

PERI 33 TECHNICAL SPECIFICATIONS

INTENT & STANDARDS

It is the intent of this specifications document that the yacht will be constructed, equipped, furnished, finished and finally tested in every respect and made ready for service by Peri Yachts in high yacht standards from all aspects.

-Some Equipment / systems / material / work / are mentioned more than once in these specifications. This is done for ease of reference and because some equipment might be related to more than one system.

-The yacht will be a twin-screw diesel planing motoryacht and when delivered she will be completed in all respects.

-Except for those items of equipment specially stated here-after as being supplied by the Owner, the Builder will supply all items necessary for the normal operation of the yacht.

-The yacht will be built in accordance with the Specifications and attached plans. No modification can be made by either party without agreement of both. However, the owner shall have the possibility to request in writing, through the terms of the contract, changes in the specifications; after receiving such request by written the builder will inform the owner of all the impacts in terms of cost, delivery time and yacht performance. Any changes requested by the owner that can compromise the safety of the yacht , her crew and the passengers will be rejected by the builder.

-All workmanship will be first class in every respect and in accordance with the best marine practice for a boat of this size and type.

-A high standard of cleanliness will be maintained throughout the yacht during the whole period of construction. Additionally the builder will provide suitable facilities and exercise proper diligence in connection with the storage, handling and installation of both builder furnished and owner furnished materials and equipment going into the yacht.

-Items which are not specified "of acceptable manufacturer" or by trade mark or name will be at the builder' s option unless otherwise agreed. However the readiness with which service and spare parts can be obtained will be taken into account in the choice of material and equipment.

-All tests and trials will be conducted in accordance with the requirements of the classification society and the builder' s practices. 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.

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

-The builder is responsible for collecting and analyzing all data and records obtained during the various trials, properly tabulated and presented into a trials record booklet, one copy to be supplied to the owner.

-The sea trials will be carried out by and at the expense of the builder who will provide all necessary material and services for the operation of the yacht during the sea trials program. On the other hand it is owner' s responsibility to keep at least one member of the crew during the sea trials to summon practical operational information throughout the sea trials.

-Any defects which may develop or become apparent during the tests and trials will be made good by the builder.

-All tanks, storage spaces, bilges, accommodations and other spaces will be clean and thoroughly cleared of all dunnage and dirt; particular care will be taken that all inside surfaces in tanks, piping systems and machinery are clean and free from any foreign substances, that all painted surfaces will be touched up and clean, that all machinery are in good working order. The responsibility for the storage of all extra equipment, stores and spare parts belong to the yacht' s crew.

-When complete, the yacht shall be delivered to the owner afloat at the location of the builder' s yard in seaworthy condition, ready to sail but without fuel oil, additional lube oil than the quantity existing in the engines, food and stores.

Contract Plans

The contract plans will consist of the following:

- Outboard profile
- General arrangement plans of all decks

Construction Plans

The construction technical documentation will consist of all the drawings, calculations and certificates needed for the construction, the classification and the registration of the yacht and shall be in accordance with the terms of the contract.

Delivery Documentation

The builder will provide an inventory of all machinery, equipment and outfitting placed on board, including the maker' s standard instruction books.

All plans, instructions books and manuals will be in the English language and will be complete of operating and maintenance instructions.

At the time of yacht' s completion the following documentation will be delivered on board :

-1 set of operating and maintenance manual covering all machinery containing the information on the operating data, design data, reference and serial numbers, maker' s reference numbers, maintenance data as specified by the manufacturer or where applicable according to builder' s standard.

-1 complete set of drawings "as built", covering hull, machinery, auxiliary systems and outfitting.

-The fire control plan will be supplied in glass frames and placed on board of the vessel.

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PART 1 PRELIMINARY REMARKS & SPECS.

101 MAIN PARTICULARS

101.1 VESSEL TYPE	: Composites Motoryacht
101.2 HULL TYPE	: Planing Hull
101.3 HULL MATERIAL	: Glass Reinforced Epoxy Sandwich
101.4 MAIN POWER	: 2 x 1800 HP Diesel
101.5 L.O.A.	: 32,97 m.
101.6 L.W.L.	: 26,40 m.
101.7 BREADTH	: 8,06 m.
101.8 DRAUGHT	: 1,95 m.
101.9 DISPLACEMENT	: 105 M/T
101.10 ACCOMODATION FOR GUESTS	: 8 in 4 cabins
ACCOMODATION FOR CREW	: 5 in 3 cabins
101.11 FUEL TANK CAPACITY	: 24.000 lt.
101.12 FRESHWATER TANK CAP.	: 4.000 lt.
101.13 SANITARY WATER TANK CAP.	: 3.000 lt.
101.14 TOTAL PROPULSION POWER	: 2x2000 hp @2350 rpm, 2 x shaft inline, 5 blade fixed pitch propellers
101.15 SPEED CRITERIA	: Max. 27 knots / Cruising 23 knots
101.16 RANGE	: 900 nautical miles @ 22 knots

102 DESIGN

102.1 EXTRIOR DESIGN	: Scaro Design
102.2 INTERIOR DESIGN	: Scaro Design
102.3 EXTERIOR STYLING	: Scaro Design
102.4 INTERIOR STYLING & DECO.	: Scaro Design

103 ENGINEERING

103.1 NAVAL ARCHITECTURE	: Bill Dixon
103.2 STRUCTURAL ENGINEERING	: High Modulus
103.3 SYSTEMS ENGINEERING	: Peri Yachts
103.4 ELECTRICAL ENGINEERING	: Peri Yachts
103.5 PLUMBING ENGINEERING	: Peri Yachts

104 CLASSIFICATION & CERTIFICATION

104.1 CLASSIFICATION SOCIETY	: RINA or BV
104.2 NOTATION	: To be discussed and decided
104.3 REGISTRATION & CERTIFIC.	: To be discussed and decided

105 APPROVALS, SURVEYS & DRAWINGS

105.1 CHANGE IN SPECS

: Changes in specifications are accepted only approved by both the customer and Peri Yachts and limited to the period till the contract is signed.

