

SOLARIS 60 NEW



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1 General

The following specification describes materials and the main production stages necessary to build a 18.31 m Solaris sailing yacht. This specification gives a general view. Plans, materials, production and characteristic descriptions can be seen and examined by the owner whenever he wants.

The Solaris 60 is a true Cruiser Racer and it can be included in the Mini-Maxi class thanks to its overall length.

The boatyard and the sales network guarantee a good advice for the choice of the optional equipment using their expertise.

All mentioned dimensions and data are given by the designers and have to be considered as executive dimensions.

Additional equipment can affect trim and displacement.

R - The boatyard reserves the right to make changes during construction, also replacing materials no longer available on the market.

1.1 General characteristics

| | |
|--------------|--------------------------------------|
| LOA | 18.31 m |
| LWL | 17.40 m |
| Beam | 5.28 m |
| Draft | 3.20 m as standard - optional 2,80 m |
| Displacement | 25.800 kg (light) |
| Ballast | 7.900 kg |

1.2 Sail area

| | |
|------------|--------------------|
| Sail area | 201 m ² |
| Genoa 106% | 100 m ² |
| Mainsail | 101 m ² |

1.3 Engine

| | |
|--------------|---|
| VOLVO PENTA | Standard 75 hp (110 hp - 150 hp optional) |
| Transmission | Shaft line, bronze p-bracket |

1.4 Generator

| | |
|-----------------------------------|-----------------------------------|
| Optional a generator is available | Please see Price List and Options |
|-----------------------------------|-----------------------------------|

1.5 Tanks

| | |
|-------|-------|
| Water | 650 l |
| Fuel | 450 l |

1.6 Certification

| | |
|----|---------------------|
| CE | Open Sea Category A |
|----|---------------------|

1.7 Drawings

- Javier Soto Acebal (naval designer): water lines, hull lines and sail plan.
- Solaris Design Team (Boatyard): Hull and deck construction, interiors, stability and weight calculation, water, hydraulic, electric and electronic system.

1.8 Materials and workmanship

All materials and manufactured articles furnished by the Builder shall be suitable for marine installation and are of the best quality for their respective purpose. It shall be the responsibility of the Builder to check its purchase orders and also check all materials delivered, to insure confirmation with the details of the specification and with all normal working requirements.

1.9 Inspection

The Architects and the Owners or their representatives shall have access to the vessel and everything pertaining to the vessel during the normal working hours. The yard will do the utmost to facilitate the work of the inspectors. All normal handling and materials necessary for the purpose of inspection shall be submitted by the builder.

1.10 Insurance

The builder will insure the yacht during the construction and all accessories supplied by the owner. The owner must insure the yacht at her delivery, ex works boatyard.

1.11 Accessibility for maintenance and cleaning

All installations and compartments are built to be easily accessed, cleaned and maintained.

The builder will keep the yacht reasonably clean at all times. Particular care will be taken to ensure that all dust, shavings etc. are removed and the surfaces are accurately cleaned before painting. Upon delivery, the bilges and all sections of the yacht will be clean.

1.12 Weight and stability calculation

The Builder will make and check the weight calculation. The total displacement will be calculated in the following condition: fully loaded $\frac{1}{2}$ tanks. Transversal stability to be made in accordance with the CE rules MOC (Minimum Operating Condition) and LA (Loading Arrival) to obtain the A class "Open Sea".

1.13 Trim

The Builder reserves the right to add internal ballast to balance the yacht in the event of differences.

1.14 Mast and rigging

The Builder will check, with the Architect and mast manufacturer, the proper dimensions for the mast and rigging. Plans will be shown to the owner during construction.

Standard is a sloop rig, with light alloy mast and boom, designed for a full batten mainsail.

1.15 Documentation

The yard will issue the owner's manual (english or italian language) which includes: remarks on the use of the boat, the plans of the water and electrical systems, other plans to control and maintain all the systems on board. Plus instructions of all the equipment that will be delivered on board.

1.16 Systems descriptions

All systems are clearly labelled in English or Italian language. All cables are coded.

1.17 Warranty

The Builder shall accept responsibility for any defective workmanship and/or materials up to two years after delivery, given that this is not the result of gross negligence or incorrect use of the yacht.

