CUSTOM LINE

Navetta 37 m

Standard Technical Specification

November 12th, 2019

Rev_00

INDEX

1. GENERAL

1.1. GENERAL INFORMATION

This technical specification and enclosed plans describe main technical features of standard version of Custom Line Navetta 33m semi-displacement luxury motor yacht, twin screw propellers and two diesel engines.

The yacht has been specifically designed for recreational purposes.

The configuration of this Yacht is a double deck arrangement plus sun deck.

The present Technical Specification, named Specification in the following, is referred to the standard general arrangement in force at the date of the present specification.

The design and construction will be strictly in accordance with the following specifications that describe the standard Yacht version.

Any Owner request of upgrading/modification to the Specification, to the general arrangement and to the drawings, will be evaluated and quoted accordingly if feasible.

In case of technical discrepancies between specification and contract, the specification will prevail. The use of «or» in the specifications means that alternatives are possible and means «at the shipyard discretion». The warranty is in conformity to the contractual terms.

1.2. PARTIES

The Builder:	Custom Line Yachts brand of Ferretti Group SpA
Technical & Naval Project:	Ferretti Group Engineering Department
Exterior Design:	Zuccon International Projects
Interiors and layout project Design:	Ferretti Group Project Architect & Engineering Dept. Interior Design

1.3. MAIN CHARACTERISTICS and PERFORMANCES

Length overall (ISO 8666)	37.04 m	121 ft. 6 in.
Waterline Length (full load)	30.66 m	100 ft. 7 in.
Beam max	8.0 m	26 ft. 3 in.
Draft to propeller at full load (relating to the lowest point, including the appendices at even keel)	2,27 m approx	7 ft. 5 in.
LightShip	185 tons	407,855 lbs
Full Load Displacement (2)	225 tons	496,040 lbs
Gross tonnage (ITC 1969)	289 GT	
Fuel tank capacity	32500 lt	8586 US gals
Fresh water capacity	4000 lt	1057 US gals
Grey water capacity	1500 lt	396 US gals
Black water capacity	1500 lt	396 US gals
Maximum speed (half load displacement)	~ 15.5 knots	
Cruise speed	~ 12 knots	
Range at cruise speed	~ 2000 nm	
Range at 10kn	~ 3000 nm	
Accommodation for Owner & Guests	5 Cabins-7 Bathrooms	
Accommodation for Crew	4 Cabins-4 Bathrooms	

2. MAIN MACHINERY

2.1. MAIN ENGINES

Two four stroke diesel engines suitable for marine propulsion will be installed on the dedicated foundations in the engine room:

Manufacturer	MAN
Model	MAN – V12 LE446 1400 CR
Rated power	1400 mhp (1029 kW)
RPM	2300

Exhaust emissions of these engines are in compliance with EPA TIER III and IMO TIER III regulations.

2.2. GEAR BOXES

A reduction gear box ZF 3050 A will be directly coupled to each engine.

Reduction ratio, determined on relation to the propeller design and propulsion set, is 3.28:1.

Reduction gear features as per Manufacturer recommendation will be provided.

The gear boxes and the main engines will be elastically mounted on resilient mounts.

2.3. TRANSMISSION

It will be in line with a thrust bearing unit mounted between the shaft flange and the reduction gearbox.

Free standing installation of main engine and gear box will be provided through the installation of a flexible coupling between the output gearbox flange and the thrust bearing unit.

2.4. SHAFT LINES, BEARINGS AND SEALS

Water lubricated bearings will be provided for each propulsion shaft line.

Shaft material will be made in AQUAMET 17; diameter and design will be according to the RINA Rules for the Classification of Pleasure Yachts.

Mechanical seals will be mounted inside the hull.

2.5. PROPELLERS

Two skewed propellers, 6 blades, diameter about 1350 mm, designed to obtain high efficiency and low noise will be provided.

They will be made by nickel- aluminium-bronze (NiBrAl).

Each propeller will be statically and dynamically balanced. Manufacturing tolerances will be according to ISO 484/2 CLASS S.

2.6. STEERING SYSTEM AND RUDDERS

Two spade rudders with driven by wire-steering control will be provided.

The rudder blade size and the profile shape will be designed to ensure good manoeuvring capabilities and according to RINA Rules for the Classification of Pleasure Yachts.

The rudders construction material will be AISI 316; rudder trunks will be made in AISI 316, with bronze bearings.

Rudder stock will be made in Marinox 17, sized according to the RINA Rules for the Classification of Pleasure Yachts.

2.7. BOW THRUSTER

A structural GRP tunnel will be provided and fixed to the hull during lamination, with a number of GRP layers in according to the RINA Rules for the Classification of Pleasure Yachts.

A 75 hp (56 kW) hydraulic bow thruster unit, made by American Bow Thruster, will be installed.

The power to the bow thruster will be supplied by variable displacement piston pumps mounted on the gearboxes PTO.

The installation will be executed strictly according to Manufacturer instructions and specifications.

Control Joystick will be installed on the main helm station in pilot house and on the wing control stations.

2.8. STABILIZER FINS

Two electrohydraulic stabilizer fins ABT – TRAC 370/16x working underway and at zero speed will be installed.

The fin area will be about 1.6 m^2.

The installation will be done strictly according to Manufacturer instructions and specifications.

A 15.0 kW electrical power pack will be provided for zero speed function at anchor.

The fins control will be integrated in the main dashboard with additional control panel for backup in pilot house.

2.9. ELECTRIC POWER GENSETS

Two diesel generators with the following characteristics will be installed in the engine room on dedicated aluminium foundations:

MAIN GENERATOR:

Manufacturer	KOHLER®
Model	55EFOZDJ
Rated power outputs:	55 kW
Rated voltage / frequency and phases:	400 Vac/50 Hz – 3 phase
RPM	1500
Insulation class:	H
Tension regulation:	± 0.5 %
Frequency regulation:	± 0.5 %
Starting system:	12 VDC
Exhaust emissions compliance:	EPA TIER III

Each diesel genset will be provided with automatic shut-down for the following alarms:

- low oil pressure
- high water temperature
- overspeed

Each diesel genset will be equipped with:

- sound-proof enclosure

- built-in freshwater circulating and cooling system with heat exchanger
- oil cooler
- electronic speed regulators
- control panel mounted outside the soundbox equipped with:
    - starting/stop push buttons
    - volts, amps and hour meters

Diesel gensets will be provided with isolated ground.

3. AUXILIARY MACHINERY

3.1. GENERAL AUXILIARY MACHINERY

Auxiliary machinery will be supplied and installed by the Shipyard as per Custom Line standard in accordance with ISO rules & RINA Rules for the Classification of Pleasure Yachts.

3.2. BILGE AND FIRE SYSTEM

3.2.1.1. MAIN BILGE & FIRE PUMPS

Two electric self-priming pumps made by Gianneschi, model ACB 531/A, 400Vac/50Hz 3phases, 4 kW with a flow rate of 10.8-30 m3/h and a head of 3.0-33.0 m H2O will be installed in the engine room.

One unit will feed the fire main while the second pump will be the main bilge pump. The fire pump can be by-passed by the bilge pump and the other way around.

