

All tanks will be pressure tested for tightness, according to the Builder’s standard practice and to the Classification Society requirements.

All tank margins will be designed so that they do not hold water and allow good access for cleaning and painting.

Care will need to be taken to ensure that a minimum number of manholes are accessible.

200.4.6 Hull bow structure

Structure will be reinforced in the forward section of the hull to resist to the higher stress caused by the impact on the sea, according to Class requirements.

200.4.7 Chain Locker

The bottom of the chain lockers will be structured forming a self-draining sump.

GRP perforated panels will be installed above the bottom to lift the chain from the bottom.

200.4.8 Machinery Foundations

The foundations and fastening of auxiliary machinery will be adequate for the weight and forces imposed by the action of the vessel in heavy sea conditions.

Where necessary, foundations will provide restraint in all directions in order to minimise vibration in the mounted component. Easy removal of the mounted components and accessibility for maintenance will be taken into account.

200.4.9 Anchor Chain Hawse Pipes and Pockets

The hawse pipes will be of polished stainless steel AISI 316L with half-round ends set in stainless steel anchor pockets in the hull and at deck level.

The anchor pockets will be fitted as per General Arrangement and will be made of polished stainless steel of enough thickness to prevent visible distortion.

The chain spurling pipes will be in polished stainless steel (visible part) with half-round ends at both ends.

The design of the anchor pockets and hawse pipes will be such to ensure satisfactory stowing of the anchors.

Chain wash will be provided with sea water. The hawse pipes will be equipped with a built-in wash down system with a sufficient number of injectors There will be electrical valves and chain washing pump start and stop buttons from the vessel monitoring system.

200.4.10 Through hull fittings

All through hull fittings under maximum design waterline will be made of bronze and through hull fittings above maximum design waterline will be made of brass, according to details approved from Class Society.

200.4.11 Main engines overboard discharge

Main Engines gas exhaust outlets will be below the water line integrated in the pod structure designed to create such a depression to maintain exhaust back pressure below the limit allowed by the engine manufacturer.

A by-pass gas exhaust outlet will be provided for main engines at the hull side, above the water line, to allow discharge at low speed.

200.4.12 Generators overboard discharge

Diesel generators gas exhaust outlets will be provided to the hull side.

200.4.13 Lifting eyes

In Engine Room, connections will be provided to which eye bolts can be fitted in order to permit the removal and re-installation of heavy parts.

200.4.14 Anodes

Threaded studs will be installed at the hull transom to allow the installation of standard size zinc anodes.

200.4.15 Double plates and inserts

Local reinforces may be included in to the hull, deck and/or bulwarks where higher local stress is expected due to the geometry of the structure or to the presence of equipment and machinery. As a general principle, reinforcements will be flush on the outside.

200.5 Superstructure

200.5.1 Superstructure materials

Superstructure will be built in sandwich technique using vinylester resin reinforced with E Glass and expanded cores. Polyurethane will be used for extruded stiffners on deck and sides.

200.5.2 Superstructure construction

The construction of the Deck and Superstructure will be done in accordance with the construction drawings approved by the Classification Society.

Exposed decks and superstructure will be cambered or angled so not to hold water under normal trim.

The structure will be longitudinal with transverse main structures.

All connections of the superstructure will be laminated according to the Classification Society requirements.

200.5.3 Main Deck

All deck penetrations for cables, piping and ducting in exposed location will be watertight.

200.5.4 Winch Bases

On the foredeck, as an integral part of the main deck structure, a properly reinforced area on top of which the anchor electrical winches, chain stoppers, chain rollers shall be installed.

This winch mounting base, will be fitted on a stainless steel plate.

A stainless steel tube shall connect the anchor winch base plate and the anchor pockets.

On the aft deck two reinforced bases for the electrical mooring winches will be installed.

200.5.5 Insert Plates

Local reinforcing plates may be considered in to the hull, deck and/or bulwarks where higher local stress is expected due to the geometry of the structure or to the installation of equipment, mooring bollards, fairleads and machinery.

Overboard discharge penetration details will be in compliance with drawings approved from Classification Society.

200.5.6 Bulwarks

Bulwarks will be as shown in the General Arrangement Plans.

Bulwarks will generally be made of a single plate construction supported with stanchions and will be of box or pipe type construction.

Freeing ports openings in bulwarks will be provided as per Classification Society requirements.

200.5.7 Radar and Antenna Support Structure

A main mast will be provided as shown on the External Profile.

The main Antennas support design will include platforms and other adequate arrangement for navigation and communication antennas, masthead wind unit, navigation lights, cameras, flags.

Access manual ladder to the Mast will be provided.

Access openings will be provided for installation/service.

200.5.8 Deck stowage lockers

Deck stowage lockers will be arranged and built into the superstructure where possible and will be provided with suitable weather-tight hatches, with stainless steel locks, hinges and gas rams (if necessary) as well as with appropriate drainage arrangements.

Natural ventilation will be provided where necessary and reasonable.

200.5.9 Scuppers and Drains

The scuppers shall be located to guarantee a sufficient drainage of water from the decks.

The scupper pipes will be provided with a non return valve and a positive means of closure valve (or equivalent) fitted at the through hull fitting, as per class requirements unless different specified.

200.5.10 Construction openings

In the garage deck above the engine room and in garage watertight bulkhead, openings shall be planned-in to allow the installation of equipment items at an appropriate time during construction.

Temporary openings will be closed with panels, becoming integral part of the structure as approved by Class.

200.5.11 Hull and Superstructure shell doors

Hull and Superstructure doors in GRP, aluminium or in stainless steel will be fitted according to General Arrangement and will be watertight/weather tight according to Classification Society requirements.

300 Main Machineries & Propulsion

300.1 General

Machinery and systems installation in accordance to Class Society requirements

Torsional Vibration Calculations of the complete transmission train from engines to propellers will be performed from Propulsion System Manufacturer.

The Main Engines will be in compliance of:

- U.S. EPA Tier 3 Marine Commercial Emission Standards
- IMO Tier II Emission Standards

US EPA and EIAPP certificates will be provide for each of the internal combustion engine in excess of 130kW

300.2 Main engines

Four Volvo Penta Diesel Engines mod. D13-1000 IB – 735kW (~1000HP) at 2400 rpm. liquid-cooled, four-stroke diesel engine, common rail-technology with direct fuel injection, controlled exhaust gas turbo-charging, charge air cooling and the following basic equipment:

- vibration damper (subject to torsional vibration calculation)
- all necessary on-engine air, exhaust, coolant, fuel and oil pipework

Each engine will be fitted with:

- Electric starting system
- Switchbox for electrical starting system
- Alternator for starting battery bank recharging
- Emergency Stop fitted on the Engine

The engines will be supplied with standard equipment, including instruments and alarms as per Classification Society requirements.

Main engines will be white painted.

NOTE: Shipyard and Owner Surveyor to investigate about the possibility of fitting an Engine Monitoring Station in the Engine Room Compartment

300.3 Transmission

Four gearboxes integrated Volvo Penta IPS drive units mod IPS 1350.

Marine reverse-reduction gearbox for uni-rotation and counter-rotation.

Emergency manual steering directly acting on each IPS unit following the manufacturer instructions.

300.4 Shaft line Components, Connections, Combustion Air, Exhaust

300.4.1 Coupling between Main Engines and Reduction Gearbox

One cardan shaft coupling, between each main engine and gearbox, supplied from Engines manufacturer.

300.4.2 Main Engines Resilient mounts

Main engines will be elastically mounted on resilient mounts.

300.4.3 Propellers

Two Volvo Penta duoprop type contra-rotating propellers will be installed on each IPS propeller shaft designed for the application according to naval architect and propeller manufacturer calculations and instructions.

300.4.4 Exhaust Connections

The exhaust pipes shall be connected to the engines by means of flanged stainless steel riser supplied by Volvo Penta.

- Gas will be discharged, underway, through the IPS fins;
- Gas will be discharged, stand still/low speed, on the sides above WL;
- Exhaust lines will be supported by elastic dampers;
- In order to reduce the noise and the heat radiation, the dry portion of the exhaust pipes will be insulated.

Main exhaust overboard will be equipped with a proper security valve for closure, hand operated by a lever.

300.4.5 Combustion Air

Combustion air will be drawn from the engine room.

The total air intake balance will take consideration of the quantity necessary for the engines, diesel generators and machinery according to Manufacturers recommendation.

300.5 Steering System

The Volvo Penta IPS system will be equipped with an integrated reversing / steering system, approved by Classification Society.

300.6 Diesel Generators

Two Kohler® model 35EFKOZD marine generator, each having a capacity of 35 kW, 400 VAC, 50 Hz, three-phase.

- Generators will be equipped with all necessary accessories for the correct use and operation, such as sound enclosure with removable panels, switch gauges for low oil level and low coolant level, alarm switches for high temperature, low oil pressure and over-speed protection.
- On board mounted control panels including safety shutdowns lamps and reset switch, hour-meter and start/stop switch.

300.6.1 Flexible Mounts

The Generator will be supplied with internally installed elastic flexible mounts in accordance with manufacturer.

300.6.2 Exhaust System

Water injected exhaust system shall be installed in accordance with the manufacturer instructions.

Centek® Vernalift (or equivalent) Exhaust Muffler and Gensep Gas/Water separator will be installed.

Exhaust gas will be discharged above DWL, water below DWL.

300.6.3 Cooling Water & Fuel Connections

The system will be installed in accordance with the manufacturer instructions and approved by the Classification Society.

All connections through adequate flexible joints, shall be installed in accordance with the manufacturer instructions and shielded against heat or damage from abrasion if necessary.

300.6.4 Combustion Air

Combustion air will be drawn from the engine room.

The total air intake balance should take consideration of the quantity necessary for the generators according to Manufacturer recommendation.

300.7 Bow Thruster System

Side Power Marine bow thruster of 28 [kW] power and a predicted Thrust of 450 [kg] with dual counter rotating 4 blades Kaplan propellers, will be installed.

The GRP tubular section will be installed in the forward portion of the hull. The intersection of this thruster tube and the hull sides, will be rounded and shaped according to the good marine practice.

The electric motor will be connected to the mechanical unit by means of a proper marine flexible coupling, optimised to reduce as much as possible the vibration transmission.

In order to decrease peak loads on DDGG, Electrical motor will be power supplied through a Frequency Drive.

The manufacturer's delivery will include:

- Lubrication oil tank.
- Main control panel for desk mounting in the wheelhouse with joystick, control buttons and alarm.

300.8 Stabilizers

Electrically actuated Stabilizing Fins for "Zero Speed" and "Underway" stabilizing capability will be installed.

Design will take into consideration the maximum resistance reduction in order to maximize the yacht performances while damping the roll motion both underway and at anchor.

300.9 Stern Interceptor System

One Humphree® electrically actuated interceptor system will be installed on the transom.

The system is composed by four interceptor units and four servo units.

Interceptor system is equipped with automatic trim control capability to secure best performance and lowest fuel consumption.