The Yard will remove any defect found during this period and caused by wrong drawings, labour and/or wrong materials. Should the Builder carry out warranty works on board, the Owner shall accept to pay travel and accommodation costs in case the Yacht is moored out of the European Community.

The Builder shall not be held responsible for equipment supplied by the Owner.

For additional equipment, the manufacturers warranty is held liable.

The warranty terms applied are those indicated in the sales contract signed at the time of the purchase.

2 Construction

The materials used and construction methods are designed to construct a light, yet strong and stable hull, without affecting the strength and stiffness. Hull and deck, as well as all other parts of the yacht, are designed to take high loads, providing maximum product durability.

Hull and deck are constructed in a negative mould.

All visible hull and deck surfaces are in high quality white gelcoat.

Materials and construction are controlled by issuing the CE certificate.

2.1 Hull and deck

- Hull and deck in sandwich construction (PVC Airex Core) of uni- and bidirectional fiberglass.
- This kind of structure gives a light hull which is, however, far more resistant to dynamic stress and is far more rigid than a plain resinbonded laminate construction.
- Airex core, an expanded closed-cell vinyl polychloride preventing moisture from expanding into the construction in case of a damaged section.
- Vacuum bag system for bonding the sandwich to the hull and the deck.
- Where needed carbon reinforcements will be applied, by the chainplates the floors, the ----, and the keel attachment, and the stratification core will be replaced with higher density inserts or plywood.
- The strength of resinbonded laminates conform to the designer's specifications and are regularly controlled by their competent technical departments.
- The transversal and longitudinal reinforcements of the hull are made in composite and well resinbonded to the hull according to the calculated dimensions.
- Composite forward and boom bulkheads. The other bulkheads made of marine plywood will be well resinbonded to both hull and deck. This kind of construction guarantees a greater stiffness than the silicone bonding and represents a uniqueness of the Yard.

2.2 Ballast

- The bulb keel is designed and built for high speeds and guarantees performance and stability.
- The keel ballast is made of lead /antimony.
- The keel fin is made of a resinbonded steel construction, which is attached to the hull by stainless steel bolts.
- The keel is treated and protected by epoxy products.

2.3 Chain plates

- The central chainplates are made in composite and fixed outboard to the boat's structure through epoxy glues and following lamination.
- The deck area around the mast and the chainplates will be reinforced and the sandwich core will be made in marine plywood instead of Airex core.
- The aft chain plates are fixed to the hull lamination.

2.4 Stays

- The dimensions of all stays are defined by naval architects according to their working load.
- Rod Nitronic 50 shrouds and stays are the standard.

2.5 Structural bulkheads

- The main bulkhead, the forward and the aft bulkhead are in composite material. All the other bulkheads are made in marine plywood, well resinbonded to the hull and the deck.

2.6 Mast base

- The anodized aluminium mast base is bedded on a GRP support which is connected to the floor and bottom. The base is connected to the GRP with bolts.

2.7 Access to the bilge

- The tidy bilge is easily accessible.

2.8 Engine bed

- The engine bed is made of single skin GRP, well resinbonded to the hull and to longitudinal and transversal reinforcements.

2.9 Drain holes

- The bilge drainage system is designed to get all water to the lowest point of the bilge in order to discharge outboards.

2.10 Rudder

- Balanced rudder in GRP-Airex core.
- The rudderblade is reinforced by stainless steel frames, welded to the shaft.
- Stainless steel shaft.
- Steering system with quadrant and stainless steel wires.
- Two compasses.
- 1100 mm steering wheels.