105.2 CHANGE IN ORDERS

: In principal, changes in design and engineering will not be accepted after the signing of the contract with the exception that the customer accepts to pay the additional cost of the changes

105.3 APPROVALS OF THE CLIENT

: Any slightest deviation from the below stated specifications will be able to be made only by written approval of the customer or his representative

105.4 SURVEYS

: The proceeding of the construction will be inspected, surveyed and reported in writing by the joint survey of Peri Yachts' and customer' s representative with intervals as decided by both parties.

105.5 DRAWINGS

Contract Plans

The contract plans prepared by the builder are the following:

-Outboard profile

-General arrangement plans (all decks)

PART 2 HULL AND SUPERSTRUCTURE

201 TYPE OF CONSTRUCTION

- 201.1 HULL CONSTR. TYPE : E-glass reinforced epoxy sandwich
201.2 SUPERSTRUCTURE CONS. TYPE : E-glass reinforced epoxy sandwich
201.3 DECKS' CONSTR. TYPE : E-glass reinforced epoxy sandwich with Carbon reinforced beams and longitudinal elements

202 STRUCTURES – SPECIFICATION

- 202.1 DEFINITIONS OF MAIN STRC. : 1)EB 850 + EB1130 GLASS + H80 40 mm PVC + EB 850 + EB1130 GLASS (Watertight bulkheads)
2)EB1130 GLASS + H80 30 mm PVC + EB1130 GLASS (Non-watertight bulkheads)
3) EB 850 + EB1130 GLASS + H80 30 mm PVC + EB 850 + EB850 GLASS (Floors)
- 202.2 DEF. OF SECONDARY STRC. : EB1130 GLASS + H80 30 mm PVC + EB1130 GLASS (Accommodation bulkheads)

203 BULKHEADS

203.1 WATERTIGHT BULKHEADS :

203.1.1 Number and Location of Watertight Bulkheads

WT. BLKHD. B	To be defined in engineering process
WT. BLKHD. D	To be defined in engineering process
WT. BLKHD. H	To be defined in engineering process
WT. BLKHD. J	To be defined in engineering process
WT. BLKHD. K	To be defined in engineering process

203.1.2 Watertight Compartments

The first watertight compartment is between the bow and the aft of chainlocker. Bulkhead B is to be accepted as collision bulkhead.

B---D	Bowthruster compartment
D---H	Guest cabin compartment
H---J	Engine Room
J---K	Crew Compartment

203.1.3 Watertight Bulkhead Penetrations

As per directions of the classification rules

203.2 NON-W.T. BULKHEADS :

203.2.1 Number and Location of Non-watertight Bulkheads

NON-WT. BLKHD. E	8168 mm abaft of pos. 0
NON-WT. BLKHD. F	9712 mm abaft of pos. 0
NON-WT. BLKHD. G	11175 mm abaft of pos. 0

AND

RINGFRAME A	746 mm abaft of pos. 0
RINGFRAME C	5121 mm abaft of pos. 0
RINGFRAME I	15288 mm abaft of pos. 0

203.2.2 Non-watertight Bulkhead Penetrations

As per directions of the classification rules

203.3 ACCOMMODATION BULKHEADS :

203.1.1 Number and Location of Accommodation Bulkheads

As per interior designer' s drawings

203.1.2 Composition of Accommodation Bulkheads

As per interior designer's specifications

204 DECKS

204.1 OPEN DECKS :

All deck (124 m²) to be covered with Golden Burmese teak

204.2 FORE DECK :

All deck (11 m²) to be covered with Golden Burmese teak

204.3 AFT DECK :

All deck (26 m²) to be covered with Golden Burmese teak

204.4 FLYBRIDGE DECK :

All deck (47 m²) to be covered with Golden Burmese teak

204.5 SIDE DECKS :

All deck (32 m²) to be covered with Golden Burmese teak

204.6 AFT PLATFORM :

Aft platform and stairs leading to it (8 m²) to be covered with Golden Burmese teak .

205 FLOORS

205.1 MAIN DECK FLOORS :

73 m² covered with high quality carpet or a wood veneer of choice, including the saloon and the galley.

205.2 LOWER DECK FLOORS :

76 m² to be covered with high quality carpet or a wood veneer of choice, including the crew area

205.3 UPPER DECK FLOORS :

38 m² of floor to be covered with high quality carpet or a wood veneer of choice

205.4 WHEELHOUSE FLOOR :

5 m² of floor to be covered with high quality carpet or a wood veneer of choice

206 DECK EQUIPMENT

206.1 ANCHORING ARRANGEMENTS :

206.1.1 Windlass / Capstan

2 x hydraulic DATA, MUIR or equivalent, AISI 316 lep, each 3500 kg pull capstan with 316L SS chainways hidden chain pockets and hydraulic covers. Additionally low profile chain roller / stopper combination, SS chafing plates at necessary section of the bow.

206.1.2 Anchors

2 x plough type high holding anchors, each 150 kg

206.1.3 **Chain & chainlocker**

2 x 120 meters 17,5 caliber U 2 galvanized stud link chain
Separate chainlocker for each link with fast release and swivel.
Chain pipes to be slanted and swelled at bottom to provide proper paying-out and prevent rattling.

206.2 MOORING ARRANGEMENTS :

206.2.1 **Mooring winches**

2 x hydraulic DATA, MUIR or equivalent AISI 316 lep, each 1500 kg pull vertical winches

206.2.2 **Bitts**

9 x 316L SS + 2 x bullhorn bollard-fairleads

206.2.3 **Fairleads**

9 x 316 L SS
Bitts and fairleads well supported under deck for load distribution and to be strong enough to take the weight of the boat under dynamic snatch loads in any direction.
The fairleads to be in a size to allow an eye splice go through.

206.2.4 **Stoppers**

2 x 316 L SS chainstoppers on fore deck, complete with devil' s claw lock

206.2.5 **Lines**

2 x 20 meters + 2 x 30 meters 26 mm. braided flexible polyamide, breaking load 37.3 kN.