3.2.1.2. EMERGENCY DIESEL MOTOR PUMP

One diesel motor pump made by Gianneschi, model MBMA 50/160B with a flow rate of about 550 litres/min will be mounted in the port side of beach area technical space, for bilge and fire system.

3.3. FUEL OIL SYSTEM

3.3.1. FUEL OIL TRANSFER PUMP

The transfer system shall allow to transfer fuel oil from the storage tanks to the two daily tanks by means of n° 1 electric transfer pump made by Gianneschi, model CP40 24Vdc, 0.75 kW with a maximum flow rate of 9.9 m^3/h and n° 1 electric transfer pump made by Gianneschi, model CP40LN, 400Vac/50Hz/3phases, 0.75kW, with a maximum flow rate of 8.7 m^3/h.

The pumps controls will be located on the main electrical panel in engine control room, and integrated in the main dashboard in the wheelhouse.

3.3.2. FUEL OIL FILTERS

Additional filters will be installed for main engines (double) and diesel generators (single).

3.4. FRESH WATER SYSTEM

3.4.1. FRESH WATER PUMP

Water pressure system made by Gianneschi Ecoinox 4 with a flow rate of 8.4 m^3/h and a max pressure of 4 bar will be installed.

3.4.2. WATERMAKER

The watermaker system will be made by IDROMAR, model MC3J 400Vac/50Hz/3phase (180 l/h) installed in the engine room. Through hull line and strainer will be used for connections.

3.4.3. BOILER

2 boilers having a capacity of 100 liters each, 230Vac/50Hz, will be mounted on board.

3.4.4. HOT WATER CIRCULATION PUMP

One hot water circulation pump made by Gianneschi, model UP20 230VAC/50Hz will be installed in order to have a quick response of warm/hot water on the taps.

3.4.5. SILVER IONS DOSING UNIT (OPT)

Silver ions dosing unit will be fitted as an optional request for water tank disinfection.

3.5. SEWAGE TREATMENT (OPT)

One unit for sewage treatment (made by Hamman, type HL CONT PLUS 0125, 400Vac/50Hz/3 phases) will be provided as an optional request conforming to Marpol Annex IV and connected to the black water structural tank.

One black water holding tank will be fitted in the engine room.

3.5.1. BLACK AND GRAY WATER PUMPS

One grey water electric pump made by Gianneschi, model MVG44 400Vac/50Hz/3ph, with a maximum flow rate of about 3 m^3/h will be connected to the grey water tank.

One identical unit will be connected to the structural black water tank.

In case of failure of one pump, the second unit can be used to discharge the tank, after having suitably operated section valves.

Black and grey waters can be discharged overboard according to the IMO rules.

3.6. FIRE EXTINGUISHING SYSTEM

3.6.1. ENGINE ROOM EXTINGUISHING SYSTEM

One firefighting Manual / Automatic FM200 system with 2 nozzles will be installed for protecting the engine room.

3.6.2. GARAGES EXTINGUISHING SYSTEM

The stern garage will be protected by a sea water spraying system connected to the fire main by a manually operated valve.

The same extinguishing system will be installed as optional to protect the forward garage in case of installation of tender or toy fed by petrol.

4. PIPING AND SYSTEMS

4.1. GENERAL

The systems descripted below are intended to be installed on a pleasure yacht, therefore in compliance with the related applicable rules.

4.2. BILGE AND FIRE SYSTEMS

The system will be designed according to the RINA Rules.

Each watertight compartment will have at least one separate bilge suction line, with valve, connected through the main bilge manifold located in the engine room to the pump and then to the bilge tank as per tanks capacity plan. A secondary manifold will be installed in the control room, it will be directly connected to the emergency bilge-fire pump, the main bilge manifold and to a dedicated sea chest. Both the manifold will be made in stainless steel AISI 316.

Stabilizer fins compartments will not be fitted by bilge suctions, while the will be connected with bilge alarm system and fitted with a sight glass.

The water of the bilge can also be discharged by an overboard outlet located in the engine room.

Main engines sea water cooling pumps can be used to draw water from the engine room bilge in case of emergency.

Bilge piping lines will be made by flexible hoses fire resistant according to ISO 13363 and ISO 7840 in engine room and machinery spaces, while according to ISO 13363 out of the those spaces.

Fire piping lines will be made by flexible hoses fire resistant according to ISO 15540 and ISO 15541 in engine room and machinery spaces, while according to ISO 7840 out of those spaces.

Seven hydrant valves, with fire hoses and nozzles will be fitted in the following positions:

• n°3 at lower deck level (one in the guest area, one in the crew area and one in the control room).

• n°3 on main deck

• n°1 on aft upper deck area.

The hawse pipes will be connected to the fire manifold for sea water chain washing.

4.3. FUEL OIL SYSTSTEM

Fuel oil tanks will be fitted on the hull bottom as per tanks capacity plan.

A stainless steel AISI 304 manifold will be mounted in the engine room to transfer the fuel from each tank to each other by two e/pumps.

The two side daily tanks will be directly connected through a cross connection fitted with a normally open valve located in the engine room. The suction line will connect both the tanks to the users though valves and filters.

Filling stations will be located on main deck sides, one port and one starboard, and will be able to deliver the fuel to bunker tanks. Tanks can be filled by gravity only.

Piping lines will be made by flexible hoses fire resistant according to ISO 15540 and 15541 in engine room and machinery spaces while in accordance to ISO 7840 outside those spaces.

Remote closing valves will be mounted on daily tanks suctions.

Connections to the main engines and the generator sets will be done with flexible joints.

4.4. SCUPPERS AND DRAINAGE SYSTEM

Scuppers and drainage system will be provided to collect and discharge outboard the wash down and water from external decks.

Drainage will be provided for scuttles communicating with the external, external lockers, hatches and for hardtop.

Above main deck pipes will be made in PVC and flexible hoses, while below the main deck the scupper lines will be flexible hoses in compliance with ISO 13363, type 2, B class.

Overboard scupper outlets will be made through a shell connection made in bronze and mounted above the waterline at full load.

4.5. GREY AND BLACK WATER SYSTEMS

One black water and one grey water tanks will be fitted in the hull bottom as for tank capacity plan.

Grey water system will be designed to have sinks, baths and showers draining through conventional collecting tanks equipped with automatic pump and connected to the grey water tank.

Washing machines and dishwashers will discharge directly in the grey waters tank.

Galley will discharge directly into the grey waters tank by gravity; a three-way valve, properly labelled will be installed in an accessible location for outboard discharge.

WC waters will be delivered to the black water tank by the electric pump mounted on each WC.

Three way valves will be fitted in order to discharge directly overboard when the boat is in condition to comply with MARPOL rules. These valves will be labelled and their use will be under captain's responsibility.

As optional one black water treatment unit will be provided with a sewage tank as per tanks capacity plan.

Piping will be made by hoses in reinforced rubber with odour-free treatment. Connections will ensure a smooth inner pipe surface without steps or hindrances to the flow. All piping will be installed as per the system manufacturer recommendations.

Two transfer pumps will suck from two different manifolds, one for the grey and one for the black water tank, and will allow to discharge overboard by dedicated outlets located at stern. The manifolds will be connected with a normally closed valve in order to act in emergency mode.