3 Interior

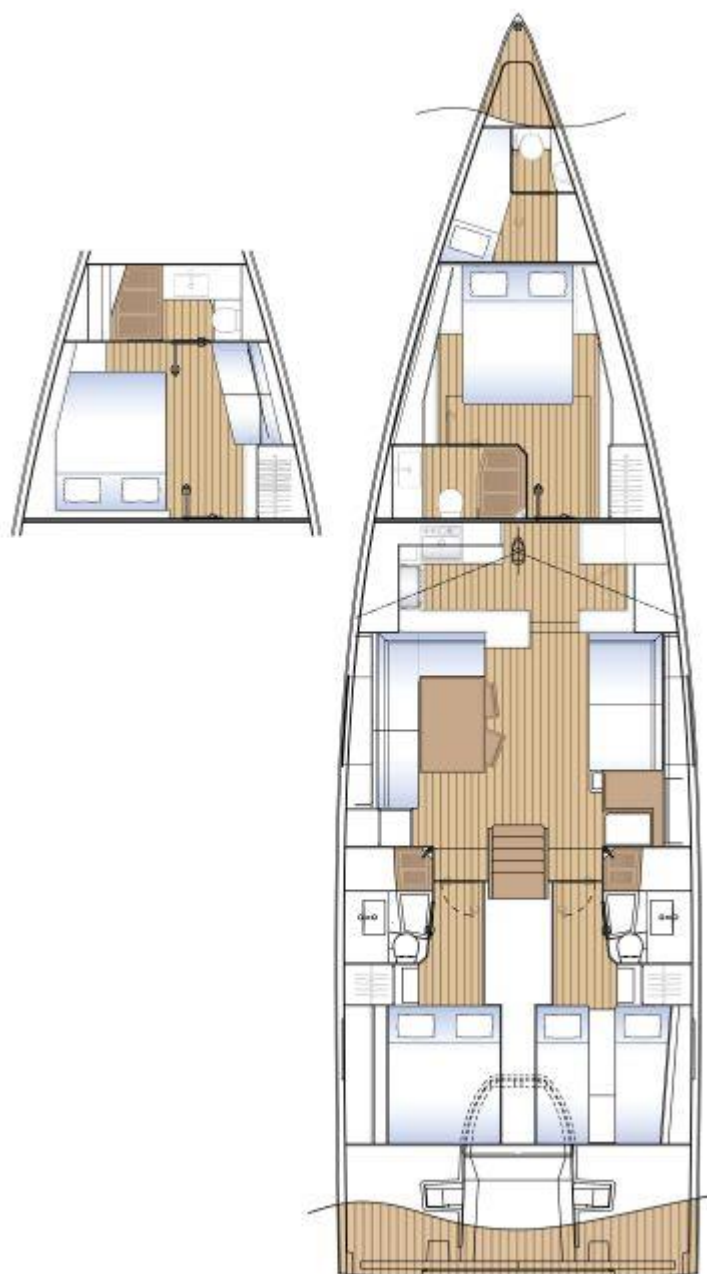
3.1 General arrangements

The standard price is based on the following description. Optional, the boatyard can build to individual owner's specifications. Every change has to be defined and calculated in the agreement and to be discussed with the owner.

- The boatyard is monitoring the optimum weight distribution.
- Stowage is maximised by using all spare space.
- The non-visible surfaces are made of marine plywood.
- Structural bulkheads in okumè marine plywood covered with oak.
- Galley and bathrooms topsides are made of wood. Corian topsides as an option (with extra charge).
- High quality fabric is used for all cushions.
- All the furniture is made in high quality oak wood, finished with open-pore varnish. With an extra charge it is possible to choose a different wood for the interiors.
- All woodwork is carried out with the best nautical tradition.
- Rounded edges for all hatches, bulkheads, seating, lockers, etc.
- The yard counts on comfort and quality. Special care is given to soundproofing insulation.
- The clear, simple lines of the interior corresponding to the Solaris design, making a Solaris a unique yacht.

3.2 Standard layout and optional

3.2.1 Layout - 3 cabins, 3 bathrooms, owner cabin forward outboard bed, aft cabin with double beds, sail locker



3.2.2 Extra Layout - 3 cabins, 3 bathrooms, island bed in master cabin forward

3.3 Layout

- The Solaris 60 has a layout with 3 cabins and 3 bathrooms, each one with a separate shower, a wide saloon with galley, a sofa, an extra sofa in front of the dinette, a big dining table and a chart table. The chart table is practical and positioned near the companion way.
- Every area to have space exploited at the best and where ever possible, there will be stowage areas as in best Solaris tradition.