206.2.6 **Fenders**

8 x Losange fenders 1100 mm x 500 mm. approx.
4 x Spherical fenders 800 mm. dia. approx.
All fenders with 2 meters, spliced 12 mm. cords

206.3 CONTROL & MANEOUV. ARR. :

206.3.1 **Steering System**

B.C.S. or DATA / Kobelt Dual Hydro electric with twin cylinders
Individual emergency hydraulic steering system
2 x Balanced spade type 316 L SS rudder blades
with connection bar
Bearings to be discussed and set

206.3.2 Engine Control System

2 x Rexroth or Kobelt electronic throttle and shift control system for twin engines
2 x MTU monitoring and alarm panel for each engine with following indications and alarms:
-Engine RPM
-Engine oil pressure
-Engine temperature
-Gearbox oil pressure
-Gearbox temperature
-Alternator charge gauge
-Start and stop push buttons
-Low engine oil pressure alarm
-High engine temperature alarm
-Trip totals and lifetime totals for operating hours

206.3.3 Bowthruster

1 x 50 HP Wesmar hydraulic fixed tunnel bowthruster with double control joysticks
1 x 50 HP Wesmar hydraulic fixed tunnel sternthruster with double joysticks
(Optional Dynamic Heading System available if required)

206.3.4 Stabilizer

1 x Wesmar RS 1200 Electronic Gyro Stabilizer System with
2 x 1.40 m² composites fins

206.3.5 Notes

206.4 NAVIGATION EQUIPMENT :

206.4.1 Manual Navigation Equipment

2 x Magnetic compass

206.4.2 Electronic Navigation Equipment

1 x 48 miles SIMRAD Anritsu radar
1 x 72 miles SIMRAD Anritsu radar
1 x SIMRAD DGPS
1 x SIMRAD Navtex receiver
1 x Navigation computer and chartplotter system with printer
1 x SIMRAD Robertson autopilot system with remote control panel
1 x SIMRAD echosounder
1 x SIMRAD log
1 x SIMRAD wind indicator
2 x 10" Color displays for SIMRAD systems

206.4.3 Navigational Aids

- 1 x chart table and drawer
- 1 x ruler-divider set
- 1 x barometer-hygrometer-thermometer set
- 1 x pair of binoculars
- 1 x complete set of navigational lights of Aqua Signal or equivalent
- 2 x dual station remote controlled search lights
- 1 x dual station 24 VDC ship' s horn

206.4.4 Navigational Publishes

- Relevant charts of Turkish territorial waters
- 1 x Turkish waters pilot book

206.4.5 Notes

206.5 COMMUNICATION EQUIP. :

206.5.1 Communication Equipment

- 1 x GMDSS SIMRAD Shipmate standard VHF with remote station
- 1 x Nera Inmarsat Mini M terminal
- 1 x Marine cellular phone set

206.5.2 Internal Communication Equipment

- 1 x 15 station internal telephone system
- 1 x loudhailer system

206.5.3 Portable Communication Equipment

- 2 x 5 watts portable VHF set

206.6 DOORS, HATCHES & SCREENS :

206.6.1 Doors

- 1 x automatic 316 Lep saloon door, Opacmare or equivalent
- 2 x epoxy composites pantograph side doors
- 1 x epoxy composites side door
- 2 x watertight bulkhead doors by Libra or equivalent
- 1 x epoxy composites flybridge sliding door
- 1 x epoxy composites hydraulically operated garage door

206.6.2 **Hatches**

- 1 x Master cabin escape hatch by Goyot, Lewmar or equivalent
- 1 x fore deck epoxy composites hatch
- 1 x aft deck epoxy composites hatch

206.6.3 **Screens**

- Hardened 12 mm. screens for the superstructure and master cabin, number to be specified after further studies
- Hardened and laminated 12 mm. fixed portlights for the guest cabins
- 2 x hardened and laminated fixed portlights for the crew cabins
- 3 x Exalto 250 BS 24 VDC screen wipers

206.7 MISCELLANEOUS :

206.7.1 **Hydraulic gangway**

- 1 x min. 4.5 meters telescopic hydraulic gangway with remote control, Besenzoni, Opacmare or equivalent

206.7.2 **Swimming ladder**

- 1 x composites and SS swimming ladder integrated to the hydraulically operated aft swimming platform. To be appropriate for usage of aged people

206.7.3 **Tender garage**

- 1 x tender garage with sufficient space for an approx. 5 meters inflatable RIB dinghy
- Electrical tender winch, rollers and pad eyes for the handling of the above

206.7.4 **Others**

- 1 x 316 L SS Flagpole
- 1 x 316 L SS Pennant Flagpole
- 1 x 316 L SS Ship' s bell and ship's bell / anchor light pole
- 1 x 316 L SS or composites navigation light mast
- 2 x boat hooks

301.1.7 Cooling System

Raw water cooling system with closed circuit freshwater coolant, heat exchanger and after cooler

301.1.8 Others

301.2 GEAR :

301.2.1 Maker & Model

TWIN DISC MGX 6598 A with 10° output connection flange

301.2.2 Power & Ratio

2,47 : 1

301.2.3 Dimensions

Dry weight with standard equipment 490 kg.
Dimensions are 680 x 752 x 774 mm

301.2.4 PTO Units

Magnetic clutch power take off units on both gears for hydraulic system

301.2.5 Others

301.3 SHAFT LINE :

301.3.1 Shaft Material and Length

Marinemet or Temet 25, ø 90 mm
6.787 mm. from coupling to propeller nut screw

301.3.2 Shaft Connection

Aquadrive, Python or equivalent flexible coupling between gear & shaft

301.3.3 Alignment, Shaft Bearings and Brackets

Shaft aligned at 3 x water cooled phenolic bearing
No. 1,2 bearings at stern tube outer gland
No. 3 bearing at P bracket
2 x bronze manganese P brackets

301.3.4 Shaft Seals

Dripless shaft seals, Sure Seal –SSM-70M or equivalent

301.3.5 Propeller(s)

2 x Finnscrew, France Helices or equivalent 4 or 5 Blade, fixed pitch propellers to be designed and manufactured in accordance with the hydrodynamic features and engine specifications.