4.6. COMPRESSED AIR SYSTEM

The system will supply compressed air to the horn and through a pressure reducing valve

to the following equipment:

• n°1 outlet in engine room

Piping lines will be polyamide flexible hoses.

4.7. HYDRAULIC SYSTEMS

Piping lines for non essential services will be made by flexible hoses certified for high pressure.

The steering system lines will be in carbon steel; high pressure fittings will be used as a joint system.

The installations will be according to the system manufacturer recommendations too.

4.8. FRESH WATER SYSTEM

One fresh water tank will be fitted in the hull bottom as per tank capacity plan.

Cold and hot water lines will be provided to feed the various users.

The hot water will be distributed onboard by a ring, and a circulating pump will keep constant the temperature along the ring. Hot water pipes will be thermal insulated.

Filling lines will be provided on the aft main deck on both sides.

The water maker production will be delivered directly into the fresh water tank.

An active carbon filter could be installed as OPT from the pumps to the users.

Hand held showers with hot and cold water will be provided for the stern platform.

The following wash down connections, integrated into the fresh water system, will be provided:

n° 2 on main deck,

n° 2 on upper deck, one aft and one forward,

n° 1 on sun deck,

n° 1 in the aft garage.

Water supply will be provided to the windscreen jets in the wheelhouse.

Piping will be in plastic.

4.9. AIR CONDITIONING PIPING

Pipes for air conditioning chilled/heated water will be made in flexible rudder with neoprene insulation in and out of the engine room.

4.10. SEA WATER COOLING PIPING

In the engine room there will be located:

n° 2 sea chests for main engines,

n° 2 sea chests for diesel generators,

n° 1 sea chest for fire pump,

n° 1 sea chest for air conditioning system,

n°1 sea chest for Hamann sewage treatment unit (OPT),

n° 1 sea chest for stabilizer system hydraulic oil cooling circuit,

n° 1 sea chest for water maker,

n° 2 sea chests for the shaft seals,

In the aft port technical space there will be one sea chest for the emergency fire/bilge diesel-engine pump.

Connections to the engines will be by means of flexible hoses. The sea water system circuit of the main engines will feed the gearboxes, the seals and the exhaust gas of main engines.

Pipes for sea water will be made basically by fire resistant flexible hoses compliant with ISO 15540 and 15541 for the branches connected to sea chests and by flexible hoses compliant with ISO 13363 2004, type 2, B class for overboard discharge lines.

4.11. AIR VENT LINES

All structural tanks will be provided with adequate air vent line.

Fuel oil tanks vents will be connected to an overflow tank, then to the hull overboard by means of a goose neck line located above main deck (min. height according to RINA Classification Rules). Material will be as per fuel oil system.

Fresh water vents will be led to the overboard connection through a piping having a goose neck above main deck (min. height according to RINA Classification Rules). Material will be as per fresh water system.

The air vent for the black water, grey water and sludge tanks will be led to the overboard hull connections through lines having a goose neck above main deck (min. height according to RINA Classification Rules).

No-smell filters will be provided for black and grey water vents.

4.12. MAIN ENGINES EXHAUST GAS PIPING

The exhaust gas of each main engine will be led underwater through the sponson.

Metallic compensators will be provided at the engine gas outlets; then the gas will be ducted to a silencer located over the main engine and from there it will be cooled down in an injection sleeve and brought to the connection to the hull through a silicon-rubber sleeve.

The main outlet will be located close to the water level on the bottom side of the sponson.

Pipes will be made in AISI 304 stainless steel for the dry part, and in AISI 316L stainless steel for the wet part.

A temperature sensor for high temperature monitoring and alarm will be fitted on each wetted exhaust gas pipe.

The system will be designed to provide back pressure levels within the limits indicated by to the engine manufacturer.

4.13. DIESEL GENERATORS EXHAUST GAS PIPING

The generating sets will have a reinforced rubber line from their outlet to the gas/water separator compliant with ISO 13363 2004, type 2, B class; the connection from the separator to the hull overboard will be through flexible hoses compliant with ISO 13363 2004, type 2, B class.

Exhaust gases will be discharged through an outlet located above the water line, while the cooling water will be brought to an overboard connection below the waterline.

4.14. VARIOUS

All piping connected to rotating and vibrating mechanical equipment will be connected with flexible couplings or hoses, oil resistant material will be used on fuel and oil systems.

All pipe work will be installed without stress and with adequate clamps fixed to the yacht structure.

Metallic piping for hydraulic oil will be supported by plastic saddle clamps with rubber inserts.

Chiller water pipes will be connected to the yacht structure with insulated clamps.

5. HULL AND STRUCTURE

5.1. HULL GENERAL

Hull form is designed on the basis of experience on previous similar Yachts, to have the appropriate seakeeping, manoeuvrability and general handling characteristics.

The structural design and assessment will be according to the most recent experience in design and construction of GRP for this type of Yacht and in according to the RINA Classification Rules for Yachts.

5.2. HULL & DECK MATERIALS AND CONSTRUCTION

The hull structure shall be made of main longitudinal structures and transversal frames and bulkheads.

The hull and the decks will be built in glass-fiber reinforced plastic (GRP) with vinylester and isopthalic resins.

The Yacht will be made of GRP sandwich (sides) and monolithic (bottom) laminations using mat, unidirectional, biaxial and woven E-glass as shown on the structural drawings approved by the Classification Society.

The structural members of the hull and deck will be made using isopthalic resin.

The prevention of osmosis phenomenon of the hull will be carried out by using an iso-neopentylic gelcoat, in order to create a suitable barrier to water.

A further barrier to hydrolysis of the GRP laminate will be obtained by using a vinylester resin for the execution of the skin coat (first lamination layers after the gelcoat).

The hull outer skin will be made of vinylester resin, while an isopthalic resin will be used for the inner skin.

The hull bottom will be monolithic GRP with longitudinal stiffeners and transversal frames.

The hull sides and main deck will be built, mainly, in sandwich-type GRP consisting of PVC foam core and inner and outer skins.

The hull will have GRP tanks for fuel oil, black waters, grey waters, fresh water, integrated into the hull structure.

Each structural tank will have at least one manhole.

The tanks will be joined to structural elements with Classification Society approved GRP lamination.

Tank internal surfaces will be treated in order to avoid that the liquid stowed in the tank will penetrate the GRP material:

• Fuel tanks will be properly finished with layers of MAT E-glass and MAT C-glass and finally treated with fire retardant gelcoat.

• Fresh water tank with food grade epoxy gelcoat

All penetrations of piping and electric cables through watertight bulkheads will be watertight.

Structural bulkheads will be carried out through the sandwich-type GRP, consisting of PVC foam, and composite marine wood panels.

The watertight collision bulkhead will be positioned in accordance with the Classification Society requirements.

A chain locker of such a volume suitable to contain port and starboard chains will be provided forward the watertight collision bulkhead.

A GRP bow thruster tunnel will be provided and will be fixed to the hull by means of an adequate lamination.

GRP bulwark will be provided and will be integrated into the hull sides.

The bulwark will be equipped with freeing ports, in compliance with the applicable rules.