3.4 Flooring

- The floorboards are made in oak with horizontal grains. They will be varnished and will be 20 mm thick.
- Built to be completely removable for bilge inspections.

3.5 Ceiling

- Marine mahogany plywood ceiling panels, covered with white vinyl upholstery treated against mould.
- To be fixed with velcro. All removable for inspection.

3.6 Cabin doors and drawers

- All doors are fitted with a door lock.
- The front panels of the drawers are made in oak plywood and are provided with locks to avoid their opening while sailing.

3.7 Berths and sofas

- Berths and sofas to have drawers or lockers wherever possible.

3.8 Companionway

- Companionway ladder in oak wood.

3.9 Handrails

- Polished stainless steel handrails in various parts of the yacht.

3.10 Access to engine compartment

- The engine room has a main access door and secondary access points.
- The entrance is positioned to have an easy access to all technical equipment at sea.

3.11 Soundproofing

- Soundproofing is a strong characteristic of a Solaris yacht.
- The soundproofing of the engine room is made of acoustic panels and forated aluminium panels white varnished.

3.12 Galley

- Stainless steel 3-burners oven on gimbals.
- All surfaces in wood or in Corian option (with over price).
- One stainless sink.
- A tall fridge with freezing compartment.
- The kitchen will be provided with spaces for the storage of dishes, glasses, pots and various accessories.
- Galley area on the starboard side of the mast with big storage space.

3.13 Bathrooms, toilets and showers

- Bathroom lockers are easily accessible for maintenance.
- Wooden topsides in teak, varnished.
- Composite sinks, headlocker with mirror front.
- Flooring in teak, shower cabin in polyethylene grating.
- Shower and basin are discharging in polyethylene holding tanks which discharge outboard.
- The cabins' bathrooms have a separate shower.
- Shower door made of plexor.
- Manual toilets type Jabsco Regular for all cabins.

3.14 Black out screens

- Hatches, portholes and windows are provided with blinds. All hatches have blinds fixed with Tenax fastener.

3.15 Fore cabin

- Wide double bed, outboard, with big drawers underneath.
- Spacious wardrobe with integrated drawers.
- Upper lockers and book shelves.
- Small sofa portside.
- With an extra charge it is possible to arrange the fore cabin with a central bed and outboard bathroom (see Extra Layout).

3.16 Saloon

- A wide sofa with table on the portside.
- Table to be of solid oak wood.
- Linear sofa in front of the dinette.
- Nav. station with seat, chartlocker.
- Locker for instruments.
- Electric panelboard with hinged door for inspection at chart table.

3.17 Stern cabins

- One double berth per cabin.
- All cabins are fitted with wardrobes.
- Lockers in the main central bulkhead.

4 Engine

4.1 Engine

- Volvo Penta 75 hp (Volvo 110-150 hp optional)
- Shaft line transmission.
- Engine is mounted on shock absorbers.
- Instruments control panel to be mounted at the helm station.
- Engine hours counter, rpm-meter, throttle type Morse, are mounted in cockpit at helmstations.

4.2 Fuel tanks

- 20/10 stainless steel tank.
- Total fuel capacity approx. 450 lt.
- ISO7840 certificate tubing for fuel lines.
- 1 sedimentation filter for fuel will be easily accessible.
- Tank fitted with an analog level indicator.

4.3 Fire-fighting system

- The whole yacht including the engine room, the electric and technical systems comply with ISO certification.
- Fire extinguisher in the engine room with remote control placed in the salon.

4.4 Propeller

- Fixed blade propeller.

5 Generator

- Optional a generator can be fitted.(please see Price list and Options).

6 Water systems

6.1 Sea cocks

- All flush seacocks are made of nickel-plated brass, quick operational, easily accessible.

6.2 Fresh water tanks

- The fresh water tanks are made in stainless steel and are provided with a hatch for inspection and cleaning.
- Total water capacity approx. 650 l.
- Tanks located below the seats in saloon.

6.3 Piping

- Approved special non-odour rigid polybutylene tubing for hot and cold drinkable water.
- The drainage hoses of bilge pumps, sinks, and showers are made of non-odour, solid rubber pipes.
- Stainless steel hose clamps and rubber mufflers.