301.4 ENGINE ALARM & MONITORING :

301.4.1 Engine monitoring panels

4 x MTU Marine Power Display
2 x Engine Mounted monitoring panels

301.4.2 Type of alarms

All relevant sound and light alarms for safe operation of the engines

301.4.3 Engine emergency shut off

Available from MTU control panels

301.4.4 Notes

302 ELECTRICAL PLANT & SYSTEMS

302.1 AC SYSTEM :

302.1.1 Voltage Type and Total Consumption

European standard, 3 phase 380 VAC & single phase 220 VAC, 50 Hz., Σ consumption approximately 52 kW.

Main Electrical panel in the engine room fore bulkhead by Merlin Gerin Schneider panel provided by Vela

302.1.2 AC Sources

2 x 60 kW onboard generators
1 x 4.5 kW electronics power supply inverter
1 x 60 kW shore power supply system

302.1.3 Generators

2 x Onan, 50 kW with;
-Soundshield
-2 x Wet exhaust system with mufflers and separators
-2 x Main operation panels
-2 x Remote monitoring and alarm panels

302.1.4 Inverters

1 x 4.5 kW Mastervolt inverter for electronics' supply

302.1.5 Alternators

None

302.1.6 Shorepower

50 kW, 380 volts, 3 phase, 50 Hz shorepower supply system with;
-Isolator transformer
-Voltage limit and timing switches
-Polarity control system
-25 meter shorepower cord
-Watertight 5 pin shorepower plug and socket

302.1.7 AC Switchboards, Fusing and Protection

As per rules of classification society

302.1.8 AC DPs

9 x Merlin Gerin / Schneider distribution panels by Vela

302.1.9 Cabling

As per classification rules. MGG type cables to be used

302.1.10 List of AC Consumers

To be discussed and listed

302.2 DC SYSTEM :

302.2.1 Voltage Type & Total Consumption

24 VDC

302.2.2 Sources

Battery banks, battery chargers and alternators

302.2.3 Battery Banks

Service battery banks :24 VDC – 600 Ah, located at E/R
Main engine battery bank :24 VDC – 2 x 240 Ah, located at E/R
Generator battery bank :24 VDC – 2 x 120 Ah, located at E/R
-Paralleling option of above given battery banks

302.2.4 Emergency Batteries

Emergency battery bank :24 V – 240 Ah, located at the cockpit

302.2.5 Alternators (additional to standard alternators on engines)

1 x 200 Ah on Starboard M/E for service battery bank
1 x 100 Ah on Port Genset for emergency battery bank

302.2.6 Battery Chargers

-2 x 100 Ah Mastervolt automatic battery charger for service bank
-1 x 100 Ah Mastervolt automatic battery charger for emergency bank

302.2.7 DC Switchboards, Fusing and Protection

As per classification rules

302.2.8 DC DPs

8 x 24 VDC Merlin Gerin / Schneider distribution panels by Vela

302.2.9 Cabling

As per classification requirements. MGG type cables to be used

302.2.10 List of DC Consumers

Service Battery Bank:

-Electronics' inverter
-24 VDC bilge & fire pump
-Secondary bilge system
-Garage & bilge ventilation

Emergency Battery Bank

-Navigation & Communication Equipment
-Navigation Lights
-Emergency Lighting
-Alarm & Monitoring Panel
-Ships whistle and telephone system

303 PLUMBING SYSTEMS

303.1 FUEL SYSTEM :

303.1.1 Fuel Capacity and Tanks

1 x composites D.B. fore fuel tank with interconnected triple section
10.200 liters
1 x composites D.B. aft fuel tank with interconnected triple section
9.000 liters
1 x composites D.B. starboard daily fuel tank
2.400 liters
1 x composites D.B. port daily fuel tank
2.400 liters
TOTAL FUEL CAPACITY: 24.000 lt:

303.1.2 Fuel Pumps

1 x G & R ACB 90 MD 380 AC / 0.4 kW transfer pump
1 x G & R Excelsior 1 " manual transfer pump

303.1.3 Fuel Separator

1 x Alfa Laval MIB 303 fuel separator

303.1.4 Fuel Filters

1 x Algea X for bacteria treatment
2 x Separ SWK 2000 10 UMKS for M/Es
2 x Separ 500 for generators

303.1.5 Fuel Piping, Manifolds & Valves

-Metallic piping except flexible fuel hoses at connection points to machinery
-316 L SS manifolds and 316 SS ball valves
-Remote operated mechanical emergency fuel shut -off valves of fuel feed system

303.1.6 Fuel Gauging

Vela transducers and gauges

303.1.7 Fuel Fill

Fuel fill station at transom for all tanks and with spillage well

303.1.8 Fuel Tank Ventilation

Fuel tank ventilation lines 1.25 times larger in diameter than fill lines. Meshed wire protected outlets at radar arch

303.1.9 Fuel Consumers' List

-2 x M/E
-2 x Generator

303.1.10 Notes

303.2 SEAWATER SYSTEM :

303.2.1 Seawater Intake Chests & Strainers

2 x 3.5 " intake valve & raw water filter
2 x 2 " intake valve & raw water filter
1 x 2" service intake chest
All valves are 316 SS ball valves

303.2.2 Seawater Discharge Chests & Outlets

1 x 316 Lep + composites chest
Bronze skin fittings
All valves are 316 SS ball valves
Discharge stack for the following:
- Bilge pumps
- Aircon system cooling water
- Refrigeration system cooling water

303.2.3 Seawater Pumps

As per in bilge & fire system

303.2.4 Seawater Piping, Manifolds & Valves

Piping in CuNiFer,
manifolds in 316 L SS, all valves ball type and in 316 SS

303.2.5 Chainwash System

1 x ½ hp pump resistant to seawater, PPR piping and 316 SS nozzles

303.2.6 Notes

303.3 FRESHWATER SYSTEM :

303.3.1 FW Capacity and Tanks

1 x composites double bottom fore freshwater tank
2900 lt. capacity
2 x composites double bottom aft freshwater tank
800 lt. capacity each,
TOTAL FRESHWATER TANK CAPACITY: 4000 lt.