400 Piping & Auxiliary Systems

400.1 General

400.1.1 Pumps requirements

The general requirements for all pumps shall be:

- All pumps, where applicable, in accordance with the requirements of the Classification Society and approved drawings.
- All pumps will be installed through silent blocks on painted or anodized aluminium drip pans, generally fitted with drains. Alternatively, pumps can be rigid mounted on flexible mounted drain trays.
- Main pumps will have isolating valves in both ends for easy repair or exchange.

400.1.2 Piping, Valves and systems requirements

Installation of pipes, connections and material in accordance with the requirements of the Classification Society and approved drawings.

The general requirements for all pipe-works and plumbing systems shall be:

- Stress free installation on properly spaced support brackets and/or hangers.
- Metal pipes to be fitted into the brackets using rubber linings or using plastic brackets.
- Hoses will be made of a material suitable for the fluids carried at the operating pressure and temperatures
- Hot water pipes shall be insulated.
- Installation with constant drops and straight runs avoiding sharp bends.
- All pipe bends to have smooth radiuses. No mitred joints shall be acceptable.
- Copper and plastic pipe will not be painted
- Watertight bulkhead or exposed deck penetrations to be flanged or through the use of approved fittings.
- Straub® (or equivalent) couplings will be acceptable for systems and zones indicated into the approved drawings.
- Sight glasses to be fitted in appropriate locations according to approved drawings.
- English language name plates to be fitted at main valves and pipes;
- International standard shore connections will be provided for sewage and sludge oil or bilge discharge.
- Each system will be provided with enough valves and cocks to allow adequate control of flow and to provide satisfactory sectioning for maintenance purposes.
- All sea water strainers to be made of bronze with stainless steel mesh filters
- All valves to be selected according to the relevant service and related to the connected pipe material.

- Where plastic pipes are used PVC or Polypropylene valves will be adopted; other valves will be made of Steel, bronze, bronze-aluminium or brass (according to Class requirements and approved drawings).

400.2 Bilge System

System in accordance with Class regulations.

400.2.1 Equipment

- 1x E.pump Gianneschi® ACB 451 (or equivalent) – 400VAC/3ph/50Hz
- 1x E.pump Gianneschi® ACB 431 (or equivalent) – 24VDC
- 1x Emergency Pump outside Engine Room Gianneschi® P&B MBMA 50-160B Diesel
- Electric remote operated valves
- Bilge Level Alarms
- Vacuum and pressure gauges

400.2.2 System overview

Two electric pumps providing necessary lift/pressure to the proper working of the system.

The two pumps can run each of them for a specific service (Bilge or Fire-fighting) or in parallel for the same service (both in parallel for Bilge or Fire-fighting).

Different settings of the pumps are through a proper number of Electric three-way valves.

Vacuum gauge on the pump suction side and pressure gauge on the outlet, will allow for proper monitoring of the pumps working condition.

A main pipe running throughout all the vessel and collecting all branched-off pipe for bilge suction. All bilge suctions are controlled through el/valves and run to the main bilge collecting pipe to the E.R. compartment. E.R. valves to be manual.

Main Bilge water collecting pipe to be wasted directly overboard.

Electric Suction Valves fitted with Open/Close sensor connected to Ship Monitoring System and Manual control for Emergency operation.

As a general principle, each bilge line suction will be routed up to the lowest part of any space it is protecting. Suction end fitted with a foot check valve and suction strainer. Bilge Alarm fitted in proximity.

NOTE: Emergency Engine Room Bilge suction fitted on inner main engines raw water suction pipe.

400.2.3 Emergency Bilge pump

The Diesel pump, located outside machinery space, will have piping/valves so arranged to be able to be used for Emergency Bilge Service locally.

400.2.4 Bilge level alarms

Level switches will be installed in the bilge of each compartment and connected to alarms in the monitoring system.

400.2.5 Piping material

- Main Pipe – AISI 316 / PVC-U.
- Flexible hose (Short runs) – Reinforced rubber (or equivalent) from main pipe to end users.

Other materials as per Class approved drawings

400.3 Fire-fighting

System in accordance with Class regulations.

400.3.1 Equipment

- 1x E.pump Gianneschi® ACB 431 (or equivalent) – 24VDC
- 1x E.pump Gianneschi® ACB 451 (or equivalent) – 400VAC/3ph/50Hz
- 1x Emergency Pump outside Engine Room Gianneschi® P&B MBMA 50-160B Diesel
- Vacuum and pressure gauges

400.3.2 System overview

Two electric pumps providing necessary lift/pressure to the proper working of the system.

The two pumps can run each of them for a specific service (Fire-fighting / Chain wash or Bilge) or in parallel for the same service (both in parallel for Bilge or Fire-fighting).

Different settings of the pumps are through a proper number of electric three-way valves.

Vacuum gauge on the pump suction side and pressure gauge on the outlet, will allow for proper monitoring of the pumps working condition.

A Main pipe running throughout all the vessel. From this pipe branched off pipes running to Fire Fighting Connections.

Final number and position of Fire-fighting connection according to approved drawing and Class Rules.

Each firefighting connection provided with shut-off valve and fire-fighting gun having a delivery pressure according to Class rules.

400.3.3 Emergency fire-fighting pump

The Diesel pump, located outside machinery space, will have piping/valves so arranged to be able to be used for Emergency Fire-Fighting Service through the fire main and E.R. Isolation valve.

400.3.4 Piping material

- Main Pipe – CuNi 90/10.
- Flexible hose (Short runs) – Reinforced rubber (or equivalent) from main pipe to end users.

Other materials as per Class approved drawings

400.4 Chain-wash

System in accordance with Class regulations.

400.4.1 Equipment

- Electric remote operated valve (normally closed).
- System connected to fire fighting system

400.4.2 System overview

Opening a remote operated sea water valve, sea water will be injected through the nozzles integrated inside the hawse pipes.

Chain Wash starting will be provided in Ship Monitoring System.

400.4.3 Piping material

- Main Pipe – CuNi 90/10 / PVC-U.
- Flexible hose (Short runs) – Reinforced rubber (or equivalent) from main pipe to end users.

Other materials as per Class approved drawings

400.5 Tender garage drenching system

Tender garage is protected by a drenching system. Sea water supply directly from Fire-fighting system through a branching valve.

400.6 Fixed Fire Protection System for Engine Room

System in accordance with Class regulations.

400.6.1 System overview

Fire protection System achieved through the use of Five Fire Pro® (or equivalent) Potassium salt based Aerosol generators spread through the E.R.

Activation of the System through a “Emergency Panel” fitted close to E.R. main entrance, outer side. Interconnected with the Activation of the System:

- Audible Alarm
- Engine Room Fire Dumpers shut off
- Engine Room Fan/Blowers switch off
- Engines and Generators switch off
- Discharge after 20sec delays (if required from Class)

System monitoring panel integrated with test function

400.7 Fresh Water System

System in accordance with Class regulations.

400.7.1 Equipment

- Water pressure system: 2x E.pumps Gianneschi® JET 4 B C.E. 400V/3ph/50Hz (or equivalent);
- Hot water circulation system: 1x E.pump Gianneschi® Z25 230V/50Hz (or equivalent);
- Hot water Expansion tank: 1x Gianneschi® 20Lt (or equivalent);
- 2x Steel Boilers Gianneschi® 150Lt/each (or equivalent) / heating element 1.5+1.5kW;
- Reverse Osmosis Water maker 1x Idromar® / MC 3J, 180 lt/h (or equivalent);
- Fresh water sterilization system Idromar® (or equivalent);
  - 1x Water softener Idrofast (or equivalent);
  - 1x Silver Ion/Chlorine dosing station;
  - 1x Active Carbon Filter;
  - 1x UV Sterilizer;
  - 1x mesh Filter 10 Micron;
- Level gauge

400.7.2 System overview

Two electrical pumps, sequentially arranged with variable pressure controllers, will provide pressurized water to main distribution pipes. Distribution manifolds fitted on main distribution pipes, will supply fresh water to each end users.

One Reverse Osmosis Water Maker, fitted with all necessary gauges, filters, high and low-pressure pumps (three phase), will provide fresh water to fill fresh water tank when at sea.

One water softener will be installed on the fresh water shore filling line.

Before being distributed to end users, fresh water will be treated through a mesh Filter (to eliminate particulate), Carbon Filter (to eliminate chlorine), UV sterilizer (to kill bacteria).

Silver Ions/Chlorine will be injected into Fresh water tanks in order to fight growing of bacteria.

400.7.3 Hot Water System Description

Two stainless steel heating tanks, with sequential electrical heating devices, will be installed.

One hot water circulating pump will maintain a Hot Water Ring for end users supply.

Expansion tank on Hot Water Ring will allow for water thermal expansion during normal temp cycling.

Distribution manifolds fitted on hot water ring will provide hot water to end users.

400.7.4 Level gauge

Fresh water tank level provided by means of one electric system.

Tank monitored and provided with High/Low level alarm in Ship Monitoring System.

400.7.5 Piping material

- Main Pipe - Insulated Polyethylene with aluminium reinforce (or equivalent).
- Flexible hose – Insulated Polyethylene (or equivalent) from distribution manifolds to end users.

Other materials as per Class approved drawings

400.8 Grey Water System

System in accordance with Class regulations.

400.8.1 Components

- Grey Water “interface collecting tanks”: Planus Prolift® (or equivalent) 1x every 2/3 bathrooms with wasting pump 230VAC
- Discharge pumps: 2x Gianneschi® MV44G 230VAC/1ph/50Hz (or equivalent). (serving also black water system)
- Level gauges

400.8.2 System overview

Grey water from end users will be collected through small “interface collecting tanks” fitted in bilge space. Each tank will be fitted with a pump to waste grey water to the main grey water collecting pipe.

Main grey water collecting pipe will discharge into the grey & black water tank fitted in bilge space or directly overboard (depending on applicable regulation).

Grey & Black water tank will be provided with pressurized sea water connection for periodical washing purpose.

Main grey water collecting pipe will be provided with a spare connection for flushing through pressurized sea water.

Grey & Black water tank will be discharged overboard (under waterline) or ashore (through aft deck International Flange - Marpol Annex IV) by using one or two electrical pumps. Pumps can be bypassed in case of shore system direct suction.

400.8.3 Interface collecting tanks

Stainless steel small collecting tanks, one every two/three bathrooms, will be fitted

Tanks provided with internal Waste pump controlled through a pressure switch. When level in the tank reach a minimum value, then the pressure switch automatically activate the waste pump to discharge into the main line.

400.8.4 Level gauges

Grey & Black water tank level provided by means of one electric system.

Tank monitored and provided with High/Low level alarm in Ship Monitoring System.

400.8.5 Piping material

- Main Pipe – PVC-U (or equivalent).
- Flexible hose – Reinforced rubber (or equivalent) from main pipe to end users.

Other materials as per Class approved drawings.

400.9 Black Water System

System in accordance with Class regulations.

400.9.1 Components

- Discharge pumps: 2x Gianneschi® MV44G 230VAC/1ph/50Hz (or equivalent). (serving also grey water system)
- Level gauges

400.9.2 System overview

Black water from end users will be pumped to the black water collecting pipe and then discharged into the black & grey water tank fitted in bilge space or directly overboard (depending on applicable regulation).

Grey & Black water tank will be provided with pressurized sea water connection for periodical washing purpose.