6.4 Black water holding tanks

- The toilets wastewaters are collected in a black holding tank which discharges outboard by gravity.

6.5 Deck cockpits

- Storage space for auto-inflatable liferaft in front of the entrance with outboard discharges.

6.6 Pumps

- All pumps are easily accessible for maintenance.
- 1 manual bilge pump in cockpit.
- 1 electric bilge pump with large capacity with suction in the main bilge.
- 1 electric bilge pump with suction in the sail locker.
- 1 electric pump with suction in the stern locker
- 1 autoclave electric pump for hot and cold fresh water.

6.7 Boiler

- 220 V AC Boiler for hot water, capacity circa 30 lt.
- Water is also heated by heat exchanger of the engine.

6.8 Cockpit shower

- Fresh water shower at the stern section of the cockpit.

7 Heating and Cooling Systems

7.1 Cooling systems

- The freezing system consists of one tall fridge/refrigerator with 3 compartments.

8 Deck equipment



- The standard deck equipment is designed for a sloop rig.
- All chosen dimensions are inspected by naval architects, functionality and safety guaranteed.
- High quality brands deck equipment, in stainless steel or anodized aluminium.
- To be made in Solaris' quality.

8.1 Fairleads

- 2 forward and 2 aft.

8.2 Mooring cleats

- 2 forward and 2 aft.

8.3 Hatches

| | |
|---------------------------------------|---|
| 1 hatch for anchor locker | flush, custom built by Solaris |
| 1 hatch for sail locker/ crew cabin | flush mount |
| 3 hatches for owners cabin | flush |
| 1 flush hatch | for fore bathroom |
| 2 flush hatches | for the galley and the area on the starboard side |
| 2 flush hatches | for the saloon on the coachroof |
| 1 sliding hatch for the companion way | for the companion way, custom built by the yard with 15mm Perspex |
| 2 hatches | for aft cabins |
| 2 hatches | for lockers in the cockpit |
| 1 stern hatch | for tender garage / locker |

- NOTE: the flush hatches are made in GRP, firmly resin bonded to the deck and provided with integrated drainage system.

8.4 Windows

- 2 fixed side windows for salon in tempered crystal.

- 2 fix salon windows in tempered crystal in saloon.
- The hull windows are made in double-layered unbreakable tempered glass.

8.5 Tracks, slides and leading blocks

- Harken tracks, slides and leading blocks.
- High quality deck equipment chosen by naval architects.
- All the halyards are lead into the cockpit below the deck through the use of organizers. In this way the boat can be handled only with 2 winches on each side.
- Recessed track for the self-tacking jib. This solution has already been studied and widely tested in every Solaris of last generation.

8.6 Winches

- 4 halyard winches model 60 ST.
- Standard supply of 2 aluminium handles with locking system.
- All winches are made in anodised light alloy, in black.

8.7 Anchor winch

- 2.000 W 24V electric anchor winch, below deck with capstan drum.
- Chain is automatically feeded into the chain locker.
- 32 kg Delta anchor with 75 mt 10mm galvanized chain.

8.8 Steamhead

- Anchor fairlead is welded in one piece stainless steel.
- Nylon chain rollers for Delta anchor.

8.9 Pulpit, pushpit and stanchions

- Stanchions in stainless steel, diameter 30x2 mm.
- Stainless steel wire lifelines diameter 5 mm. with turnbuckles.
- Height of pulpit, pushpit and stanchions 610 mm.
- Pushpit to be built in two pieces.
- The pulpit allows easy entrance off the dock.

8.10 Toe rail

- Toe rail to be integrated in the hull with gelcoat finishings. To have reinforcements for stanchions, pulpit and pushpit attachments.