303.3.2 FW Pumps

2 x G & R Jet 1 CC 220 VAC
1 x Wilo Top S 220 VAC hot water circulation pump

303.3.3 Watermaker(s)

2 x Aquaset 220 lt./hr.
Total watermaker capacity 5200 lt. approx. per unit/per day

303.3.4 FW Filters

1 x mesh wire intake, 4 x carbon

303.3.5 FW Piping, Manifolds & Valves

Aquatherm, Dizayn or equivalent PPR piping with original fittings both for cold & hot water systems.
All valves in 316 SS and ball type
All metallic fittings either to be in SS or bronze
All lines either metallic or through composites sleeves at bulkhead penetrations
All piping to be tested with 4 bars.

303.3.6 FW Gauging

Vela level transducers and indicators

303.3.7 FW Intake

1 intake at transom
1 shore connection with regulation valve at transom

303.3.8 FW Tank Ventilation

PPR / appropriate dia.

303.3.9 FW Heater(s)

2 x G & R - 380 VAC 120 lt.

303.3.10 Notes

303.4 GREYWATER SYSTEM :

303.4.1 GW Capacity and Tanks

Greywater system connected to Jets central sewage system with
3 x 16 lt. + 1 x 8 lt. Jets vacuum collection boxes

303.4.2 GW Pumps

None for the Jets integrated GW system

303.4.3 GW Collection Chests

None

303.4.4 GW Overboard Outlets

Individual outlet for galley with three way valve

303.4.5 GW Piping, Manifolds & Valves

Geberit or equivalent high quality sanitary piping with thermoplastic
welded joints
All piping to be tested by min. 3 bars pressure
All lines either metallic or through composites sleeves at bulkhead
penetrations

303.4.6 GW Gauging

As per BW system

303.4.7 GW Discharge Connection

As per BW system

303.4.8 GW Tank Ventilation

As per BW system

303.4.9 Notes

303.5 BLACKWATER SYSTEM :

303.5.1 BW Capacity and Tanks

1 x double bottom composites sewage tank with 3000 lt. capacity

303.5.2 BW Pumps

2 x Jets 15 MB-D vacuum pumps of 380 VAC with 150 lt. accumulation tank
Capacity of 2 x 120 flushes per hour / 2 x 15 m³ per hour

303.5.3 BW Collection Chests

None

303.5.4 BW Discharge System & Outlets

1 x Jets 4 HK 50 high capacity 380 VAC discharge pump

303.5.5 BW Piping, Manifolds & Valves

Geberit or equivalent high quality sanitary piping with thermoplastic welded joints
All piping to be tested by min. 3 bars pressure
All lines either metallic or through composites sleeves at bulkhead penetrations

303.5.6 BW Gauging

Vela transducer and gauge system

303.5.7 Sanitary System

N/A. Direct overboard discharge or shore discharge connection at transom

303.5.8 BW Tank Ventilation

Geberit or equivalent piping and carbon filter at ventilation outlet

303.5.9 Toilets

8 x Jets 50 FD/VPC floor mounted with seat and cover

303.5.10 Notes

303.6 DRAINAGE SYSTEM :

303.6.1 Chainlocker drainage

Direct overboard discharge

303.6.2 Foredeck drainage

316 L SS scupper and PVC piping with overboard discharges over loaded waterline.

303.6.3 Side decks drainage

316 L SS scuppers and PVC piping connected to drainage trunk on both sides

303.6.4 Aft deck drainage

316 L SS scuppers and PVC piping connected to drainage trunk on both sides

303.6.5 Flybridge drainage

316 L SS scuppers and PVC piping connected to drainage trunk on both sides

304 SAFETY SYSTEMS

304.1 BILGE SYSTEM :

304.1.1 Watertight compartments

5 as described in section 203.1.2

304.1.2 Main bilge system

Connected to all watertight compartments except fore peak which has an individual 220 VAC bilge pump.

304.1.3 Main bilge system pump(s)

1 x G & R ACM 401 BT – 380 VAC, 3 kW

1 x G & R ACM 401 BT – 24 VDC, 3 kW

Used alternatively as bilge or fire pump

304.1.4 Main bilge system lines and manifold(s)

In CuNiFer with ball type 316 SS valves
and 316 L SS manifold
All suction pipes connected to the bilge manifold directly and equipped
with a strainer and a non-return valve.

304.1.5 Secondary bilge system

1 x secondary bilge pump system

304.1.6 Secondary bilge system pumps and lines

PPR piping and 6 x 24 VDC submersible Rule 2000 pumps
All lines either metallic or through composites sleeves at bulkhead
penetrations

304.1.7 Bilge monitoring and alarm system

Electronic bilge sensors by Vela

304.1.8 Emergency bilge pump

1 x high capacity impeller pump connected to manifold and run
by port genset via solenoid activated clutch

2 x high capacity mechanical pumps with free intake and discharge
lines of each 10 meters length

304.1.9 Notes

304.2 FIRE FIGHTING SYSTEM :

304.2.1 Fire detection / alarm system & fire station

Fire detection and alarm system with
5 x heat detectors
12 x smoke detectors
1 x control panel at cockpit
Amidships fire control station on port side with controls to:
-Engine room fire fighting system
-Ship alarm switch
-Fuel shut off valves
-Ventilation fan shut off switches
-Ventilation damper shut off switches

304.2.2 Fire pump(s) and lines

As in 304.1.3

304.2.3 Fire hydrant(s)

1 x 1.5" at chainlocker
1 x 1.5" at ransom station
with 15 meter fire hoses and spray nozzles