Main black water collecting pipe will be provided with a spare connection for flushing through pressurized sea water.

Grey & Black water tank will be discharged overboard (under waterline) or ashore (through aft deck International Flange - Marpol Annex IV) by using one or two electrical pumps. Pumps can be bypassed in case of shore system direct suction.

400.9.3 Level gauges

Grey & Black water tank level provided by means of one electric system.

Tank monitored and provided with High/Low level alarm in Ship Monitoring System.

400.9.4 Piping material

- Main Pipe – PVC-U (or equivalent).
- Flexible hose – Reinforced rubber (or equivalent) from main pipe to end users.

Other materials as per Class approved drawings

400.10 Fuel Oil System

System in accordance with Class regulations.

400.10.1 Equipment

- 1x Fuel Priming & Tender Filling E.Pump: Gianneschi® CP 20 A1 24VDC (or equivalent);
- 1x Priming Pump: Gianneschi® Excelsior 1 GB (or equivalent);
- Engine Fuel Pre filter: Racor - Parker 75900FHX10 - Duplex (VP supply) with water alarm sensor
- DDGG Fuel Pre filter: Racor - Parker (diesel generators supply).
- Tank Level gauges

400.10.2 System overview

Fuel filling connections will be fitted one on the main deck portside E.R. Entrance and one on the main deck starboard side locker (connection caps for gravity filling).

Fuel Pre-filters for Main Engines and DDGG will be provided with drip tray and Vacuum indicator.

Fuel returns will go back to the fuel tank.

Priming System can draw fuel directly from the main tank and serve each prefilter separately.

400.10.3 Tender fuel station

A re-fuelling line to the garage, to supply the main tender, will be provided.

System will provide fuel under pressure for the Tender through a Fuel Gun.

400.10.4 Level gauges

Fuel level indication on main Tank by means of two different system: one electric and one connection for manual sounding pipe.

Tank monitored and provided with Very High/High/Low level alarms in Ship Monitoring System.

400.10.5 Piping material

- Rigid Pipe – Stainless Steel AISI 304
- Flexible hoses – Armoured hose with end fittings Parker® (or Equivalent) - approved type from Class Society

Other materials as per Class approved drawings

400.11 Oil System

System in accordance with Class regulations.

400.11.1 Equipment

- 1x Oil Pump: Gianneschi® FQ 15 electric Pump (or equivalent);

400.11.2 Sludge Oil System descriptions

One Sludge oil pump will be installed for transfer of the exhausted lube oil from the users to the Shore International Flange (Marpol Annex I).

400.11.3 Piping material

- Rigid Pipe – Stainless Steel AISI 304
- Flexible hoses – Armoured hose with end fittings Parker® (or Equivalent) - approved type from Class Society

Other materials as per Class approved drawings

400.12 Sea Water Cooling System

System in accordance with Class regulations.

400.12.1 System overview

Two main sea water intakes will be provided, fitted with inside strainers and interconnected through a crossover pipe.

Diesel Generators and Auxiliary Machinery will draw sea water from these sea water intakes.

One sea water intake will be provided for each Main Engine, fitted with inside strainer.

400.12.2 Piping material

- Main Pipe – CuNi 90/10.
- Flexible hose – Armoured hose with end fittings, Parker® (or Equivalent) - approved type from Class Society

Other materials as per Class approved drawing.

400.13 Engine Room Ventilation System

The engine room ventilation system shall include balanced supply (combustion air) and exhaust systems.

Air Intake/Outlet duct dimension are designed considering air speed in order to reduce noise.

Air Intakes will be provided on the Aft Part of the Vessel, Port and Starboard side according to what shown on GA.

Exhaust Air will be discharged on the Aft Part of the Vessel, Port and Starboard side according to what shown on GA.

Calculation of airflow required for ventilation (engines and generators air combustion and heat removal for all machinery) will take into consideration the maximum external temperature for normal operating conditions (35 °C) and the maximum allowed internal temperature (50 °C).

The main engines and generators will draw combustion air directly from the engine room.

The system will have the capability of setting different scenarios (Cruise, Harbour, etc.) corresponding to different Blower/Fan speed

400.13.1 Supply Air and Exhaust Air

Machinery space will be ventilated with fresh air by means of variable-speed reversible axial fans.

Axial flow fan/blowers will provide combustion air to the main engines and generators and for adequate engine room ventilation.

Centrifugal exhaust extractor will be able to draw exhaust air from the Engine room.

400.13.2 Ducts

The ducts shall be:

- fitted with fire shutters;
- fitted with water mist eliminator filters on air intakes (custom design);
- fitted with decorative grilles at the exterior.

400.14 Extraction Air System

In accordance with the requirements of the Classification Society Requirements.

400.14.1 Extraction Fans

Tough reinforced plastic in-line flow fans.

Final Number and Model of Extraction Fans will be defined according to Final GA.

400.14.2 System overview

Extraction fans fitted for all sanitary spaces will provide air extraction for all accommodation areas.

Specific Extraction fans will be provided for Electrical Room.

400.14.3 Piping/Duct material

- Galley Air extraction duct - aluminium or steel (*).
- Bathroom Air Extraction - flexible duct round section.

(*) according to Class Rules

All the metal ducts shall be thermically insulated on the exterior side to avoid condensation from the hot humid external air and the a/c dry cold air for the interiors

400.14.4 Extraction Fans for Tender & jet Skis garage

- Extraction Fan, type EEXD with reduced flow sensor and alarm will be installed,
  Air extraction duct - aluminium or steel (*).

(*) according to Class Rules

400.15 Refrigeration system

400.15.1 Refrigeration System Design Criteria

- Fridge & Bar temperature range 02 °C / 36 °F to 10°C / 50 °F
- Freezer temperature range -20 °C / -4 °F to 10°C / 50 °F
- Sea water temperature: max. 30°C / 86 °F

400.15.2 Fridges / Freezer / Bar fridges

Refrigerated Cellars for a total aggregate capacity depending on final general arrangement will be installed.

Two independent circuits / compressors serving the cellars and divided in order to guarantee the redundancy of servicing capacity.

Sea Water Heat exchanger will be provided on hull side for each circuit.

400.15.3 System Overview

Custom Made Fridges will be installed.

- Insulated with polyurethane foam and internally/externally lined with 1mm Stainless Steel sheets.
- Each compartment provided with a specific thermostat to be set in °C or °F.
- Automatic switch for light on and blowers off when door is open
- Doors boundary with heating system in order to avoid condensation
- Condensed water heated discharge
- Compressors remotely installed

Final Fridge capacity and layout as per approved GA

400.15.4 Bar Fridges

Three Custom Made Bar Fridges will be installed inside furniture and connected to the main fridge circuit.

Final capacity and layout as per approved GA.

400.16 HVAC

400.16.1 Air conditioning Design Criteria

The air conditioning system will be designed on the following parameters:

Summer conditions:

- External air 38 °C – 100 °F, HR 80%
- Internal air 23 °C – 73 °F, max HR 45±5%

- Sea water temperature: max. 30°C - 86 °F

Winter conditions:

- External air 0°C / 32 °F,
- Internal air 22 °C / 72 °F, max HR 45±5%
- Sea water temperature: min. 5°C / 41 °F

400.16.2 Main system chiller unit

- 1x seawater cooled chiller unit Frigit® C18S (or equivalent) - 400VAC, 3Ph, 50 Hz with:
  - 3x Refrigerator circuits
  - 3x Compressors
  - 3x Cylinders;
- total refrigeration output 277 000 BTU/h;
- total heating output 332 000 BTU/h;

Sea water condenser composed by two elements in cupro nichel with wide surface in counter-current; outer surface in Copper welded with Silver alloy (30%);
Water/Gas heat exchanger with two circuits, composed by two interchangeable elements, completely made of copper and insulated with expanded Polyuretane; no-frost protection on each circuit;
Anodic protection on the evaporator and on the sea water condenser;
Display with visualization of inlet/outlet treated water temperature;
System protected by a Stainless Steel cover with variable thickness.

400.16.3 Fan Coils

- Fan Coils provided with a multiple velocity selector. Controlled through an electronic thermostat with the visualization of the temperature [°C/°F].
- Painted Aluminium structure;
- Isolation valves
- Cleanable Air Filter
- Thermo-acoustic insulation in self-extinguishing material;
- Water collecting tray with drainage;
- Thermal exchange through wings battery in Aluminium/Copper, pitch 2.1mm for a high dehumidification;

Final Number and Model of Fan Coils will be defined according to Final GA.

400.16.4 Air conditioning sea water pumps

Two sea water pumps, according to A/C supplier specification, will be provided for the chiller unit, one in standby to the other.

Pumps installed on silent-blocks and provided with isolation valves and drip-tray.

400.16.5 Chilled water pumps

Two pumps, according to A/C supplier specification, will allow chilled water circulation, one as stand by to the other.

Pumps installed on silent-blocks and provided with isolation valves and drip-tray.

400.16.6 System overview

The Chiller Unit fitted in Engine Room space, will provide treated water (cooled/heated) to a Main Distribution ring running through all the vessel.

Chiller Unit will be cooled down by means of a sea water system including sea water circulation pump and sea water/treated water heat exchanger.

All fan Coils will be connected to the Main Distribution Ring and provided with isolation valves (in/out treated water) and easily removable Air Filter.

In general, all living quarters and interior spaces shall be provided with fan-coil units.

In winter time the system will circulate heated water, supplied by the A/C unit working in reverse cycle as heating pumps.

Air Outlet from fan Coils will be carefully considered in order to avoid noise due to restriction or excessive speed.

400.16.7 Piping/Duct material

- Treated water Main Pipe – Copper; will be insulated (*) with K-Flex ST (or equivalent);
- Treated Water Connection to end users - insulated Flexible Hoses (short runs);
- Sea water Pipe – CuNi 90/10;
- Sea water Flexible hose – Armoured hose with end fittings, Parker® (or Equivalent) - approved type from Class Society;
- Fan Coil air outlet ducts - round section of the pre insulated spiral type tube.

(*) Insulation will be continuous in way of brackets, hangers, elbows, T-connections, etc.

400.17 Compressed Air system

System in accordance with Class regulations.

400.17.1 Components

- Compressor: 1x Air compressor 230VAC, 1Ph, 50 Hz
- Electrically operated valve with manual Control
- Whistle – Kahlenberg® S0

400.17.2 System overview

Air Compressor will provide Air Under pressure to air tank and end users.

Compressor and air tank will be fitted with Manometer and in-line Drain Valve.

System to allow Compressed Air distribution to:

- Engine Room for Tools
- Garage
- Fwd Deck technical locker
- Horn.

An emergency Manual Control valve, in proximity of the horn, will be fitted to allow emergency operation under blackout.

400.17.3 Piping material

- Flexible hose – Armoured hose with end fittings, Parker® (or Equivalent) - approved type from Class Society

Other materials as per Class approved drawings

400.18 Scuppers

System in accordance with Class regulations.

400.18.1 System overview

All weather decks will be drained by scuppers, positioned in areas where water is likely to collect.

Scuppers will be positioned along the lowest point of the sheer.

Discharge will be directly above the loaded waterline.