5.3. STRUCTURAL REINFORCEMENT, PLATES AND INSERTS

Special consideration will be paid to local reinforcements such as:

- fore and aft sections
- main machinery foundations
- shaft brackets
- rudders
- fin stabilizers
- bow-thruster tunnel
- rudder hole
- sea chests
- hull transducers
- windlasses
- bollards
- anchor hawse
- tender and water toys launching and haulage system
- stern door kinematics
- side bulwark window (OPT)

Steel, stainless steel and brass inserts will be fitted to distribute concentrated stress due to the fastening of heavy machinery and parts to the hull structure (eg. hand rails, pillars,..)

5.4. ANTIFOULING

Antifouling paint will be applied to the external underwater hull.

5.5. HULL DOOR

The yacht will have a stern GRP platform, as per general arrangement, integrated to the rear garage door.

The transom door will open by activating the “beach and lock” command, powered by the hydraulic system and creating a large bathing platform with natural teak laid.

The transom door will open turning UP by a hydraulic system to permit to launch the tender if present onboard (OPT).

The system is patented DMT (Dual Transom Mode).

5.6. HULL BASEMENT; SUPPORTS AND HAWSE PIPES

Proper plywood (fully laminated with GRP) or aluminum profiles structure will be provided to support each machinery, equipment and switchboard in engine room and control room.

Aluminum structural supports dedicated to the gensets will be fitted.

Aluminum profiles will be used to build structures to support the engine and control room floor.

Hawse pipes will be made of GRP laminate with a number of fiberglass layers in according to the RINA Classification Society Rules.

Sea water chain washing facilities with two nozzles per hawse pipe will be provided.

5.7. MAIN ENGINES AND GENSETS OVERBOARD DISCARGE

Main engines gas exhaust outlets will be located in the aft area port and starboard side (rub rail area).

Diesel generators gas exhaust outlet will be provided on the hull side shell at waterline level.

5.8. SUPERSTRUCTURE MATERIALS AND CONSTRUCTION

The superstructure will be built, mainly, with a cored sandwich structure in the decks and on the sides using glass composite skins as shown on the structural drawings approved by the Classification Society.

Longitudinal and transversal girders will be built in GRP.

Where necessary single skin laminate will be provided.

First and second superstructure decks and sides will be built in sandwich-type consisting of PVC foam core and fiberglass skins.

Local reinforcements will be fitted, where necessary, to support concentrated loads due to heavy parts and objects.

The connection between first superstructure and the main deck and between second superstructure and first superstructure will be made, mainly by means of bolts and flanges and an adequate number of GRP layers inside.

5.9. HARDTOP

A fiberglass hardtop with two lateral vertical supports on each side, will be mounted over the sun deck. On it there will be installed:

- Radar, navigation lights
- Navigation and communication equipment
- Supporting mast

6. AIR CONDITIONING AND VENTILATION SYSTEM

6.1. GENERAL DESCRIPTION

The system described below is intended to be installed on a pleasure yacht.

In general interior spaces shall be provided with fan coil units.

The air conditioning system is designed on the following data:

Summer			
Outside air	35° C	95° F	R.H. 70%
Inside air	23° C	74° F	R.H. 55%
Sea water temperature	32° C	90° F	

Winter			
Outside air	5° C	41° F	
Inside air	21° C	70° F	
Sea water temperature	5° C	41° F	

6.1.1. ACCOMODATION AIR CONDITIONING AND VENTILATION

HVAC system includes one chiller single phase with related sea water and chilled water pumps and fan coils. Technical specifications are summarised in the following paragraphs.

6.1.2. MAIN CHILLER UNIT

The main chiller unit consists of one PCWM 60004 machine. It will have two compressors and a rated cooling capacity of 240.000 BTU/h with heat pump.

6.1.3. FAN COILS*

6.1.3.1. ACCOMMODATION AREAS	
LD Vip cabin aft port side:	1x Dometic Condaria AP8
LD Vip cabin aft stbd side:	1x Dometic Condaria AP8
LD Guest cabin fwd port side:	1x Dometic Condaria AP5
LD Guest cabin fwd stbd side:	1x Dometic Condaria AP5
MD Main saloon:	4x AP8 + 3x AP5 Dometic Condaria

MD Lobby and day toilet:	1x Dometic Condaria AP1
MD pantry	1x Dometic Condaria AP1
MD Main galley:	1x Dometic Condaria GIANT8
MD Owner cabin:	2x Dometic Condaria AP8
MD Owner cabin:	1x Dometic Condaria AP3
UD Saloon:	2 x AP5 + 2xAP3 Dometic Condaria
UD wheelhouse:	3 x Dometic Condaria AP8
UD Lobby	1 x Dometic Condaria AP3
6.1.3.2. CREW AREAS	
Captain cabin:	1x Dometic Condaria AP3
LD Crew cabins side side:	2x Dometic Condaria APM
LD Crew cabin central cabin:	1x Dometic Condaria AP1
LD Crew mess:	1x Dometic Condaria AP5
6.1.3.3. TECHNICAL SPACES	
CONTROL ROOM	1x Dometic Condaria GIANT8

*HVAC system manufacturer may be changed at the Shipyard discretion. Design of the system will be, independently from the manufacturer, designed to achieve what described on 6.1. (General description).

6.1.4. AIR CONDITIONING SEA WATER PUMP

Two sea water cooling pumps Calpeda BC 41E, with a rated power of 0.75 kW 400Vac/50Hz/3ph will be provided (one unit is for back-up).

6.1.5. AIR CONDITIONING FRESH WATER PUMP

Two chilled water circulation pumps Calpeda NM10/AE, with a rated power of 1.1 kW 400Vac/50Hz/3ph will be provided (one unit is for back-up).

6.1.6. FANS AND EXTRACTORS

Extraction fans will be provided for the cabins through the bathrooms.

Extraction fans will be provided for the laundry, galley hood, day heads, technical spaces with electronics units.

Blowers will be installed on soft mountings in order to provide noise reduction.

6.2. ENGINE ROOM VENTILATION SYSTEM

6.2.1. ENGINE ROOM VENTILATORS

The air intake will be through natural ventilation.

Two blower made by Gianneschi or Gallinea or equivalent (at the Builder discretion) will be installed for the engine room ventilation, power supply will be 400Vac/50Hz3ph.

Both the units will be fitted with vibration damping rings, silencer and controlled through inverter unit in order to select the rotation direction and regulate the speed.

6.2.2. ENGINE ROOM FIRE DAMPERS

Fire dampers will be fitted in order to close the engine room ventilation intakes.

6.3. OTHER TECHNICAL SPACES VENTILATION

In general technical spaces and storages will be naturally ventilated to ensure adequate ventilation of each space to avoid overheating and condensation.

Blowers will be installed on soft mountings in order to provide noise reduction.

Blowers will be switch off in case of fire automatically by the FM200 discharge command.

7. OUTFITTINGS

7.1. WINDLASSES

Two electrical windlasses vertical type (4.0 kW - 400Vac/50Hz/3ph) will be bolted on the foredeck and locally controlled through hand wired controller.

Wheel roller will be installed in order to guide the cable chain through the hawse pipe, while a devil claw will be provided to lock the chain.

A polished stainless steel plate will be fitted below the windlasses to protect the gelcoat.

7.2. CAPSTANS

Two foot switch electric operated vertical capstans (2.2 kW – 400Vac/50Hz/3ph) will be fitted on the raised mooring area in each side of the main deck cockpit.