304.2.4 Engine room fire fighting system

Sea Fire FM 200 55 m³ inert gas system with remote control from fire station

304.2.5 Fire extinguishers

3 x 5 kg. CO 2
7 x 1 kg. powder

304.2.6 Ventilation dampers

Remote controlled 4 x ventilation dampers for engine room ventilation intake and outlets

304.2.7 Fuel shut off valves

Remote controlled fuel feed shut off valves

304.2.8 Notes

304.3 SAFETY EQUIPMENT :

304.3.1 CO & CO2 sensors

Engine room, crew quarters, garage to be equipped with relevant sensors

304.3.2 Life raft(s)

2 x Viking 14 DK(or equivalent), Solas A 14 persons

304.3.3 Life buoys

4 x horseshoe buoys with self igniting light

304.3.4 Life vests

20 x Plastimo Typhoon (or equivalent) type life vests with whistle and self probing light

304.3.5 **Life slings**

N/A

304.3.6 **Pyrotechnics**

1 set of new pyrotechnics set

304.3.7 **First aids kit**

1 kit

304.3.8 **Life rails**

As per design parameters and classification rules

304.3.9 **Life lines**

As per design parameters and classification rules

304.3.10 **Notes**

305 AC & VENTILATION SYSTEMS

305.1 AIRCONDITION SYSTEM :

305.1.1 **AC system**

CLD chilled water triple compressor 380 VAC
Total capacity 180.000 Btu

305.1.2 **AC System pumps & piping**

1 x high capacity raw water & 2 x high capacity circulation pump
Aquatherm or equivalent PPR piping with original fittings both for raw
and chilled water systems.
All valves in 316 SS and ball type
All metallic fittings either to be in SS or bronze
All lines metallic at bulkhead penetrations
All piping to be tested with 4 bars.

305.1.3 **Blower units**

13 x with electronic control panels, capacities to be discussed and set
as per directions of the manufacturer

305.1.4 Fresh air make up unit

1 x CLD Extair 8 of 24.000 Btu

305.1.5 Notes

305.2 VENTILATION SYSTEM :

305.2.1 Accommodation ventilation & crew ventilation

1 x G & R C 402 with outlet on port side
1 x G & R C 202 with outlet on starboard side

305.2.2 Engine room ventilation

2 x Blowers, G & R ELL 800/F – 30.000 m³/hr. , 2 speed
2 x Extractor, G & R ELL 355/2 – 5.000 m³/hr. , 2 speed

305.2.3 Galley ventilation

1 x 500 watts extractor with carbon filter

305.2.4 Garage ventilation

1 x Enag spark proof 500 watts

305.2.5 Manually ventilated volumes

Fore peak

305.2.6 Insulation

- Attention will be paid to the noise reduction of pipes, equipment, pumps, compressors, transformers, unsupported panels, doors and hangings.
- Total accommodation to be insulated above sole to deck with a fibre-wool insulation at least 25 mm. thickness.
- All hot water piping and chilled water lines of the aircon system to be insulated.
- Engine room bulkheads to be insulated as per directions of classification rules.
- Hull shell at the perimeter of the engine room to be completely insulated with a material to the satisfaction of the classification society just like the ceilings of the same volume. The insulation material will be totally covered with Al-bondal plates or equivalent.
- All fuel, water, exhaust, oil and other connections to the main engines, main engine gears, generators and hydraulic power packs and other connection to equipment such as pumps will be flexible to allow spatial displacement of the equipment on its mounting.
- All auxiliary equipment to be mounted on anti-vibration rubber mountings.

306 HYDRAULIC SYSTEMS

306.1 MAIN HYDRAULIC POWER :

306.1.1 Main hydraulic power supplier

Wesmar triple pump system of 3 x 75 cc load sensing pumps
-1 x Wesmar or DATA 380 VAC – Tank mounted power pack
(Capacity to be set in accordance with system
manufacturer' s directions) or 1 x PTO pump mounted to one genset
-2 x PTO pumps connected to both M/E gears

306.1.2 Main pump connected system(s)

Bowthruster, sternthruster, capstans, mooring winches, garage door, 2
x spare functions

306.1.3 Valve blocks& piping

As per engineering and diagrams. All piping metallic except at
connection points to machinery where flexibility needed. Metallic lines
to be replaced by high quality flexible hoses of appropriate diameter
and pressure at such points.

306.1.4 Notes

306.2 SECOND. HYDR. POWER :

306.2.1 Secondary hydraulic power supplier

As set in 306.1.1

306.2.2 Secondary pump connected system(s)

Same as 306.1.2

306.2.3 Valve blocks& piping

As per engineering and diagrams. All piping metallic except at
connection points to machinery where flexibility needed. Metallic lines
to be replaced by high quality flexible hoses of appropriate diameter
and pressure at such points.

306.2.4 Notes

306.3 HYDRAULIC CONSUMERS :

306.3.1 List of hydraulic power consumers

To be discussed and set.

306.3.2 Notes

306.4 CLOSE CIRCUIT SYSTEMS :

306.4.1 Steering system

Cobelt / DATA (or B.S.C.)HD FFU Dual hydro electric with Stazo wheels

306.4.2 Emergency steering system

Mechanical DATA pump at port crew cabin' s aft bulkhead.

306.4.3 Valve blocks& piping

As per engineering and diagrams.

306.4.4 Notes

307 ALARM & MONITORING SYSTEMS

307.1 ALARM & MONITORING :

307.1.1 Fire monitoring& alarm system

As in 304.2.1

307.1.2 Bilge monitoring & alarm system

Bilge sensing and alarm panel at main helm station of the bridge.
Secondary sound and light alarm at cockpit steering position.

307.1.3 Tanks monitoring & alarm system

Tank sensing and alarm panel at the main helm station of the bridge.
Daily tank fuel gauges and alarms at both steering positions.