Removable polished stainless steel gratings at the deck level will be fitted to facilitate cleaning and maintenance.

400.18.2 Piping material

- Main Pipe – Stainless Steel AISI 304 inside E.R. space.
- Main Pipe – PVC-U outside E.R. space.

Other materials as per Class approved drawings.

500 Electrical system & Electronics

500.1 Electrical system

In accordance with the requirements of the Classification Society Requirements.

500.1.1 Voltage and services

Heavy consumers	400 VAC/3ph with neutral / 50Hz
Small users	230 VAC/1ph
Lighting and light consumers	24 VDC
Emergency lighting	24 VDC
Navigation	230VAC/1Ph - 24 VDC

500.1.2 Main components

- Shore power transformer:
  - Input: 400Vac ±5%, 50Hz, 3 phases
  - Output: 400Vac, 50Hz, 3 phases + neutral (grounded)
  - Output power: 50KVA
- Diesel Generators: 2x 35kW (each) - 400 VAC/3ph 50Hz;
- 24 VDC battery banks
- 24 to 12 VDC converters for 12-volt consumers
- Battery Chargers

500.1.3 System overview

Yacht main power supply 400 Volt AC, 50 Hertz three phase four wire system with neutral grounded.

Power supplied by two generators, capable of running in automatic managed split bus-bar system, or by Shore Power connector.

Secondary supply 230 VAC 1ph or 24 Volt DC.

Both AC and DC system's monitoring and controlling equipment will be housed in a specific section of the main switch board.

12 Volt DC consumers equipped with 24-12 Volt DC converters.

Each generator fitted with a specific protection device.

Power management system monitored through an advanced Ship Centralized Monitoring System.

500.1.4 Power Management System (PMS)

Power management system will be a standalone PLC based; data exchange to Ship monitoring system is used to visualize all parameter on displays.

PMS will provide:

- automatic parallel of generators in case overload (threshold can be set)
- automatic discharge of one generator in case of low load. (threshold can be set; PMS can be set in two different modalities: 1) unload higher running time; 2) first generator IN for parallel will be first OUT for unload).
- Seamless transfer of Load between Generators and between Generators and Shore Power.
- Meyer capability, in case of overload air conditioned and galley equipment will be switched off (priority and logical sequence can be set)
- in case of black out, generator designed as "primary stand by" will start automatically; in case of starting failure, second generator will start. Once shore power restored, system automatically transfer power and shut down generator.

Ship Monitoring System is controlling and supervising the Power Management System

In case of pre-alarm for overload the System automatically start and parallel the second DDGG.

500.1.5 Installation guidelines

All electrical equipment, wiring, cables, fixtures and the complete installation will be in accordance with good practice and workmanship as is applicable on board of top quality vessels.

All electrical equipment will be located so that it is accessible for maintenance or repair.

An electrical load list shall be compiled at the earliest possible moment

Except for small motors with a capacity of less than 1 Kw or anywhere else specifically requested, only three phase induction motors shall be acceptable.

All motors to have a water-tight terminal box.

500.1.5.1 Insulation and protection

All electrical equipment containing horizontal and vertical bus-bars will have such bus-bars fully insulated to prevent accidental contact.

Live connections, terminals, etc., will be protected by space barriers, or fabricated covers or guards.

All doors, covers and barriers of high voltage equipment will display a warning notice indicating the presence of dangerous voltages.

500.1.5.2 Cables and wiring

All the main and supply circuits will be made with insulated cables of a type approved by the Classification Society.

All cables terminals will be identified by means of proper labelling.

Cables to have crimped (compression) type terminations where necessary.

Screened cable also will be used for low power equipment liable to be affected by strong magnetic or electrostatic fields.

All cables will be secured and supported in accordance with good practice.

All connection boxes will be identified, accessible and protected from moisture.

Lighting wiring will be executed in cable suitable for marine use.

All bulkhead penetrations will be made with water tight glands or other Class approved system.

Cables that are at risk of being chaffed where they pass through girders etc., will be protected.

All the cable runs will be neatly executed and well secured and supported. Cables running through the technical and machinery spaces will be run on cable trays in accordance with good practice.

500.1.5.3 Cable trays

Cable tray route will be designed to facilitate, as far as practicable, easy inspection and maintenance.

Cable trays will be made of painted aluminium.

In the cabins and the living areas all wiring will be concealed behind panels and ceiling linings. Outside of the vessel or where exposed to potential weather or mechanical damage, they will be properly sheathed or protected.

500.1.6 Shore Power connections

The shore power connection will be fitted in the aft technical space.

One shore power cable of 25 m in length and having suitable capacity.

500.1.7 Diesel generators

Two Diesel Power Generators 35kW each, capable of running in parallel or single operation.

Automatic start, paralleling and load sharing system for the generators to allow unmanned management of the whole electrical system.

Seamless transfer of Load between Generators and between generators and Shore power.

500.1.8 Switchboards

500.1.8.1 Main switchboard

Main Switchboard designed and built in accordance with the requirements of the Classification Society.

Main switchboard will be positioned in the engine control room, made of aluminium framing and plating.

All panels, where feasible, will be hinged or removable with quick release locks.

Main switchboard will incorporate a copper bus-bar system with protection and control gear for the power sources and main distribution.

Main switchboard will incorporate circuit breakers, contactors and relays, and instruments for main generators and shore power supply.

500.1.8.2 Distribution panels

Built in a light alloy, galvanized steel, PVC or aluminium box with painted panels.

Containing automatic circuit breakers for different lines or circuits

Cable penetrations, coming in from side or from underneath, with drip loops and by means of appropriate fittings.

Industrial watertight type boxes for technical spaces.

One switchboard with two different bars, one for AC and one for DC sub-switchboard will be installed in the wheelhouse, with AC and DC circuit breakers for the navigation and electronic users and all external equipment.

500.1.8.3 Emergency switchboard

The emergency switchboard will be fitted close to the Wheelhouse and will power supply to:

- Emergency lighting;
- Navigation Lights
- Navigation and Communication Panel

Final list of circuits to be powered in emergency condition in accordance to Class rules.

500.1.9 Batteries

All batteries will be installed in battery boxes as per Classification Society rules.

All batteries will be Gel or AGM Type.

500.1.9.1 Services Battery pack

One bank of approximately 600Ah as auxiliary power supply.

Battery pack (sealed maintenance free type) charged by:

- Alternator of Main Engine
- Battery charger

24 VDC consumers shall include but not be limited to:

- Navigation lights
- Part of spot lights
- Part of navigation electronics
- Part of Audio-Video system

500.1.9.2 Main Emergency Battery pack

One bank of approximately 210Ah with battery charger.

Bank to be capable of supplying following services for a period of 3 hours:

- Navigation lights
- Emergency lights
- Spot light on the arch
- VHF
- SSB (if installed)
- Compass light

500.1.9.3 Secondary Emergency Battery pack

One bank of 56Ah with battery charger.

Bank to be capable of supplying following services for a period of 3 hours:

- VHF
- SSB (if installed)

500.1.9.4 Engine Starting Systems

Starting systems of the Main Engines 24 VDC through one Battery pack (each engine).

Battery pack (sealed maintenance free type) according to engine manufacturer recommendation charged by:

- Alternators on the main engine;
- Specific battery charger

NOTE: Only in “Emergency” condition Change Over will be provided between different engines battery packs.

500.1.9.5 Generator Starting Systems

Starting systems of Generators 12 VDC through one Battery pack (each DDGG).

Battery pack (sealed maintenance free type) according to engine manufacturer recommendation charged by:

- Alternators on the Generator;
- Battery charger

NOTE: Only in “Emergency” condition Change Over will be provided between different DDGG battery packs.

500.1.9.6 Services Battery Pack

One bank of 600 Ah with battery Charger as auxiliary power supply.

Distribution system is two wires with negative pole grounded.

Battery pack GEL type (sealed maintenance free type) charged by:

- Battery charger having a capacity of 100 A

500.1.10 Lighting

All lights will be 24V DC LED. All lighting circuits protected through circuit-breakers fitted on the distribution panels.

All Interior and Exterior lighting design and type in accordance with Interior/Exterior design.

Dimmers will be fitted in all guest areas and corridors lights.

All accommodation light switches and equipment will be selected according to the Interior Design.

Internal lighting will be provided inside all wardrobes, with door switches.

Reading lights will be fitted to the bed heads in Owner's, Guest's and Crew Cabins.

Low intensity red lights will be installed in wheelhouse deck head and two adjustable chart lights for safety running of the yacht during night navigation.

All instrument and pilot lights in wheelhouse console will be provided with dimmers.

Type and number of Underwater lights according to Exterior Lighting Design.

Search lights (if fitted) on the deckhouse or radar arch and remote controlled from wheelhouse.

500.1.10.1 24VDC Emergency lighting

Emergency lights system is automatically supplied by emergency battery in case of blackout as prescribed by the Class.

500.1.11 Navigation lights

Navigation lights in "double light" fixtures will be provided.

Navigation lights will be powered by service and emergency 24V DC system.

Control of navigation lights integrated into the Ship Monitoring System with audible and visual alarm in case of light failure.

500.2 Ship Monitoring System

Monitoring system is a PLC based platform used to supervisor and control all primary equipment of vessel.

Every information regarding fault, malfunction and alarm will be displayed on the specific monitor.

500.2.1 Power Supply and Architecture

System is supplied by service batteries bank and Emergency battery.

PLC is installed in the main cabinet as some I/O modules. Other I/O module is installed under pilot bridge and in the guest area. All the modules communicated to PLC using Ethernet IP bus, ring connection, CAT6 cables.

500.2.2 Monitors

Touch screen monitors used as Human-machine interface.

500.2.3 Alarm Management

Every alarm shall be acknowledged to stop the audible signal by proper push button on alarms page. If alarm condition persists, text displayed remain in red. If alarm is condition and is not active, text displayed in green. Alarms is displayed with information regarding time of alarm activation and deactivation. A dedicated button on alarm page is used to delete only non-active alarm string. When alarm deactivated, it will be stored in History alarm page.

Alarm list is including, but not limited to, the followings:

- Bilges Level
- Fuel Tank High and Low Level

- Fresh Water Tank High and Low Level
- All other Tanks High level
- Electrical Systems
  - Shore and DDGG Voltage, Amperage, Frequency
  - Voltage Starting Batteries
  - Voltage and Amperage Service Batteries
- Engine Room fixed fire-fighting protection system.
- Navigation Lights
- Open/Close status for Hatches, Port lights, Watertight Door, Hull Doors, Passerelle, etc.
- Fire Detection System
- Etc.

500.3 General Alarm

The general alarm acting as a distinct sound sequence and audibly available in all the machinery spaces and throughout the crew and accommodation areas.

System powered through Emergency Battery pack.

500.4 Cathodic protection

A cathodic protection system of fixed zinc anodes will be fitted to the underwater body.

Number and location of the anodes will be in accordance with the zinc manufacturer's recommendations.

Particular attention will be paid to the transom area and bow thruster tunnel.

All piping will have electrical continuity by means of copper connections where rubber gaskets are fitted between two pipe lines.

500.5 Smoke Detection System

System in accordance with Class regulations.

A smoke detector system supplied by Autronica® (or equivalent) will be installed in accordance with Manufacturer requirements.