7.3. MOORING BOLLARDS AND FAIRLEADS

7.3.1. MOORING BOLLARDS

Polished stainless steel AISI 316L bollards will be fitted as follow:

n. 4 on the forward manoeuvring area (2 for each side)

n. 4 on the aft raised mooring areas in the main deck cockpit (2 for each side)

n. 2 on the aft platform (1 for each side) (to be used for tender mooring only)

7.3.2. FAIRLEADS

Polished stainless steel AISI 316L fairleads will be fitted in the main deck bulwark as follow:

n. 4 on the forward manoeuvring area (1 for each side)

n. 4 with integrated hooks, fitted on the side bulwark (2 for each side)

n. 2 on the aft raised mooring areas in the main deck cockpit (1 for each side)

7.4. ANCHORS AND CHAINS

Two anchors High Holding Power of 180 kg weight in galvanised steel will be fitted.

Two galvanised cable chains 14 mm in diameter, with stud link, and 137.5 m in length each will be fitted, one each side.

Anchor swivel will be in galvanized steel.

7.5. GANGWAY

A retractable electro-hydraulic gangway with polished stainless steel frame, planks teak laid and manually removable handrails on two sides will be fitted on the aft stbd side of the yacht.

The control panel will be installed in the stbd side cockpit entrance.

One electric power pack unit will drive the gangway through hydraulic oil system; it will be equipped by two electrical motors: one supplied by 24Vdc and the second one by 400V/50Hz 3 phase.

An IR receiver will be fitted for remote control; one remote hand controller will be provided.

7.6. SWIMMING LADDER

A manual foldable swimming ladder, with teak stairs, will be supplied.

Two polished stainless steel sockets will be fitted in the port side aft platform.

7.7. WINDOWS AND PORTHOLES

7.7.1. GLASS WINDOWS

The type and thickness of the glass panels, will be calculated and tested in according to ISO 12216 and RINA classification rules.

Glass windows shall be of Grey Europe colour (except for the pilot house) and will be fitted on the hull and superstructures.

Glass windows with integrated portholes will be fitted with proximity switch in order to monitor the portholes status (open/close) from the monitoring system.

7.7.2. PORTHOLES

Portholes with Grey Europe glass will be provided in the crew area as per standard general arrangement plan.

7.8. DOORS AND HATCHES

Weathertight doors equipped with proximity switch connected to the monitoring system, shall be fitted in the following areas:

- Main salon: aft glazed sliding door to main cockpit with polished stainless steel frame, electrically driven, one fixed parts and two sliding and lockable.

- Main salon: lateral stbd (port side as optional) sliding door with polished stainless steel frame, electrically driven, two central sliding parts and two fixed parts (symmetrical layout). The door four parts will lie on one plane when closed.
- Upper salon: aft glazed sliding door with polished stainless steel frame, electrically driven, one fixed parts and two sliding and lockable.
- Main deck: on port side, with pantograph mechanism, GRP frame, manually operated, with glass and electric lock/unlock.
- Engine control room: on port side, with pantograph mechanism, GRP frame, manually operated, with glass and electric lock/unlock.
- Wheelhouse: one door on each side (port and stbd), with pantograph mechanism, GRP frame, manually operated, with glass and electric lock/unlock.
- Upper deck lobby: on stbd side, with pantograph mechanism, GRP frame, manually operated, with glass and electric lock/unlock.

Flush type hatches and equipped with proximity switches for monitoring system will be fitted on the deck in the following areas:

- Emergency escape from engine room on main deck
- Emergency escape from owner's cabin on fwd upper deck

7.9. HANDRAILS AND PILLARS

Where requested by the RINA Classification Rules for Pleasure Yacht polished stainless steel AISI 316L handrails, made by squared profile according to Custom Line standard (60 mm x 20 mm) will be provided:

- Main deck starboard and port side area
- Upper deck starboard and port side area
- Sun deck starboard and port side area

Two gates will be fitted aft, at main deck level, on the stairs leading to the bathing platform.

Stainless steel pillars will be fitted in the following position:

- n. 2 on the main deck cockpit for the first superstructure
- n. 2 on the upper deck cockpit for the second superstructure
- n. 2 on the sun deck for the hardtop

7.10. WIND SCREEN PROTECTION

Transparent panels shall be fixed on polished stainless steel stanchions, fitted on forward sun deck bulwark to create a wind screen protection.

7.11. TEAK DECK LINING

According to Custom Line standard, the main and upper external decks will be planked with teak and black caulking as standard, including deck hatches.

Bathing platform, side sponsons and transom door, will be planked with teak and black caulking.

As per Custom Line standard the planks size will be 8 mm thick by a width of 40 mm. Max. Length 3000 mm.

The teak planks will be glued directly on the decks using the vacuum system or traditional lay if necessary.

Before the installation and gluing, all the decks will be treated and levelled – if necessary - in accordance with the Custom Line standards and the recommendations of the supplier of the coat of glue.

7.12. TEAK CAP RAIL

A teak cap rail will be fitted all around the main deck bulwark, mounted on a stainless steel hand rail.

7.13. FOREDECK STORAGE

On the foredeck, below the sun pad and close to the mooring area, there will be a storage space covered by an electro-hydraulically operated door, made in GRP and horizontally hinged.

8. ELECTRIC SYSTEM

8.1. GENERAL

The electrical equipment, wiring, fixtures, boards, switches etc. will be designed, located, installed and tested according to RINA Rules for Classification of Pleasure Yachts, IEC 60092-507, COLREG 1972 .

The main electric control panel will be placed in Engine Control Room

Other electric control panels will be placed in:

- Main deck
- Galley area
- Lower deck
- Crew area
- Wheelhouse

Other local electrical panels are placed in different areas.

A 70kVA isolation transformer tri-phase will be provided in the stbd side aft technical space.

Proper LED lighting will be provided for inside accommodation and outside areas.

8.2. THE 230V / 400V AC DISTRIBUTION SYSTEM

Main power supply system: 400V/230V AC, 50 Hz, 3 phase

The electrical system is basically supplied by:

- 400/230Vac for “heavy services”: lighting system, pumps, system machineries, navigation equipment and other services
- 24V DC for “light services” such as radio systems, alarms, emergency lights, electronic equipment, communications equipment and other services
- 24VDC for main engines start up
- 12 VDC for genset start up

8.3. THE 24V DC DISTRIBUTION SYSTEM

Lighting, navigation control, radio system and services will be 24V DC with dedicated battery packs and automatic battery chargers.

Dedicated 24 Vdc GEL battery pack and automatic battery charger for main engines.

Dedicated 12 Vdc GEL battery pack and automatic battery charger for gensets.

Dedicated 24 VDC GEL battery pack and automatic battery charger for radios

Dedicated 24 VDC GEL battery pack and automatic battery charger for emergency

8.4. SHORE POWER LINE

Shore power line (20m) connection to the dock, with plug 400Vac 50 Hz, 3 poles + ground 125 A connected to the isolation transformer, will be provided.

An electric Glendinning cable reel type CM8, with local and remote control will be provided the port side technical space in beach area.

8.5. GROUND SYSTEM

The ground system is integrated with the cathode protection system which is realised as a copper wiring, placed along the hull, connected by several cross and headed to copper plates and aluminium alloy anodes.