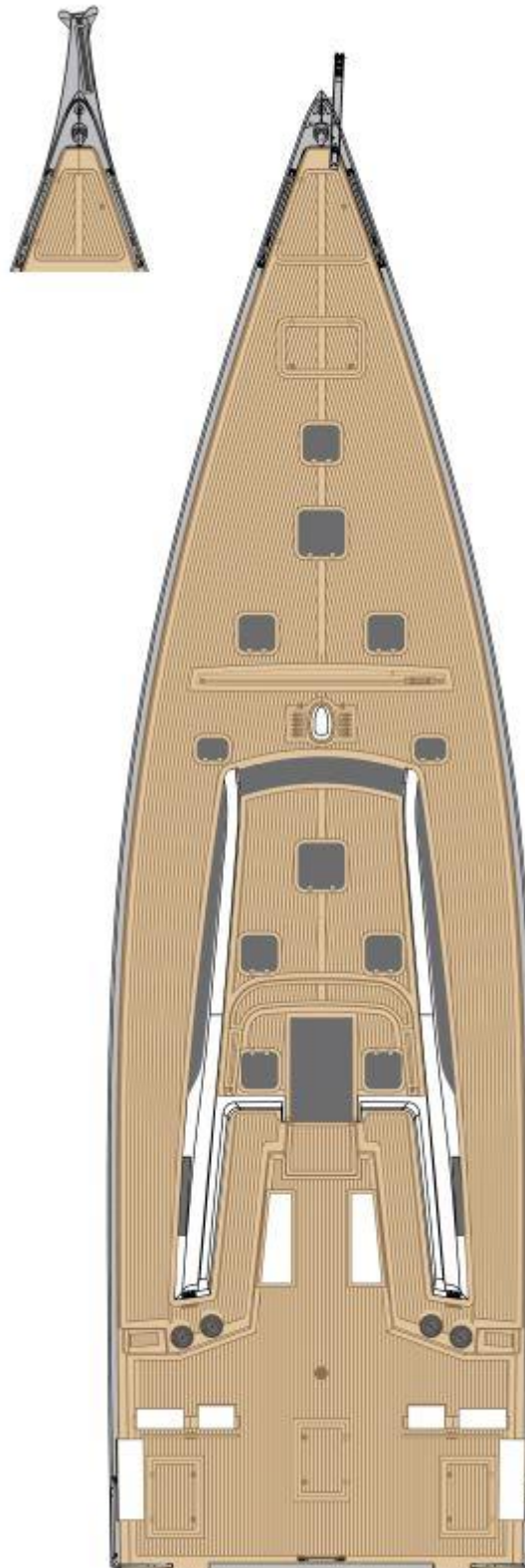
8.11 Deck

- Cockpits, included seats and aft surfaces covered with 10 mm laid teak. Teak battens bonded onto the deck with epoxy resins.
- The forward deck surfaces and the side decks are sprayed with Antiskid paint. With an extra charge they can be covered with teak.
- Stainless steel handrails mounted on the sides of the coachroof.
- Removable bathing ladder at the stern.



8.12 Peaks

- 1 fore peak to stow anchor chain, with discharge above the water line.
- 1 big sail locker in front with supporting gas strut to store fenders and sails. It will be provided with two steps and a stainless steel bar for the ropes. With an extra charge the locker can be arranged as crew cabin.
- 1 big aft locker, accessible from the deck through a hatch provided with supporting gas strut. With an extra charge it will be possible to realize a transom door with hydraulic opening system and a tender garage, completely watertight, with longitudinal access way including an electric winch and rollers to move the tender.
- 2 lockers below the cockpit bench. (one for LPG tank and one for storage).
- 2 storage lockers below the cockpit steps.
- 2 storage lockers for the equipment



9 Steering system

- The Solaris 60 is equipped with two GRP helmstations. Stainless steel steering wheels are covered in "Lorica".
- 2 compasses.
- Steering gear is protected, still easily accessible for inspection.
- Stainless steel emergency tiller to fit directly onto the rudder shaft.

10 Rig/Sails

10.1 Rig

- The alluminium mast is fitted through the deck.
- Furlex manual jib furler, mounted below deck.
- Harken tracks, slides and leading blocks.
- Standard is a 9/10 sloop rig.

10.2 Mast

- Mast is stepped through deck, 3 pair of spreaders as standard.
- Tapered on masthead.
- Equipped with pulleys for 1 mainsail, 1 boom topping lift, 2 genoa, 2 spinnakers, 1 staysail and 1 self tacking sheet.
- 3 Pairs of spreaders, bolted through the mast.
- Equipped for lazy jacks.
- Boom attachment on mast, toggle and boom attachment of aluminium and stainless steel.
- All power lines are covered in pvc material.
- Fittings for navigation lights and lighting.