500.5.1 Components

- Central fire alarm panel, in the wheelhouse (technical space)
- Smoke detectors in each accommodation area
- Smoke detectors in engine room and garages
- Heat detectors in galley and ER
- Acoustic alarm at wheelhouse

- Alarms in Engine Room, Accommodation areas, Owner's suite, Wheelhouse and Crew areas
- Call point in proximity of escape exits

500.5.2 System overview

An addressed Fire alarm system with control unit fitted in wheelhouse.

System normally powered through 230Vac. Backup Battery pack fitted for Black-out/emergency condition.

A bus interface will be provided to monitoring system.

The fire alarm system connected with the manual Call Points throughout the yacht.

Number and position of all equipment/sensors in accordance with approved Fire and Safety Plan.

500.6 Navigation and Communication systems

500.6.1 Navigation and nautical equipment

Navigation equipment refers to "Mangusta GS 33 Navionics Specification" attached to the contract.

500.6.2 Communication equipment

Communication equipment refers to "Mangusta GS 33 Navionics Specification" attached to the contract.

500.7 Audio and Video system

500.7.1 Entertainment systems

TV/Audio equipment refers to "Mangusta GS 33 Audio / Video Specification" attached to the contract.

500.7.2 Satellite TV

One satellite antenna provided for digital TV and Radio signals.

Decoders (Owner's supply) connected to the entertainment system.

500.7.3 CCTV System

Security camera system provided to monitor different areas of the vessel. Final configuration/number according to approved CCTV Plan.

The following areas will be monitored:

- Engine Room;
- Aft Main Deck
- Anchors

CCTV equipment refers to “Mangusta GS 33 Auxiliary Specification” attached to the contract.

600 Deck Machinery & Outfitting

600.1 Mooring Equipment

Design and Installation in accordance with Class Rules.

600.1.1 Anchor windlass

Two Vertical Anchor Windlass 4kW - 400VAC/3ph/50Hz will be fitted on the fore deck.

- warping drum
- chain rollers
- chain stopper
- two remote controls wire connected for windlasses operation
- foot controls

Power and speed will be according to Classification Society requirements.

600.1.2 Capstans

Two Capstans 2,2kW - 400VAC/3ph/50Hz will be fitted on the aft deck.

- warping drum
- foot controls

Power and speed will be according to Classification Society requirements.

600.1.3 Anchors

Two Galvanised High Tensile Steel anchors supplied from Posidonia® (or equivalent) of 140Kg (each) mod. Super High Holding Power.

Size and weight will be according to Classification Society requirements and covered from Class Certificate.

600.1.4 Anchor chains

Two length of 123,75 meter galvanised chain D. 12mm studless will be installed.

Size and length will be according to Classification Society requirements and covered from Class Certificate.

600.1.5 Chain rollers

Polished stainless-steel chain rollers will be fitted for each anchor chain at the top of the hawse

pipe.

600.1.6 Chain stopper

A polished stainless steel chain stopper will be installed for each chain.

600.1.7 Chain quick release

Anchor chains will be connected to the hull by a quick release system to allow release in emergency conditions.

600.1.8 Mooring bollards

Mooring bollards in polished stainless steel with stopper rings will be fitted.

Bolted to the main deck, two on the forward area, two on the aft, two amidships.

600.1.9 Fair-leads

Two fair-leads, in polished stainless steel, will be provided on bulwark side (one on each side) for side spring mooring.

Two polished stainless steel fair-leads with rollers will be provided on the aft mooring area.

Two polished stainless steel fair-leads with rollers will be provided on the forward mooring area.

600.1.10 Mooring lines

Four black 28 mm diameter polyester double braided - 20 mt each, with one meter spliced eye with chafe protection in black leather, will be provided.

600.1.11 Towing line

One black 28 mm diameter polyester three strand line -100 mt towing line, will be provided.

600.1.12 Side fenders

Eight sausage inflatable PVC fenders 14”x36” and 2 balloon inflatable PVC fenders (or equivalent) will be provided.

600.2 Stairs, Gangways, Ladders, Handrails

600.2.1 External stairs

External steps will be covered in teak and fitted with stainless steel handrails.

A removable access ladder will be provided on the mast for easy equipment inspection and maintenance.

600.2.2 Gangway

On starboard side, one Sanguineti® stern gangway will be provided.

The gangway will be of aluminium construction with lighting, teak grating and stanchions.

Gangway will be arranged to slide out from stowed position by electric/hydraulic operation and to be stowed in a recessed longitudinal position as per General Arrangement.

The gangway will have tilting capabilities (15° both up and down).

Stern Gangway control will be through a fixed panel recessed into the bulwark or furniture and four wireless remote controls.

Maximum load 180 kg.

In/Out position will be “alarmed” and indicated in the Ship Monitoring System

600.2.3 Infinity Terrace and Swimming Stair

On stern platform, one Sanguineti® automatic extendible platform will be provided in order to increase the beach area floor.

When platform is in extended position, one Sanguineti® swimming stair will be arranged to fold down from stowed position by hydraulic operation.

Stair control will be through a fixed panel recessed into the bulwark or furniture.

In/Out position will be “alarmed” and indicated in the Ship Monitoring System

600.2.4 External handrails

Polished stainless steel /glass handrails will be fitted on bulwarks as shown on the General Arrangement drawing.

The characteristics of the handrails will be according to the Class rules.

600.3 Lifting devices

600.3.1 Crane for Tender and Jet Skis

In the Garage one Sanguineti® hydraulically operated beam crane with adequate lifting capacity will be provided.

The crane will provide safe launching and retrieving of Tender and Jet Skis.

Hydraulic Power through a Sanguineti® 400VAC hydraulic power pack, provided with hand pump and solenoid valves for emergency operation.

600.4 Tender

A Williams® DieselJet 505 Jet Tender will be supplied.

600.4.1 Boat chocks

Teflon (or equivalent) boat chocks with protective covered padding will be provided for tenders and jet-ski (if provided).

600.5 Hull and Bulwark Openings

600.5.1 Hull Openings

Hydraulic and manual GRP doors will be provided as shown on General Arrangement drawing.

Connecting surfaces will be painted to match the surrounding area.

Generally, hinges will be designed with a high quality finishing with consistent minimal gap around.

600.5.1.1 Stern Hull Door

One Aft Door will be built according Class requirements.

Emergency operation of the door will be possible by hand operated pump.

Open/Close position will be indicated in the Ship Monitoring System

600.5.1.2 Bulwark doors

Hinged doors, for access to side embarkation, will be provided in to the bulwarks. Position according to General Arrangement drawing.

When closed, locks to secure against opening underway will be provided.

600.6 External Doors

External doors will be hinged or sliding Weather-tight or pantograph and built in accordance with Class requirements.

Where needed, the inside of the doors will be lined according to the interior finishing.

Open/Close position of each external door and porthole will be shown on the Ship Monitoring System.

Glazing thickness/composition will be designed to comply with Class requirements.

Glazing will be “clear” or tinted matching the adjacent windows.

Final position/number/type of Doors according to General Arrangement.

All exterior doors will have polished stainless steel or painted frame and hinges (to match the surrounding area according to the Renderings) and waterproof marine type locks with chromed or stainless-steel face plates (where necessary).

600.6.1.1 Sliding Doors

- Main Deck - One Saloon Aft door (electrically operated)
- Main Deck - Two Saloon Side doors (one each side, manually operated)
- Main Deck - One Lobby Stbd Side door (electrically operated)

The electric doors will be fitted with selector switch for manual, semi-automatic and automatic operation.

Manual Operation/override to be provided.

600.6.1.2 Hinged or Pantograph Door

Manually operated.

Door structure in Aluminium Alloy or GRP painted to match surrounding Superstructure.

Multiple dogging points to be provided.

600.7 External Hatches

Position and number of External Hatches in accordance with final General Arrangements and drawing approved from Class.

All External hatches will be fitted with drain fittings.

Hatches will be fitted with arm type hinge or equivalent.

Heavy hatches will be fitted with gas strut to assist for easy opening

As a general principle, all hatches giving access to internal spaces will be alarmed.

All hatches will be flush with hinges (inside or outside depending on Designer's final design).

600.8 Internal Hatches

Hinged or removable hatches will be used for access to small compartments or escapes.

600.8.1 Emergency Escape

Emergency escape hatches/doors will be fitted in accordance with Class Rules.

Open/Close position will be "alarmed" and indicated in the Ship Monitoring System if connected to external decks.

600.9 Windows

Fixed windows installed in recesses above the freeboard deck will be located and dimensioned in accordance with the approved General Arrangement Drawings.

Special attention shall be paid to the proper alignment of all windows both in relation to the shell sides and the interior of the accommodation area.

Windows thickness/composition will be designed to comply with Class requirements.

Windows will be bonded to recesses by means of Sika® Specific Adhesive (or equivalent). A black serigraphy on the windows boundary will provide exterior finishing/hiding of the bonded area. Installation will be in accordance with Class rules.

Except for Navigating Bridge where "clear" glass is mandatory, other windows will be generally "Europe Grey" tinted.

600.9.1 Window wipers

Three Heavy duty stainless steel electric window wipers will be fitted on the forward wheelhouse windows, suitable for marine use, with a selector switch for intermittent running.

A fresh water spray, operated by a push button acting on a solenoid valve mounted on the wheelhouse console, will be provided for the windows washing system.

600.10 Portholes

Portholes will be provided according to the Classification Society requirements.

Number and position as shown on the General Arrangement.

All porthole recesses will be angled to drain water under normal trim.

600.11 Navigation Lights and Signalling equipment

Navigation Lights arrangement will be in accordance to COLREG ‘72.

600.11.1 Navigation lights housing

Side navigation lights will be installed in proper position integrated in the superstructure design and black mat painted.

Stern light will be installed in the area of Sun Deck flag pole.

Anchor, Masthead & NUC lights will be installed on the Sun Deck roof structure.

600.11.2 Signal shapes

Two folding black shapes, one ball and one diamond.

600.11.3 Horn

Fixed electric/pneumatic horn, in accordance to COLREG ‘72, will be provided.

600.12 Safety Equipment

Safety equipment to be provided in compliance with Class and Flag Rules for Private Yachting Service.

600.12.1 Safety signs

Where required by Flag Authority, safety sign will be fitted. They will be in plastic material or framed paper.

600.12.2 Fire extinguishers

Foam, powder or CO2 fire extinguishers will be provided.

Type and number will be in accordance with Class Society requirements.

600.12.3 Fire blanket

One fire blanket will be provided in the main galley. Further Fire blankets to be provided on

Class request.

600.12.4 Medical kit

A medical kit compliant with Flag Authority requirements for private service will be provided, store included.

600.12.5 Life rafts

Life rafts number/capacity will be provided, as per Flag State authority requirements for private service. Hydrostatic release and survival kit (SOLAS approved package B) included.

600.12.6 Life rings

Life rings with yacht's name and port of registry will be fitted.

600.12.7 Parachute flares

Parachute flares and smoke signals will be provided.

600.12.8 Life jackets

Life jackets of hard foam standard type will be stowed onboard. Life jackets for children, adults and adult oversized will be provided. All of them will be of approved type.