8.6. LIGHTNING ROD

The ship is equipped with a lighting rod

9. ELECTRONICS

9.1. NAVIGATION SYSTEM

A dashboard with navigation and automation system will be provided in the pilot house.

The dashboard will be composed by:

- 6 monitors 15” (2 units will be “touch” type)
- jog system control
- Bow thruster control lever
- Main engine throttles
- Main engines start/stop buttons and alarm signal, emergency stops
- Main engines key
- Autopilot
- 2 VHF (class A + D DSC)
- Alarm buzzers

To visualize and control the navigation instruments there will be supplied:

- Navigation Monitors configuration Management
- WH Device control scene Management
- Language selector (Italian – English)
- Integrated monitor brightness control
- Wiper control
- Horn control
- CCTV control
- Fog Horn signalling control
- Wind
- Depth
- Speed
- Wheelhouse light control
- Navigation Light control
- Compass light control and dimmer
- Steering control panel

- Steering mode and take over
- Fire extinguish
- Heading
- Rudder position (RAI)
- Roll & Pitch
- Boat speed
- Engine Data Conning
- Monitoring System
- Stabilizer System

Electronics will be placed into the integrated bridge panels.

Hull transducers:

- n°1 transducer eco-sounder Furuno
- n°1 transducer DST

Wheelhouse:

- Integrated dashboard with engines, automation and navigation system

The following equipment will be installed:

Navigation sensors including:

- n° 1 radar open array 3,5 ft antenna + radar Radome
- n° 3 GPS
- n° 1 Flux gate system
- n° 1 magnetic compass

Charting plotter system including:

- n° 2 independent processor black box

Autopilot and manoeuvring system including:

- n° 1 autopilot system, micro-processor controlled, with feedback system
- Magnetic compass

Wing stations

- Two control stations will be positioned externally at both sides of the pilothouse and will include all the necessary commands and instruments for manoeuvring the Yacht in mooring operations:
- Steering tiller
- Slave bow thruster control lever
- Horn
- Main engine throttles
- Main engines start/stop buttons and alarm signal, emergency stop buttons
- Rudder angle indicator
- Engines RPM gauges
- Alarm buzzers

9.2. COMMUNICATION SYSTEM

9.2.1. GMDSS RADIO SYSTEM

- 2 VHF class A + D
- N.1 SSB
- N.1 Navtex
- N.2 GMDSS portable VHF

9.2.2. INTERCOM SYSTEM

Will be installed in the wheelhouse, control room, emergency steering station

9.2.3. PHONE SYSTEM

The yacht is provided with an internal communication system controlled by a PABX central unit. Telephones and outlets are placed in the following areas:

- wheelhouse,
- main deck salon
- galley

- upper lounge
- master cabin
- lower deck cabin stern starboard side
- lower deck cabin stern port side
- guest cabin starboard side
- guest cabin port side
- captain's cabin
- engine control room

9.3. MONITORING SYSTEM

A monitoring and automation system will be provided on the yacht controlled by monitors positioned as follow:

- n.1 integrated in the dashboard in pilot house (15")
- n.1 in the crew area (15")
- n.1 in main electrical switchboard in ECR

9.4. CCTV SYSTEM

CCTV surveillance system will be provided with n.4 cameras positioned as follow:

- n.2 colour day/night camera in engine room
- n.1 colour day/night camera in engine control room
- n.1 waterproof camera on the ceiling in the external main deck cockpit
- n.2 colour camera in side walk main deck

The CCTV video sequencer can be controlled from the integrated dashboard in the pilot house and from the monitoring system display in crew mess and in engine control room.

9.5. ENTERTAINMENT SYSTEM AND IT

A centralized entertainment system will be provided, with main racks unit.

9.5.1. TV AND HI-FI

One DTV antenna.

MAIN SALON

- n° 1 TV 55'' LED
- Home Theatre system with amplifier tuner (5+1) connected to central server unit
- Apple-TV
- I-pad mini control system for entertainment
- HDMI Aux input

OWNER'S CABIN

- n° 1 TV 48'' LED
- Home Theatre system with amplifier tuner sound bar, connection to central server unit and Apple-TV
- HDMI Aux input

GALLEY:

- n° 1 Mini Hi-Fi CD system with tuner
- n° 2 loudspeakers

MAIN DECK EXTERNAL AFT:

- n° 2 waterproof loudspeaker
- n° 1 Amplifier connected to main salon airplay, party mode and volume control

FWD GUEST CABINS:

- n° 1 TV 32'' LED
- n° 2 loudspeakers
- Media server system with Apple TV connected to central unit
- HDMI Aux input

AFT GUEST CABINS:

- n° 1 TV 40'' LED
- n° 2 loudspeakers
- Media server system with Apple TV connected to central unit
- HDMI Aux input

CREW CABINS:

- n° 1 Mini Hi-Fi CD system with tuner
- n° 2 loudspeakers

CAPTAIN CABIN (lower deck):

- Mini Hi-Fi CD-DVD with tuner
- HDMI Aux input

UPPER DECK SALON

- n° 1 TV 48'' LED
- Home Theatre system with amplifier tuner connected to central server unit
- Apple-TV
- HDMI Aux input
- n° 2 loudspeakers

WHEELHOUSE:

- n° 1 Mini Hi-Fi CD system with tuner
- n° 2 loudspeakers
-

UPPER DECK EXTERNAL AFT:

- n° 4 waterproof speakers
- n° 2 Amplifiers connected to upper lounge, airplay, party mode and volume control

UPPER DECK EXTERNAL FORWARD:

- n° 2 waterproof speakers
- n° 1 Amplifier connected to upper lounge, airplay, party mode and volume control

SUN DECK:

- n° 2 waterproof speakers
- n° 1 Amplifiers connected to upper lounge, airplay, party mode and volume control

10. DOMESTIC APPLIANCES

10.1. APPLIANCES

Domestic equipment will be supplied in accordance with the standard appliances Plan which will be provided by the Builder (Standard appliances will be Bosch or equivalent selected at the Builder's discretion).

Galley:

- n°1 electric glass/ceramic 5 burners cooking top 230 Vac/50Hz
- n°1 hood
- n°1 oven (90cm / 35,4inc.)
- n°1 dishwasher (12 people)
- n°1 fridge – freezer 504 liters 230 Vac/50Hz side by side
- n°1 trash compactor
- n°1 microwave

Main Salon:

- n°1 fridge, 150 lt (39.6 gals) capacity

Pantry UD:

- n°1 fridge, 42 lt (11 gals) capacity

Crew area:

- n°1 washer – dryer machine
- n°1 microwave
- n°1 fridge – freezer

Upper deck cockpit:

- n°1 icemaker, 15 lt (4 gals) capacity

Sun Deck :

- n°1 grill
- n°1 fridge, 90 lt (23.8 gals) capacity

11. INSULATION

11.1. INSULATION GENERAL

Custom Line has designed and developed dedicated solutions to insulate the yacht for comfort and fire protection, investing in technology and materials.

11.2. SOUND PROOFING

Floating floors - plywood panels will be fitted on wood frames fixed onto the main deck.

Between panels and structural frames there will be fitted elastic materials.