10.3 Boom

- Manual outhaul system.
- Vang.
- 1 mainsheet attachment.
- Equipped for 2 reefing lines.
- Equipped for lazy jacks.
- Boom light.

10.4 Rigging

- Rod rigging and stays.

10.5 Furling system

- Manual

10.6 Hydraulic set

- Hydraulic manual backstay

10.7 Running rigging

| | |
|--------------------|---|
| Main halyard | 1 |
| Jib halyard | 1 |
| Spinnaker halyards | 1 |
| Reefing line | 2 |
| Mainsheet | 1 |
| Jib sheet | 1 |

| | |
|--------------|---|
| Topping lift | 1 |
| Outhaul | 1 |

- All the halyards are in spectra, spliced and if necessary fitted with snap shackles and shackles. The pre-pressed ropes are spliced with snap shackles where necessary.

11 Electrical system

All installations are proofed in maritime use. All installations are inspected by an external organisation to be SO conform.

11.1 24 V system

- The main electric system will be 24 V.
- The recharging of the batteries is provided either by a 220V battery charger or by an alternator driven by the main engine.
- The following alternator will be installed: 1 alternator 110 Ah/24V on the main engine for the service batteries.

11.1.1 Service group

- The service group is powered by 24V batteries for a total capacity of 460 Ah C20.
- Mastervolt battery charger for the service batteries group, capacity 100 Ah/24V.
- The following equipment is connected to this system: lighting, navigation lights, all pumps, fridge system, autopilot, navigation instruments, communication and entertainment.

11.1.2 12 V system

- 1 battery with a capacity of 75 Ah/12V, for the starting of main engine and generator. The recharging of the 12V battery is provided by the standard alternator of the engine.
- Mastervolt charger for the generator (option) and for the main engine starting batteries, type 12/25 and capacity 25Ah/12V.

11.2 220 V / 50 Hz system

- The 220V 50 Hz group is supplied by shore power through a proper connector positioned in the aft area.
- The 220 V 50 Hz group is supplied by shore power through a stern mounted socket: boiler, battery charger, sockets.
- 220 V socket in every bathroom, galley and saloon.

11.3 Inverter

- 1 inverter combi 3500 Watt Mastervolt for the current conversion from 24 V to 220 V. Optional.

11.4 Electric panelboard

Electric switchboard is split into 2 parts.

- 1 switchboard for control, protection and distribution of the 220V alternating current (AC) with automatic circuit breakers and functioning lights for every single switch.
- 1 switchboard for control, protection and distribution of the 24V direct current (DC) with automatic circuit breakers and functioning lights for every single switch.
- Digital control instruments as voltmeters and ammeters for alternating (AC) and direct current (DC) and for the constant control of batteries and battery chargers.
- DC electric system protected from overload and short circuit by general thermomagnetic switches mounted near the batteries, one for every battery group and each consumer.

11.5 Lighting

- Interior lighting with recessed ceiling lights and 6 reading lights for cabins.
- One night-light installed at companion way with light switch close to the hatch. A Led red light under the 3 steps of the saloon.
- Cockpit light below the boom.
- Forward deck light on mast.

11.6 Navigation lights

- Navigation light switches on the interior panelboard.
- Led green navigation light.
- Led red navigation light.
- Led stern light.
- Led anchor light on masthead.
- Led steaming light.

11.7 Miscellaneous

- Approved marine use electric cables.
- All electric installations are properly fused.
- As far as possible leads do not pass through the bilges or in areas which may be dangerous because of dampness, heat or vibrations.
- All alternate current services and consumers are grounded with proper connections.
- All electric installations are tidy and easily accessed for maintenance.

12 Navigation/Electronics

- Not standard (please see Price list and Options).

13 Entertainment

- Not standard (please see Price list and Options). The boatyard follows the owner's wishes and makes an offer for supplying and installing the equipment, requested of the owner.

14 Miscellaneous

- Mattresses lined in light colour fabric with zips.
- 8 fenders.
- 1 flag pole.



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