600.12.9 Light buoys

Two automatic light/smoke signals, with floating lines will be provided.

600.12.10 Boat hooks

Two boat hooks, 3,5m length will be provided.

600.13 External Outfitting

600.13.1 External ceilings

External ceilings will be made in GRP or marine plywood (or equivalent), painted to match the superstructure colour or design.

Panels will integrate lights and speakers and will have all removable sections to access hidden equipment.

600.13.2 External canvas shades

External manual canvas shade with polished stainless steel removable poles will be provided for Sun Deck aft & fwd dining area.

600.13.3 External furniture outfitting

Hinged doors will be with stainless steel fittings and hardware (unless differently agreed).

600.13.4 Tables

Securely fixed but simply removable (if possible) tables as per the General Arrangement Drawing.

Final arrangement of Exterior woodwork supply in accordance with General Arrangement Plan.

600.13.5 Yacht name

On yacht’s Stern Door name will be fitted with polished stainless steel back-lit letters.

The port of registry name will be fitted in polished stainless steel on the stern.

The Yacht Name font type will be Owner's choice and is to be supplied to the Builder during the design stage.

600.13.6 Flag pole

A polished stainless steel flagpole will be fitted on the stern.

A bow staff for the club burgee shall be fitted on top of the bow pulpit

600.14 Lockers, Fill Boxes and Connections, Casing and Grilles

600.14.1 Deck Lockers

Deck lockers, with natural ventilation where possible, will be provided according to available space.

Lockers will be provided with polished stainless steel handles/hinges and gasket in order to be weather tight.

600.14.2 Fill boxes and Connections

- Fuel oil gravity filling connections on Portside and Starboard inside a protected area, with appropriate drip trays for the fuel oil gravity fillings.
- Fresh water gravity filling connections on Portside in a dedicated locker.
- Fresh water pressure filling connection on stern locker starboard side.
- Grey and Black water, sludge oil shore discharge connections will be provided in a locker on Starboard side aft.
- Shore Power Cable penetration will be provided in a locker on Starboard side aft.

Connection flanges according to MARPOL where required from Rules.

600.14.3 Casings and Grilles

Casings are planned for:

- Air extraction system.
- Galley Hood exhaust

Drainage of casings will be provided where needed.

Inspections for cleaning will be installed inboard of the casings, where needed.

600.15 Technical Spaces

The forepeak and other convenient areas for storage will be shelved with high side racks and shelves suitable for the storage of plastic boxes (owner supply). All storage structures will be heavy duty, bolted, screwed or glued to the structure of the vessel.

A tool chest supplied by the Owner, according to the available space and in a time frame according to the production schedule, will be installed by the shipyard in the engine room.

600.15.1 Engine Room

All equipment will be installed according to Class Rules.

Intent will be to allow easy maintenance of all apparatus.

Floor will be made out easily removable anodized Aluminium plates.

Polished stainless-steel handrail will be provided where needed.

Working Bench and space for Toolbox storage will be provided according to the final installation.

600.16 Whirlpool Bath

One custom made sea water Whirlpool Bath will be fitted on the bow area as per General Arrangement drawing.

Pool will be provided with:

- Sea water supply and “in line heather” having a capacity of 9kW.
- Hydro-massage with “nozzles” outlet position according to final geometry of the whirlpool.
- Lighting System having number/positions of lights according to final geometry of the pool.
- Quick Release/discharge of water overboard, according to Class Rules.
- Fresh water filling connection from dock (harbour operation)

Final arrangement of Infinity Pool according to General Arrangement.

700 Fairing, Painting, Insulation and Noise Control

700.1 Fairing and Painting General

Interior and exterior will be painted and protected including inside and outside hull and the superstructure such as deck heads, lockers and seating awning areas.

External painting, except for final touch up, will be applied under cover in an environment properly prepared.

During the painting process all items not to be painted will be covered for protection.

700.1.1 Underwater hull painting

Two coats of anti-fouling will be applied on the underwater hull.

700.1.2 Internal painting

Where minor lamination or cut are performed, to allow a proper adhesion of the painting materials the surface will be carefully cleaned and then painted.

700.1.3 Tank treatment

Internal tank surfaces will be properly prepared.

The internal surface of the tanks will be treated with paints or products suitable for the tank content.

700.1.4 Machinery and outfitting equipment painting

Machinery and outfitting equipment which requires repainting will be painted.

Maximum care will be taken to mask all parts not to be painted.

A final painting touch up will be done before the delivery of the yacht.

All machinery and equipment that requires re-painting will be painted in colour RAL9003/9010 (or equivalent) white paint.

A final coat of paint will be applied before delivery in engine room and painted visible surfaces of technical spaces.

700.2 Noise and Vibration Control

700.2.1 Noise Levels

All precautions will be taken to ensure that the noise generated in the engine room, fore and after peak, and wherever machineries are located, is reduced to a minimum.

Attention shall be considered for noise reduction from the sea at anchor and while cruising.

The following items will be taken into consideration:

- Flexible installation of engines, gears and gen-sets
- Structure under the main deck in the engine room
- Construction of casings
- Application of absorbing compounds in specific areas
- Flexible installations of all equipment items producing noise and vibration
- Expansion joints in pipelines
- Mufflers and sound dampers on Generator exhaust

700.2.2 Thermal, fire and noise insulation

Yacht insulation will be carried out considering fire, thermal and noise requirements and will be installed on board according to Insulation Plan.

Engine Room Boundary, to be B15 degree, in accordance with Class requirements.

800 Joinery Work & Décor

800.1 General Requirements

The Interior's and Exterior's Concept design will be done by Mangusta Design & Decoration Department.

The Book will be prepared after signature of the Contract and will be in line with the Interior's style selected by the Owner and with the general arrangement.

If requested by the Owner, the interior design can be done by and independent Interior Designer employed and paid by the Owner.

In such a case the Interior Designer must work within the limits of the main specification that will be an Annex to the contract. Any upgrading will be quoted as an extra and any delay in supplying the requested information will be considered a permissible delay and will affect, consequently, the delivery date of the vessel

Colours and wood, all decorative materials, taps & fittings, ironmongery etc. will be selected by the Owner, according to the Mangusta Shipyard selection of standard yacht interior samples. Builder's budget for the above listed items will be specified in the dedicated section of the final technical specification.

- The quality of the entire yacht shall be of the highest Builder quality standard. These criteria apply to comparative spaces and include the choice of timbers, fabrics, fittings, fixtures, hardware, finishing levels etc.
- The overall layout of the yacht shall be fully in accordance with the General Arrangement Plan and as further detailed in Accommodation, Visuals and Detail Plans.
- Where reasonably possible, the builder must consider the possibility to make all "dead" space suitable to be used for bookshelves, storage lockers, etc.

800.1.1 Ironmongery

- In the crew areas all ironmongery to be selected by the Owner from Mangusta Shipyard selection samples;
- In the Owner's and guest areas all ironmongery items to be selected by the Owner from Mangusta Shipyard selection of samples;

800.2 Crew, Guest & Owner Interior

800.2.1 Interior linings and furniture

Hull sides and bulkheads will be lined with glued marine plywood panels, stiffened where required and with removable sections where necessary to access to technical equipment or

accessories (valves, electrical junction boxes etc.).

Built in furniture will be made according to the General Arrangement drawing, lined with material as discussed and agreed with Owner's representative.

Galley wall will be made of plywood panels lined with Stainless Steel or lacquered wood. To be discussed and agreed with Owner's representative.

Painted panels of linings and furniture will have a balancing and sealing coat on the reverse side in order to avoid distortion where necessary.

800.2.2 Interior floor linings

Floors in all areas will be lined with material discussed and agreed with owner's representative.

800.2.3 Loose furniture

Loose furniture in crew and external areas such as: Loose chairs, armchairs, sunbathing chairs, tables, stools, sofas, etc. will be supplied and installed as per General Arrangement drawing.

800.2.4 Curtains & Black-out blinds

Curtains and Black-out blinds will be supplied in accordance with GA discussed and agreed with owner's representative.

800.2.1 Safes

Position and number of Safes with Electronic lock:

- One in Owner cabin having approx. outside dimension 230mm H x 350mm L x 200mm D
- One in Captain cabin having approx. outside dimension 230mm H x 350mm L x 200mm D

800.2.2 Ceilings

Unless specifically mentioned otherwise, all ceiling panels are to be flush and removable.

800.2.3 Supply

All supply items are to be as similar as possible as shown on the General Arrangement Plan, Detail Drawings and concept Visuals.
Where required the joinery work is modified to allow installation of air conditioning grills.
The insides of cupboards and wardrobes are to be finished as per Builder standard.
Supply is to be securely fixed to bulkheads and/or cabin soles.
Any loose or free-standing supply is to have securing arrangements for use at sea.

800.2.4 Mirrors and Glass

Unless specifically stated otherwise, all mirrors shall be properly glued and sealed to prevent moisture entrapment.
All edges of mirrors to be polished. No sharp edges shall be allowed. This includes those installations where the edges may be fitted in a frame or be otherwise not in direct view.
All interior glass shall be thermally tempered glass, which does not produce sharp pieces when broken.

800.2.5 Mock-ups

Prior to the taking into production of any item of joinery work, the Builder shall:

Produce samples of all timbers (minimal dimensions to be agreed) complete with all different finishes and colours under consideration for selection and approval by the Owner.

800.3 Exterior Furniture

800.3.1 External Areas

Built in furniture will be made according to the General Arrangement drawing, lined with material as discussed and agreed with Owner's representative.

800.4 Various Materials and Equipment

800.4.1 Interior upholstery

Generally, in Guest area decorative curtains will be of fabric and horizontal folding.

800.4.2 External upholstery

Cushions for structural sofas and sun-beds mattresses will be provided in external areas according to Final GA and Renderings.

800.4.3 Marbles and stones

Marble tops and floors will be fitted according to Final GA and Renderings and Owner's final selection.

Stones and marbles will be mounted on honeycomb support panels where applicable.

800.4.4 Carpets

Carpets (if present) in Owner's and Guest's areas will have underlay and will be bounded and stretched.

Carpets (if present) in Crew areas will be bordered.

800.4.5 Galley equipment

The appliances shall be of the highest Builder's quality standard and will be installed in such a manner as to readily permit service and maintenance.

Care shall be taken that enough ventilation and air discharge facilities are provided for those equipment items that do so require.

Following list of appliances is indicative and depending on GA approved by the Owner

- One Hot Plates Miele® KM6117 or equivalent
- One Professional Exhaust hood over range Zanussi Professional® AMPV712DT or equivalent
- One commercial electric oven Miele® (70 cm) H 6860 BP or equivalent
- One commercial microwave oven Miele® M 6032 or equivalent
- One dish washer Miele® PG 8056 or equivalent
- One double sink of stainless steel
- Custom made Fridges and Freezers, number according to final GA

The Galley will be fitted out with stainless steel working surfaces, cupboards and drawers according to Final GA and Renderings.