Yacht insulation will be carried out taking into account comfort requirements and will be installed on board according to insulation plans and details developed by CUSTOM LINE.

Ceiling, sides and bulkheads will be treated with sound proofing materials.

11.3. FIRE PROTECTION

Fire rating divisions will be in compliance with the RINA Rules for Classification of Pleasure Yachts.

As for the engine room, the insulation will be installed in order to guarantee the B-15 equivalent class structural fire protection.

12. NOISE AND VIBRATIONS

12.1. GENERAL NOISE AND VIBRATION

Custom Line has performed dedicate study for the comfort of the yacht in the different conditions.

12.2. NOISE DATA

Typical reference values are as follow:

CUSTOM LINE - NAVETTA 37m Standard				
The data indicated in table B1 are referred to main standard engines: 2 x MAN V12-1400 mhp			**Table B.1** **Sailing** Two engines @ 1800 RPM	**Table B.2** **Anchor**
Location	**Deck**	**Note**	**Leq [dB(A)]**	**Leq [dB(A)]**
Aft Vip Cabins	**LD**		**58**	**47**
Fore Guest Cabins	**LD**		**54**	**46**
Crew Dinette	**LD**		**54**	**47**
Crew Cabins	**LD**		**52**	**46**
Aft Ext. Area - CL	**MD**		**79**	**56**
MD Saloon	**MD**	**Living area**	**61**	**45**
MD Saloon	**MD**	**Dining area**	**57**	**45**
Galley	**MD**		**56**	**50**
Owner's cabin	**MD**		**50**	**42**
Aft Ext. Area	**UD**		**72**	**54**
Upper Saloon	**UD**		**51**	**43**
Captain's Cabin	**UD**		**49**	**44**
Wheelhouse	**UD**		**52**	**50**
Middle Ext. Area	**SD**		**70**	**52**

For above B.1 and B.2 table measured noise levels, a + 2 dB(A) measurement tolerance will be accepted.

The measurement operating mode shall be in accordance to the standard ISO 2923.

12.3. VIBRATION DATA

The maximum values of the vertical velocity vibration levels, relevant to the single frequency component in the frequency spectrum from 5 Hz to 100 Hz, will not exceed following values, when measured in RMS [mm/s] in the specified areas and conditions.

Sailing Two engines @ 1800 RPM E. R. fans at half speed	
Owner and guest interior luxury areas (excluding aft VIP bathrooms)	**1.5**
Open deck relaxing areas	**2.0**
Crew area	**2.0**

A + 0.5 mm/s RMS measurement tolerance will be accepted on the all measured vibration levels.

The vibration levels must be analyzed in FFT from 5 to 100 Hz with spectral analysis in constant bandwidth not greater than 0.25 Hz and Hanning window type.

Vibration levels measured in the center of the specified area.

12.4. GENERAL TEST CONDITION

The following general test conditions shall be respected for the above noise and vibration measurements:

- MMPP @ 1800 RPM (sailing condition)
- Engine room fans operating at about 50% speed (sailing condition)
- Fan coils operating at minimum speed (sailing and anchor conditions)
- Fins stabilizer system operating (sailing and anchor conditions)
- Galley extraction fan and hood extraction fan shall be off (sailing and anchor conditions)
- Bow thruster not operating (sailing and anchor conditions)
- Hi-fi, TV, Radio, galley appliances and laundry machines shall be off

- Electronic noise in the wheelhouse to be such to do not dominate the target noise levels stated for the space.
- All Owner's and guests accommodation and public spaces as well crew cabins, shall be completely fitted; doors shall be closed.
- Half load displacement condition for sea trial.
- Wind not exceeding Beaufort scale 1, with wave height < 0.2 m.
- Yacht evenly trimmed (fore and aft), and at athwart ships.
- Cleaned hull.
- Water a depth of more than 50 m.

In the event that a rope cutting device is installed as option upstream the propellers, the above target noise and vibration levels will be increased.

13. INTERIORS-EXTERIORS AND DÉCOR

13.1. GENERAL INTERIORS AND DÉCOR

Furniture, fittings and layout will be according to the Contractual Standard General Arrangement drawing which will be part of the building specification. All materials and all works shall be of outstanding quality and according to Custom Line N33 Standard décor book.

Special insulations shall be fitted to achieve high comfort standards as per target set on the present specification.

Time schedule of Owner's definitions will be agreed at contract signature (Owner's decision list).

Any modification and/or allowances upgrade, requested by Owner will be quoted accordingly by the Shipyard. Feasibility study will be carried out by the Shipyard giving evaluation on time, cost and performances impact if planned.

13.2. PARTITION

The main partitions will be made with marine plywood for separation walls, covered with wood or alternative materials as per Standard décor.

Lower deck guest area:

- Lobby & Staircase LD-MD
- Staircase MD – LD
- Port aft vip cabin
- Port aft vip bathroom
- Stbd aft vip cabin
- Stbd aft vip bathroom
- Port fwd guest cabin
- Port fwd guest bathroom
- Stbd fwd guest cabin
- Stbd fwd guest bathroom

Main deck guest area:

- Main salon
- Main lobby & Staircase LD-UD
- Dayhead

- Owner’s office and dressing
- Owner’s cabin
- Owner’s and bathroom
- Pantry
- Crew staircase to UD
- Galley
- Crew corridori and staircase to LD crew area

Upper deck:

- Upper sky lounge
- Lobby & Staircase MD-UD
- Day head
- Pantry
- Captain’s cabin and bathroom
- Wheelhouse

Lower deck crew area:

- Crew corridor and staircase to MD
- Laundry/crew mess
- Twin cabin with bunk bed and bathroom (3 units)

13.3. INTERIORS FLOOR LININGS

Floors will be fitted according to the Custom Line N37 décor book.

Carpet, parquet and wood, will be chosen within Custom Line selection.

LOWER DECK GUEST AREA:	
Lobby	Moquette
Staircase MD-LD	Wood
Cabins	Moquette
Bathrooms	Marble

MAIN DECK AREA:	
Main salon	Moquette
Lobby	Moquette
Staircase MD-UD	Wood
Owner’s study	Moquette
Owner’s cabin	Moquette
Owner’s bathroom	Marble
Pantry	Vinyl floor
Galley	Vinyl floor

UPPER DECK AREA:	
Upper deck salon	Wood parquet
Wheelhouse	Wood parquet
Captain’s cabin	Moquette
Captain’s bathroom	Marble
Staircase MD-UD	Wood

LOWER DECK CREW AREA:	
Crew corridor	Vinyl floor
Crew cabins	Moquette
Staircase MD-LD Crew area	Vinyl floor

13.4. OWNER'S AND GUESTS INTERIOR LININGS AND FURNITURE

Panels will be glued and stiffened.

Removable sections will be provided to access the technical equipment or components (valves, electrical panels, underwater lights, etc).

Wall linings will be finished according to the Custom Line N37 Standard décor book.

Possible alternative décor selection (Woods, fabrics, leather and veneers) if required will be chosen from the Custom Line selection and be quoted accordingly if not Standard.

The built-in furniture will be made using a combination of solid wood and veneered plywood.

The hardware will be of high quality type, cabinet doors hinged and drawers guides, will be with slow motion system.