307.1.4 Navigational alarm systems

As per instruments specifications

307.1.5 Security monitoring and alarm

Burgler alarm at all deck entrances. Closed circuit camera system for engine room, fore deck, aft deck, flybridge and garage

307.1.6 Notes

PART 4 INTERIORS

401 GUEST INTERIORS & DECK SPACES

DECORATION & DOMESTIC EQUIPMENT :

As per design standards on the plans to be completed, the decoration and interior domestic equipment will have the following specifications :

Standard Fixtures & Materials for all areas

- All interior lighting fixtures will be Cantalupi, BCS, Pelagi or equivalent.
- All lights will be 220 volt wherever practical, otherwise they will be 24 volt.
- All lighting switches and all sockets will be Vimar , Berker or equivalent type
- All interior door, drawer and locker handles will be Handle, Wurth or equivalent type
- All interior bathroom water faucet fixtures and accessories will be Grohe or equivalent
- All bathroom sinks will be white enamel
- Sinks in bars and galley will be stainless steel type Bianco or equivalent type
- Bed mattresses will be in two density foam.
- All bathroom and cabin mirrors will be clear silver with beveled edges, 8 mm. min. thickness and supplied by Yamancam or equivalent type

Standard materials for, cabins, corridors & salon are

Furniture

- Wood veneer on furniture pieces will be satin lacquered , shade of staining as per client's choice. Veneer as per client choice based on a cost of 20 euro per m²
- Massive wood for furniture trim and mouldings will be satin or brilliant lacquered Ayos or similar wood, colour as per clients choice

Upholstery

- Furniture seating upholstery will be covered in fabrics as per clients choice, based on a fabric cost of 20 Euro per linear meter
- All bedding materials fabrics will be as per clients choice, based on a fabric cost of 20 Euro per linear meter
- All windows and portlights will have curtains except in pilothouse. They will be Roman Blind style, and fabrics will be as per clients choice, based on a fabric cost of 20 Euro per linear meter

Floor Coverings

- In cabins, corridors and salon will be carpet, colour as per clients choice
- In bathrooms and pilothouse it will be simulated teak and holly decking

Wall Coverings

- In cabins, corridors and salon the wall finish will be fabric panels, fabric and colour as per clients choice, based on a fabric cost of 20 Euro per linear meter
- In the pilothouse the wall finish will be mostly lacquered cherry or mahogany wood panels. Window mullions will be polished carbon fibre
- In bathrooms the wall finish will be white brilliant lacquered panels
- In shower stalls the wall finish will be white brilliant lacquered Forex panels

Ceiling Coverings

- In cabins, corridors, salon and pilothouse the ceiling covering will be Lorica or alcantara, colour as per clients choice
- In bathrooms the ceiling will be white brilliant lacquered panels

Bathrooms

- Counter tops will be granite, type/colour Verde Bahia from or other texture and colour as per client's choice
- The master cabin bathroom only is equipped with two sinks, a bidet and a separate volume for dressing with sliding doors and wardrobes as per design to be approved by the client. The aft wall of the toilet and shower cabins to be glass of appropriate specification.

401.1 MASTER CABIN	: To be arranged as per drawings of designer
401.2 VIP CABIN	: To be arranged as per drawings introduced
401.3 2xGUEST CABINS	: To be arranged as per drawings of designer
401.4 NANNY CABIN	: N/A
401.5 SALOON	: To be arranged as per drawings of designer
401.6 HELMSTATION	: To be arranged as per drawings of designer
401.7 AFT DECK ARR.	: To be arranged as per drawings of designer
401.8 FORE DECK ARR.	: As per GA drawings
401.9 FLYBRIDGE ARR.	: To be arranged as per drawings of designer
401.10 CORRIDORS	: To be arranged as per drawings of designer
401.11 LOCKERS	: As per GA drawings
401.12 AFT PLATFORM ARR.	: As per GA drawings

402 CREW QUARTERS

Furniture

- Wood veneer on furniture pieces will be built in clear lacquered Wava wood
- Massive wood veneer on furniture pieces will be built in clear lacquered Wava wood
- All interior door, drawer and locker handles will be Tem Mobilya and Wurth

Upholstery

- All bedding materials, fabrics will be as per clients choice, based on a fabric cost of 15 Euro per linear meter
- All portlights will have draw type curtains

Floor Coverings

- In cabins, will be light gray carpet.
- In bathroom and corridor simulated teak and holly decking or light gray vinyl tiles.

Wall Coverings

- In cabins, corridors and salon the wall finish will be fabric panels, fabric and colour as per clients choice, based on a fabric cost of 15 Euro per linear meter
- In the bathroom the wall finish will be white brilliant lacquered Forex panels

Ceiling Coverings

- In cabins, and corridor, and bathrooms the ceiling will be white lacquered panels

Domestic Equipment Installed in Crew Area

1	Washing machine	Bosch WFL 2460
1	Drying machine	Bosch WTA 2000

402.1 CREW CABIN 1	: To be arranged as per drawings of designer
402.2 CREW CABIN 2	: To be arranged as per drawings of designer
402.3 CREW CABIN 3	: To be arranged as per drawings of designer
402.4 CREW MESS	: To be arranged as per drawings of designer
402.5 CREW QUART. CORR.	: To be arranged as per drawings of designer
402.6 CREW QUART. LOCKERS	: To be arranged as per drawings of designer

403 GALLEY

403.1 GALLEY :

- Wood veneer and trim on locker doors will be brilliant white lacquered wood
- Finish inside of galley lockers will be white Forex
- Counter tops will be granite, type/colour Verde Bahia or other texture and colour as per client's choice

Floor Coverings

Will be simulated teak and holly decking or vinyl tiles, colour as per clients choice

Wall Coverings

Wall finish behind counters will be brushed stainless steel or fire resistant formica panels colour as per clients choice
Refrigerator door finish will be brushed stainless steel

Ceiling Coverings

Will be white brilliant lacquered panels

403.2 GALLEY EQUIPMENT :

Standard Equipment Includes

1	Water faucet fixture	Grohe	1
1	Large corner type double sink	Bianco or (equal) SS	
1	2.2m ³ built in cold room	CLD- Peri	
1	Large refrigerator	Bosch KSU 3620	
1	Medium freezer	Bosch GUL 1203	
1	4 plate ceramic stove	Bosch NKN 615	
1	Stove ventilation hood	Bosch DHU 652 U	
1	Oven	Bosch HEN 580	