800.4.6 Laundry equipment

The following equipment will be fitted as per General Arrangement drawing:

- One washer Miele® PW 6065 PLUS or equivalent
- One dryer Miele® PT 7136 or equivalent

800.4.7 External and internal bar equipment

As per General Arrangement drawing for each bar the following equipment will be fitted:

- One sink in stainless steel
- One ice maker Raritan® or equivalent
- One fridge.

800.4.8 Taps and bathroom accessories Owner & Guests

Ceramic/steel or marble sinks will be provided for each bathroom, according to the General Arrangement Plans, together with:

Nr.01 1 or 3-hole basin mixer for each sink

Nr.01 soap dish/dispenser of liquid soap for each sink

Nr.01 glass tumbler and holder for each sink

Nr.02 robe hooks

Nr.02 towel rails

Nr.01 toilet brush,

Nr.01 toilet paper holder

Nr.01 waste basket

Nr.01 1 or 3-hole mixer for bidet or as an alternative, a hand hygienic shower

Nr.01 Ceiling showerhead

Nr.01 hand shower

Nr.01 net soap dish for shower

800.4.9 Captain Bathroom Taps and bathroom accessories

Corian sinks will be provided, according to the General Arrangement Plans, together with:

Nr.01-hole basin mixer

Nr.01 dispenser of liquid soap

Nr.01 glass tumbler and holder

Nr.01 toilet brush,

Nr.01 toilet paper holder

Nr.02 towel rail

Nr.02 robe hooks

Nr.01 hand shower

Nr.01 net soap dish for shower

800.4.10 Crew Bathroom Taps and bathroom accessories for Crews Bathrooms

Corian sinks will be provided for each bathroom, according to the General Arrangement Plans, together with:

Nr.01-hole basin mixer

Nr.01 dispenser of liquid soap

Nr.01 glass tumbler and holder

Nr.01 toilet brush,

Nr.01 toilet paper holder inside furniture

Nr.04 robe hooks

Nr.01 hand shower

Nr.01 net soap dish for each shower

800.5 Shipyard cooking, dining & linen Supplies

800.5.1 Galley Equipment

nr.03 salad bowl various size

nr.01 vegetable mill inox

nr.01 teflon chopping boards

nr.01 cheese bowl

nr.01 bread knife

nr.01 roast knife

nr.01 kitchen knife

nr.01 inox carving fork

nr.01 st. steel corkscrew

nr.01 set of wooden ladles

nr.01 chopping knife

nr.01 ladle inox

nr.01 skimmer

nr.01 st. steel grater

nr.01 citrus-fruit squeezer

nr.01 oil / vinegar

nr.01 salt & pepper shakers

nr.01 tin opener

nr. 6 glasses

nr. 6 table forks

nr. 6 table spoons

nr. 6 coffee spoons

nr.6 table knifes

nr.18 dishes (6 dinner / 6 soup /6 dessert)

nr.6 tea cups and saucers

nr.6 coffee cups and saucers

800.5.2 Induction Pots

nr.01 induction pot cm.24 with lid

nr.01 induction pot cm.26 with lid

nr.01 induction pot cm.22 with lid

nr.01 induction casserole cm.16 with lid

nr.01 induction casserole cm.22 with lid

nr.01 induction casserole cm.24 with lid

nr.01 induction casserole cm.26 with lid

nr.01 induction casserole cm.28 with lid

nr.01 induction pan cm.24

nr.01 induction pan cm.28

nr.01 induction pan cm.32

nr.01 induction milk boiler

nr.01 induction vegetable pan

nr.01 colander/pasta strainer

800.5.3 China

Nr.18 dinner plates

Nr.18 soup plates

Nr.18 dessert plates

Nr.18 coffee cups and saucers

Nr.18 tea cups and saucers

Nr.01 big salad service bowls

Nr.01 small salad service bowls

Nr.01 round platters

Nr.01 deep platters

Nr.01 large oval platter

Nr.01 small oval platter

Nr.01 cake plate

Nr.01 sugar bowl

Nr.01 creamer

Nr.01 Thermos

Nr.01 Champagne bucket

Nr.01 Ice bucket

Nr.01 Salt & pepper

Nr.01 Oil & vinegar

800.5.4 Cutlery

Nr.18 dinner knives

Nr.18 dinner forks

Nr.18 dinner spoons

Nr.18 fish forks

Nr.18 fish knives

Nr.18 dessert forks

Nr.18 dessert spoons

Nr.18 coffee spoons

Nr.02 service set (service fork and service spoon)

Nr.01 cake server

800.5.5 Glasses

Nr.18 water glasses

Nr.18 red wine glasses

Nr.18 white wine glasses

Nr.18 champagne flutes

Nr.18 whisky glasses

Nr.18 long drink glasses

800.5.6 Miscellaneous

Nr.50 coat hangers

800.5.7 Outside linen

Nr.12 beach towels

800.5.8 Table linen

Nr.2 tablecloth

Nr.2 set of place mat (12 each set)

800.5.9 Linen for cabins

Set of bed linen (2 per bed):

Nr.1 set = fitted sheet
flat sheet
pillowcase (1 each person)
bedspread

OR

fitted sheet
1 duvet
duvet cover
pillowcase (1 each person)

Nr.1 bed protection

Nr.1 pillow per person

Set of towels (2 per person)

Nr.1 set = Bath towel
Guest towel
Hand towel
Lavette 30x30

Nr. 1 Bath rug per bathroom

Nr. 1 Bathrobe per person

800.5.10 Crew linen

Set of bed linen (2 per bed):

Nr.1 set = fitted sheet
1 duvet
Duvet cover
Pillowcase
Bed protection

Set of towels (2 per person):

Nr.1 set = Bath towel
Guest towel
Hand towel

Nr.1 pillow per person

Nr.1 Bath rug per bathroom

Builder's budget for the items listed in this section (shipyard supplies) will be specified in a dedicated annex to the technical specification.

800.6 Teak Decks

800.6.1 General

All weather Deck, including Beach Area, will be covered with Teak unless differently showed in the General Arrangement

Faring will be carried out in order to obtain a smooth regular surface.

Teak will be of First Quality, with a clear grain, as much as possible uniform, free from knots and shakes; planks will be quarter sawn, veining will be considerably straight, fibres will be compact and close.

800.6.2 Teak details

External decks will be planked in teak of 12 mm finished thickness, laid with king planks, margin and covering boards into which the strakes will be nibbed with rounded off nibs.

Exposed Swim Platform will be planked in teak of 15 mm

After final sanding Teak thickness to be about 10mm on Main Deck, Sun Deck and External Stair steps and 14mm on swim platform.

800.6.3 Teak installation

Manufacturer's Compound installations instructions will be followed.

Teak deck will be glued by means of weights, without fastenings.

Bonding of Teak will be carried out using black Sika® (or equivalent) putting the utmost care in order to avoid that air bubbles are entrapped.

A 4mm width and 5mm deep (respectively) seam in between each plank, to be filled with a black rubber compound Sika® (or equivalent).

A Surface protection will be provided in the period between installation and final sanding, in order to protect the Teak deck.

Seaming compound in excess will be removed just before delivery. Deck will be sanded smooth after that.

900 Owner supply & Optional

900.1 Owner supply criteria

The items must be delivered to the Shipyard in accordance with the work schedule.

Any article requiring special storage conditions must be notified in advance by the Owner's Representative and suitable storage agreed with the Shipyard.

All agreed extra costs incurred for special storage will be to the Owner's account.

The Owner's supply will be installed on board by the Builder.

900.2 Owner's supply list

The Owner's supply will include:

- Water sport equipment

- Diving bottles with Scuba accessories and swimming gear

- Decorative items paintings, sculptures, picture frames and pictures, and valuable objects and/or precious materials.

- Uniforms

- Stationery

- Household equipment

- Charts, almanacs, electronic chart, chart table equipment, binocular etc.

- Computers

- Required Log books

- SOLAS Manuals

- Safe Manning Document

- Required medical stores

- Required nautical books and publications.

- Spares which are not part of Shipyard spares parts

900.3 OPTIONAL EQUIPMENT INCLUDED IN THE CONTRACT

01 MCA (LY4) Compliance

Vessel construction in compliance with REG Yacht Code - Part A for Short Range Yacht

02 Main Deck Fwd Awning System Multiplex

Awning system with manually installed carbon fiber poles

03 Satellite TV System

TV-Sat SeaTel TV 80

04 Steam Shower in Owner's Bathroom

Steam shower in owner's bathroom

05 Underwater Lights

Nr. 10 underwater lights Ship Control white

06 Thermal Camera

Thermal camera is going to be FLIR model M364 stabilized IP thermal camera 30 Hz.

07 Video on Demand System

Video on Demand Server Sealux with internal storage 8 TB RAID mode, with n.5 client A/V

08 CCTV SYSTEM

CCTV System with 3 cameras and server storage

09 Air Conditioning

Difference for upgrade to tropical A/C configuration

10 Shore Power Frequency Converter

50kVA shore power frequency converter, to replace Shore Power Isolation Transformer. To allow the vessel to travel all around the world and connect to any marina shore power supply.

10 bis Yacht receptacles Frequency Converter

12kVA The Vessel can be equipped with a Receptacles Frequency Converter, to replace 230 VAC 50Hz plugs through the Yacht with 110 Vac 60Hz systems.

11 Sundeck Aft Awning System Multiplex

Awning system with manually installed carbon fiber poles

12 Communication Data (Internet)

Internet V-Sat SAILOR 600

13 Fuel Polishing System

FPS Reverso fuel depurator system

14 Telephone System

VoIP telephone system with 6 phones

15 Side Boarding ladder

The Vessel can be equipped with one Marquipt (or equivalent) aluminium side boarding ladder to be fitted on main deck starboard or portside

16 Black and Grey Water treatment System

Selmar black and grey water depurator Mod. Blue SEA 2500/Plus compliant with MEPC 227(64) Marpol and MED 2014/90/EC

900.4 EXTRA EQUIPMENT LIST INCLUDED IN THE CONTRACT AND CHANGE ORDER

ENTERTAINMENT SYSTEM:

1. ANY AUDIO/VIDEO UPGRADE REQUESTED BY THE CLIENT ARE GOING TO BE MANAGED AS FOLLOW:

   - MATERIALS TO BE PURCHASED BY THE BUYER GOING TO BE RESPONSIBLE FOR SHIPPING COST, ANY CUSTOM DUTIES DUE AND FOR THE RIGHT TIMELINE IN ORDER NOT TO DELAY THE PRODUCTION AND ORIGINAL DELIVERY SCHEDULE.
   - THE COST OF THE MATERIALS NOT GOING TO BE USED IN OUR SPECIFICATION ARE GOING TO BE CREDITED TO THE BUYER
   - INSTALLATION GOING TO BE DONE BY THE SHIPYARD AT EXTRA COST. QUOTE TO BE QUANTIFY UPON RECEIVAL OF THE FINAL SPECIFICATION BY THE BUYER OR BUYER REPRESENTATIVE
   - FOR THE TV IF THE MODEL REQUESTED IS GOING TO BE MORE EXPENSIVE THE SHIPYARD IS GOING TO CHARGE ONLY THE DIFFERENCE COST BETWEEN THE UPGRADED ONES AND THE ONES ON THE ORIGINAL SPECIFICATION
   - THE SELAUX HD TO REMAIN IN ORDER TO STORE THE INFORMATION OF THE VESSEL FOR DIAGNOSTICAL REASON AND REMOTE CONNECTION.