Doors will be made of double plywood sandwich panels, mirrored or upholstered in according to the décor book.

Doors handles will be in according to the Custom Line N37 décor book. Possible alternative handles can be chosen from the Custom Line selection and be quoted accordingly.

All the doors will be provided with clips, to hold the doors in open position.

The Owner's and Guests beds will be fitted with slatted base that can be open to have access to the storage.

The mattresses will be made according to the Custom Line Décor Book.

Special request which are not planned on the Standard will be quoted accordingly.

Air conditioning grids will be integrated in the design of the furniture taking care of the section for the air flow (inlet-outlet) in according to the A/C supplier.

Staircases will be treated with antiskid, and metallic, glass or wooden hand rail will be provided according to the Builder's best practice.

Window curtains boxes, in the cabins, will be fitted with the recessed rails for the blinds to get the maximum black out.

The windows curtains boxes will be made of lacquered or veneer as per Custom Line décor book.

The Customer can select a special decoration with the Custom Line team of architects that will be quoted accordingly if out of the Standard Décor Book.

13.5. GALLEY

The galley will be by Ernestomeda, a product customized for the net space of the yacht, with integrated appliances installed, matt lacquered finishing and quartz-resin top.

Colour and materials as per Custom Line décor book.

13.6. LINEN

Owner and four double Guests beds:

1 set of pillows, bedspread and sheets set will be supplied for each bed

Crew beds (Captain included):

1 set pillows, bedspread, quilt and sheets set will be supplied for each bed

Bathrooms:

- Owner's:
  - 2 bath towels (around 110x150cm)
  - 4 towels (around 40x60 and 60x110cm)

- Two aft guests and two fwd guests (port and stbd):
  - 2 bath towels (around 110x150cm)
  - 4 towels (around 40x60 and 60x110cm) each
- Captain:
  - 3 towels
- Crews:
  - 3 towels (each)

Request for linen customization with the yacht name or something else, will be quoted accordingly.

13.7. CROCKERY, CUTLERY AND GLASSWARE

For the Owner and Guests, a complete table accessories set for 12 people will be provided.

Dedicated storage will be provided with plexiglass supports for dishes and glasses and cutleries according to the Builder's Standard set up.

13.8. UPPER & SUN DECK EXTERNAL AREA

UPPER DECK

On the exterior side the boat shall be provided with a sofa looking forward.

On the interior area, a wheelhouse will be provided. The wheelhouse access to the upper deck saloon will be from Port side. Such saloon will be as style coherent to the Standard Décor Book. On the area a dining fixed table will be provided (for 10 people).

Captain’s cabin will be located on side nearby the wheelhouse.

SUN DECK

A fixed bar furniture will be fitted on the port side and a sink will be integrated in the furniture.

Cooking Grill according to the Builder’s Standard set up will be installed and hidden by hinged doors.

Two chaise longue will be provided on the aft area.

A dedicated sun bathing area will be located in the forward area.

Any request for changes comparing to the builder’s Standard selection can be evaluated and will be quoted accordingly.

Deck will be provided in GRP with antiskid treatment.

13.9. FREE STANDING FURNITURE

Free standing furniture like tables, chairs, sofas, armchairs, stools, for internal and external areas, will be provided with the yacht, in accordance to the Standard General Arrangement and as per Custom line Standard décor book.

The Customer can select different model and decoration with the Custom Line team of architects that will be quoted accordingly.

13.10. ALLOWANCES:

The Shipyard will communicate allowed max weights for the items listed below whether changed from the standard specifications:

- Interior & Exterior free standings
- Marbles or similar
- Interiors wooden floors
- Art works

13.11. STANDARD DÉCOR PLANS:

-

13.12. CAPTAIN'S AND CREW INTERIOR LININGS AND FURNITURE

Hull sides, superstructure sides and bulkheads will be upholstered in with white synthetic leather.

Panels will be glued and stiffened.

Removable sections will be provided to access the technical equipment or components according to the Builder's best practice (valves, electrical panels, underwater lights, etc).

Furniture linings will be with matt lacquered wood and where needed upholstered with white synthetic leather.

Ceilings in crew cabins will be upholstered with white synthetic leather.

The bathrooms walls, ceilings and furniture linings will be in matt white laminated and lacquered.

The ceilings will be fitted with easily removable system, on the metallic structure elastically mounted.

Doors will be made of double plywood sandwich panels and veneered.

The mattresses will be custom made with foam and shall be some clearance between the mattress and the bed frames.

Staircases will be treated with antiskid, and metallic, glass or wooden hand rail will be provided.

Window curtains boxes will be lined with white laminated.

14. CLASSIFICATION AND CERTIFICATES

14.1. STANDARD CERTIFICATION

The Yacht described in the Specification, including its machinery, equipment and systems will be built in compliance with:

RINA Rules for Classification of Pleasure Yachts (regulation in force on the date of keel laid), and the classification notation for service and navigation will be:

C ✠ HULL, • MACH, Y, Unrestricted Navigation

The Certificate of Class, International Tonnage Certificate ITC69 and ISPP Marpol IV will be supplied by the yard.

15. SAFETY EQUIPMENT

15.

15.1. SAFETY EQUIPMENT

The Yacht will be delivered with the safety equipment, according to what indicated below by the Italian law for unrestricted navigation.

The port registration will be in charge to the Customer; any additional equipment required by the Flag shall be provided according to the Contract.

The standard yacht will be equipped with the following safety and rescue materials:

- N°2 housed life rings, both with one 30m rope and light buoy
- N°2 life rafts for 10 people each (total 20 people)
- N°20 life jackets
- N°2 child life jackets
- N°3 smoke buoy
- N°1 first aid medical kit
- N°1 watch
- N°1 barometer
- N°1 hygrometer
- N°1 compass
- N°1 deviation tables

16 MAKER'S LIST

16.1. Maker's list

Item	Maker
HVAC	CONDARIA
Stabilizers	ABT TRAC
Water maker	IDROMAR
Engines	MAN
Gen. Set	KOHLER
Gear Boxes	ZF
Propellers	ITALIAN PROP. OR ROLLA
Bow Thruster	ABT
Pumps	MARCO OR GIANNESCHI OR FEIT
Main Engines Exhaust	COFEME or MIVE ECO
Engine room fans	GALLINEA or GIANNESCHI
Windlass	LALIZAS or QUICK or ITALWINCH
Capstans	LALIZAS or QUICK or ITALWINCH
Gangway	AMARE
Domestic appliances	BOSCH
Galley	ERNESTO MEDA
Life raft	ARIMAR OR SIMILAR

17 TECHNICAL DRAWINGS SUPPLIED AT THE BOAT DELIVERY

17.1 STANDARD DRAWINGS LIST FOR BUYER'S INFORMATION DURING DELIVERY

- General arrangement (as built)
- Capacity plan
- Escape Plan & Life Saving Appliances
- Use & Maintenance manual
- Fire system
- Bilge system
- Sea water system
- Grey and black water systems
- Main Engines cooling system
- Hot & cold fresh water system
- Fuel system
- Electrical manual
- Rudder arrangement
- Shaft line arrangement
- Docking plan
- Antennas plan

Any customization required on the boat Standard set up will be evaluated by the Builder's by an available feasibility report which will include if required the design review of the above drawings.