(All equipment to be as specifications above, equivalent brands or superior quality)

403.3 PANTRY & EQUIPMENT :

None

403.4 BARS & EQUIPMENT :

2	Small refrigerator	Frigonautica FR 115 RC	
2	Ice maker	VitrifrigoIM 100	
1	Stove	Gagennau or similar	
1	Grill	Gagennau or similar	

404 ENTERTAINMENT

404.1 AUDIO & VIDEO EQUIPMENT :

Standard Equipment Includes (All to be in International Brands)

- 1 15" television in captains cabin and one in galley
- 1 DVD video player in in captains cabin and one in galley
- 1 17" television in each guest cabin
- 1 DVD video player in each guest cabin
- 1 One 32" television in owners cabin
- 1 DVD video player in owners cabin
- 1 37" television in salon
- 1 DVD video player in salon
- 1 CD stereo in each cabin with two speakers
- 1 CD stereo in salon with four speakers, plus two speakers for aft deck
- 1 CD stereo on flybridge with two speakers
- 1 TV satellite antenna and tuner

404.2 IT EQUIPMENT : 1 x high spec. laptop (software to be provided by the client) appropriate for general use

405 MISCELLANEOUS

405.1 DECK INVENTORY : As described at related sections -1 x RIB dinghy of acceptable international brand and quality to fit in to the lazarette and the outboard engine, controls and accessories

405.2 MACHINERY INVENTORY : As described at related sections

405.3 INTERIORS INVENTORY : As described at related sections

PART 5 PAINT & VARNISH SYSTEMS

501 EXTERIORS PAINT SYSTEMS

501.1 UNDERCOATS :

501.1.1 Underwater area

Underwater area of approximately 132 m², will be painted with two coats of high-build, two components epoxy paint such as Jotun Megaprimer prior to slight filler work to be carried out in this area. The application will be done by roller brush with relative humidity less than %70 and temperature in between 18° to 26° C.

501.1.2 Sides, superstructure & decks

The hull sides, superstructure and deck areas of approximately 520 m², will be painted with two coats of high-build, two components epoxy paint such as Jotun Megaprimer prior to complete filler work to be carried out in this area. The application will be done by roller brush with relative humidity less than %70 and temperature in between 18° to 26° C.

501.2 FILLER WORK :

501.2.1 Underwater area

The filler work to be carried out on the underwater area is only for the measure of avoiding surface irregularities which may create turbulence during the planing of the vessel and has no cosmetic aim. The application will be done only after the coarse sending of undercoat for proper adhesion of the filler. Jotun Megafiller will be used as filling material. The filler applied areas will be sanded and re-filled with Jotun Megafiller Smooth if necessary. The filler application will be done with relative humidity less than %70 and temperature in between 16° to 28° C. The partial filler work at underwater areas will be locally coated with two additional coats of the undercoat paint used in the system.

501.2.2 Sides, superstructure & decks

The filler work to be carried out on the hull sides, superstructure and deck has significant cosmetic value and the target is to get perfect finish surface free of any irregularities. The application of Jotun Megafiller and Jotun will Megafiller Smooth to be carried on with satisfactory degree of sanding and refilling until a perfect smooth surface is reached. The application will be done only after the coarse sending of undercoat for proper adhesion of the filler. The filler application will be done with relative humidity less than %70 and temperature in between 16° to 28° C.

501.3 UNDERCOAT & TOPCOAT :

501.3.1 Underwater area

The underwater will be primed as per instructions of the anti-fouling paint manufacturer . The anti-fouling paint of Jotun Imperial will be applied by roller brush not less than three complete layers. The application will be done with relative humidity less than %70 and temperature in between 16° to 28° C.

501.3.2 Sides, superstructures & decks

After the completion of the filler work, the resulting surfaces will be undercoated by two application of Sicomin 215 two component undercoat. The same areas will be wet sanded prior to the application of last undercoat: Sicomin 228 two component undercoat. The resulting surface will be wet sanded again with fine sanding paper prior to minimum three layers of Sicomin aeronautic class two component polyurethane topcoat. The last layer of topcoat will be done with the mixture of color and polyurethane clear coat as per manufacturer' s instructions. In accordance with the conditions, the topcoat can be applied at one go or the clear coat can be applied after the first two colored coats. In case there is a longer interval than 24 hours in between the last two coats and the clear coat, the surface will be sanded after a period of minimum 78 hours, with fine sanding paper prior to clear coat application. All the above applications will be done with relative humidity less than %70 and temperature in between 16° to 28° C. The result of the topcoat application will be in top megayacht level, free of contamination, opaque spots, orange peel areas, droplets and other similar defects which may create cosmetic discrepancies. Color to be discussed and decided.

502 INTERIORS PAINT SYSTEMS

502.1 UNDERCOATS :

502.1.1 Bulkheads and walls to be painted

Minimum one coat of two component epoxy paint on all horizontal and vertical surfaces even if such surfaces will be covered by panels, upholstery and etc.

502.1.2 Furniture

As per interior designer's specifications

502.2 TOPCOATS :

502.2.1 Bulkheads and walls to be painted

As per interior designer's specifications

502.2.2 Furniture

As per interior designer's specifications

503 BILGE PAINT SYSTEMS

503.1 List of bilge areas to be painted

All bilge surfaces, wings, bulkheads and ceilings without exception

503.2 Application of bilge paint

Minimum 2 coats of two component epoxy paint in all bilge surfaces. Critical areas such as fore peak, engine room bilge, garage bilge to be painted with an additional third coat of same paint.

503 TANK PAINT SYSTEMS

504.1 List of tanks to be painted

All tanks to be painted at least with two coats of paint as per need of the tanks. Only suitable coating material can be applied in accordance with the tank specifications. The varying coating specifications should match the different criteria for :

- Fuel Tanks
- Sewage Tank
- Freshwater tank

504.2 Application of tank paints

As per directions of the manufacturers