2. EXTERNAL VOLUME CONTROLS TO BE INCLUDED AS GS33 HULL#1.

3. GALLEY IS GOING TO BE PROVIDED WITH TWO SPEAKERS CONNECTED TO DENON SYSTEM OF THE MAIN DECK SALON (SAME ZONE)

4. ALL THE EXTERNAL SPEAKERS SHALL BE SEPARATE IN ZONE OR PLAYED IN A PARTY ALL TOGETHER INCLUDING THE MAIN SALOON. THE ONLY TWO ZONE THAT ARE NOT GOING TO BE SEPARATE ARE THE EXTERIOR AFT DECK AND BEACH AREA JOINED TOGETHER.
   NAV-COM

5. THE THERMAL CAMERA IS GOING TO BE FLIR MODEL M364 STABILIZED IP THERMAL CAMERA 30 HZ.

6. SAT TV AND SATELLITE V-SAT SYSTEM TO REMAIN AS ORIGINAL SPECIFICATION

7. CCTV ADD 2 EXTRA CAMERAS ON THE SIDE MAIN DECK AND ONE IN THE ENGINE ROOM. EXTRA COST CHANGE ORDER FOR 3.600 EURO

8. WI- FI NETWORK SHALL HAVE MULTIPLE ACCESS POINT IN ORDER TO COVER PROPERLY THE ENTIRE VESSEL.

OWNER CABIN

9. CALIFORNIAN KING SIZE MAGNIFLEX. MODEL AND STIFFNESS TO BE SELECTED BY THE CLIENT.

10. SHOWER BULKED NOT TRANSPARENT (WOOD OR UPHOLSTERY DESIGNER OPTION). OK AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

11. TV NO FROM CEILING BUT POP UP FROM CABINET IN FRONT OF THE SHOWER WALL.). OK AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

12. OWNER CABIN TV SIZE 55” INCHES WITH POP-UP. OK AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

13. PLACE THE VANITY DESK AFT OF THE BED IN FRONT OF THE WARDROBES BESIDE THE CABIN DOOR. . OK AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

14. BEHIND THE BED HEADBOARD THERE IS A VOID SPACE BESIDE THE WARDROBE, CAN IT BE USED TO CREATE A CONCEALED GUN SAFE? OK AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

15. ATTENTION TO BE TAKEN FOR THE DOOR THRESHOLD AND CEILING HEIGHTS. OK FOR THE MAXIMIZATION OF THE DOOR HEIGHT IN ORDER TO INCREASE THE CLEARANCE ON THE MAIN DECK INCLUDING THE MASTER SHOWER DOORS.

GUEST ACCOMMODATIONS GENERAL

16. WOOD FLOOR IN ALL THE INTERIOR GUEST AREAS INCLUDING GALLEY. LOWER DECK IS GOING TO BE ALL WOOD FLOOR, MAIN DECK EVERYTHING INCLUDING THE SERVICE PANTRY. FOR THE GALLEY ON THE MAIN DECK TO BE DECIDED, DURING THE VISIT OF THE CLIENT, BETWEEN SYNTHETIC WOOD OR REAL ONE.

17. NO PULLMAN BED IN THE STBD TWEEN CABIN. OK AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

18. PORT DOUBLE GUEST CABIN SHALL BE BUILT WITH SLIDING BEDS BUT PROVIDED WITH A SINGLE QUEEN MATTRESS AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

19. IN THE LINEN CABINET IN THE LOWER DECK GUEST LOBBY SHALL BE WITH THE EXTRA WASHER DRYER LIKE #01? OK FOR THE COMBO UNIT WASHER & DRIER INCLUDING CABINET MODIFICATION AND INSTALLATION IS A CHANGE ORDER OF 3.000 EURO

20. ALL THE GUEST MATTERS SHALL BE OF MAGNIFLEX. MODEL AND STIFFNESS TO BE SELECTED BY THE CLIENT.

21. MAXIMUM STORAGE UNDER EACH BAD WITH BED LIFTING MECHANISM. OK ALL THE BEDS ARE BUILT WITH STORAGE AND LIFTING MECHANISM. THE ONLY ONES WITH DRAWERS ARE THE SLIDING ONES IN THE GUEST CABINS.

22. ALL THE TABLES INDOOR AND OUTDOOR SHALL BE OF A MODERN YACHT STYLE LIKE NAMASTE DESIGN AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

23. THE TRANSVERSAL CREDENZA CABINET BETWEEN DINING AREA AND LOUNGE AREA SHALL BE USED FOR STORAGE OF CHINAWARE AND SILVER WERE ONLY WITH THE PROPER ARRANGEMENT. AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

24. THE MAIN DECK AFT COCKPIT TABLE SHALL INCORPORATE A CHAMPAGNE BUCKET/BOUVETTE IN THE MIDDLE WITH A TEAK LEAD AND DRAIN. OK AS THE MANCINI RENDERING. AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02

25. SUN DECK AREA TO ACCOMMODATE A FROZEN DRINK MACHINE WITH UP AND DOWN SYSTEM LIKE THE ONE INSTALLED IN CLIENT BOAT. AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

26. MAIN SALOON TV 65INCH WITH POP UP SYSTEM AND TWO SIDE CABINET ONE TO BE USE FOR A UNDERCOUNTER FRIDGE. AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

27. BACK LIGHTED ONYX SLAB IN THE FWD SALOON WALL. AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

28. #5 BURNERS COOK TOP IN THE GALLEY. AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

29. SINK MACERATOR IN THE GALLEY. TECHNICAL DEPARTMENT AND SURVEYOR TO FIND AND ACCEPTABLE SOLUTION WITH DISCHARGE VALVE OVERBOARD AND NOT IN THE TANK.

30. THE LARGEST POSSIBLE HOVEN IN THE GALLEY. THE GALLEY IS ALREADY BUILT AND PAINTED INCLUDING THE SPACE FOR THE HOOD. THE HOOD PLANNED IS ALREADY THE MOST POWERFUL FOR THE DIMENSION ALREADY CUT IN THE GALLEY. ANDREA TO REVIEW THE SPEC

31. ABOVE COUNTERTOP WINE CELLAR IN THE GALLEY. SEE PICTURES FOR THE ONES THAT IS INCLUDED IN THE SPEC. OK FOR THE WINE CELLAR AS PER ORIGINAL PROJECT. ON THE TOP PART OF THE PANTRY TO DESIGN AND BUILT A SPACE AS BAR WITH BOTTLES HOLDER, MIRROR AND GLASS CABINET AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

32. THE EXTRACTION IN THE GALLEY SHALL BE DESIGNED IN THE WAY TO AVOID THE CONDENSATION THE MOLD AND DAMAGES A HAPPENING ON THE OWNER VESSEL TODAY. OK SOLUTION TO BE FOUND IN MUTUAL AGREEMENT WITH YARD.

33. INDUSTRIAL ICE MAKER (BAR TYPE IN THE BAR OR IN THE GALLEY). THE ONES IN THE SPEC IS A STANDARD ICE-MAKER. THE GALLEY IS ALREADY BUILT AND PAINTED. THE SURVEYOR TO PROVIDE A RIGHT ALTERNATIVE OF PROFESSIONAL ICE MAKER TO BE FITTED IN THE SAME SPACE OF THE GALLEY ALREADY BUILT

34. LEATHER SOFA WITH STORAGE INSIDE. OK WITH BUILT IN LEATHER SOFA AND STORAGE

35. THE HVAC SYSTEM SHALL BE LESS NOISY THEN THE ONE ON HIS PRESENT BOAT. OK. THE ONES ON THE 33 IS NEW GENERATION WITH MULTIPLE SPEED LESS NOISY.

36. NO WOOD SHALL BE USED FOR THE EXTERIOR FURNITURE THE EXPERIENCE OF ROTTEN WOOD AND BLACK MOLD ON THE PRESENT BOAT WAS UNPLEASANT. THE SURVEYOR AND THE SHIPYARD TO FIND AN ACCEPTABLE SOLUTION BY THE BUYER FOR THE CONSTRUCTION OF ALL THE EXTERIOR CABINETS. OK SOLUTION OR EQUIVALENT ARRANGEMENT TO BE FOUND IN MUTUAL AGREEMENT WITH YARD.

37. SEA WATER MICRO FILTRATION FOR THE FWD POOL TO GET TRANSPARENT WATER WHEN NAVIGATING IN THE INTERCOSTAL. CHANGE ORDER EXTRA COST OF EURO 3.000.

38. IT IS POSSIBLE TO INCREASE THE DIAMETER OF THE WATER INTAKE , THE EXPERIENCE FORM THE OWNER ACTUAL VESSEL IS POOR DUE TO THE TIME NEEDED TO FILL IN THE FRESH WATER TANK FROM A SHORE CONNECTION. SAME SPECIFICATION OF THE ONES USED FOR BIGGER VESSEL AS THE ONE ON THE MANGUSTA 165 AS ON THE BIG VESSEL 50MT OVER. IN CASE YOU HAVE ANOTHER FILLING STATION PER GRAVITY.

39. BOW FLAG POST FOR THE FAMILY CREST. OK.

MISCELANEOUS

40. ALUMINUM SIDE LADDER WITH TWO HANDRAILS, ONE ON EACH SIDE

41. EXTRA DEEP FREEZER IN CREW MESS AREA. THE EXTRA FREEZER IS GOING TO BE INSTALLED IN THE GALLEY AT NO EXTRA COST AS PER NEW GA OV.33GSP09 – 100.02.01 REV 02.

42. SMALL TABLE FOR BACKGAMMON IN THE WHEELHOUSE SOFA. TABLE TO BE DESIGNED AND DEFINED DURING THE VISIT OF THE BUYER IN THE SHIPYARD

43. ANTI-SKID IN THE POOL LIKE #001. OK.

ADDITIONAL ITEMS

44. PHYSICAL SWITCH FOR THE INTERIOR LIGHT TO BE INSTALLED WITH “DIMMER ABLE” OPTION. OK INCLUDED

45. MASTER SHOWER CONFIGURATION MODIFICATION IN ORDER TO ACCOMMODATE TWO PEOPLE SHOWERING IN THE SAME TIME. DESIGN IN PROGRESS WITH TWO RAIN SHOWERS IN THE CEILING. ONE CLOSED TO THE BULKHEAD BETWEEN THE MASTER AND BATHROOM AND ANOTHER ONE IN THE CENTER OF THE CEILING

46. FLY BRIDGE LAYOUT WITH “C” SHAPE COUCH AND TWO OTTOMANS FOR SUNBED CONVERSION WITH LOCK IN POSITION PINS AND STORAGE UNDERNEATH.

47. COCKPIT DOOR WITH MOTION SYSTEM AND PUSH BOTTOM FOR “OPENING”

48. SKYLIGHTS GLASS ON THE HARD TOP WITH DARKEST AS POSSIBLE GLASS.

49. GIANNESCHI FQ 15 OIL PUMP TO REPLACE STANDARD HAND PUMP. SEE 400.11. CHANGE ORDER EXTRA COST OF EURO 1.500.