

SWAN 108

PRELIMINARY
STANDARD SPECIFICATION

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SWAN 108

PRELIMINARY STANDARD SPECIFICATION

Dimensions

Length of hull	33.00 m	108.27 ft
LOA (with Bowsprit)	35.00 m	114.83 ft
LWL	30.56 m	100.26 ft
Beam max	7.55 m	24.8 ft
Draught (standard keel)	4.9 m	16.1 ft
Displacement (light ship)	83.900 kg	184.900 lbs
Ballast (fin and bulb)	28.600 kg	63.000 lbs
Engine	257 kW (350 hp)	

Rig and sail dimensions

IG	43.30 m	142.06 ft
J	12.92 m	42.39 ft
P	42.00 m	137.80 ft
E	13.96 m	45.80 ft
TPS	15.90 m	52.17 ft

Sail areas

Jib Area (ORC)	304.3 m ²	3.275 ft ²
Mainsail (ORC)	344.0 m ²	3.702 ft ²

Tank capacity

Fuel	4.000 l	1056 USg
Ad Blue	400 l	106 USg
Fresh water	2.600 l	686 USg
Hot water	200 l	54 USg
Grey water	600 l	158 USg
Black water	600 l	158 USg

Battery & power sources

Service battery	24V 1.800 Ah / 1 h
Electronics battery	24V 200 Ah / 1 h
Starting batteries	24V 50 Ah / 20 h
Diesel generator	2 x 230 V 26 kW 1 phase
Shore power	230 V 63 A + 230 V 50 A for AC

Naval Architect:

FRERS NAVAL ARCHITECTURE & ENGINEERING

Classification:

RINA Plan Approval

Builder:

OY NAUTOR AB

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00 GENERAL CONDITIONS

The specification is believed to be correct at the time of printing and supersede any previous versions or translations to other languages.

The specification is to be read in conjunction with the sail plan, deck drawing and interior layout. Details may be changed as the result of experience in construction or use of the yachts.

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The Builder reserves the full right to substitute any equipment, materials or components within this specification with any functionally equivalent equipment, materials or components without prior notice.

The Builder guarantees skilled workmanship, in keeping with the best yacht practice for a vessel this size and in conformity with the specifications and drawings.

Main dimensions, Displacement and Ballast refer to a standard yacht, which is built to the specification for such standard yacht. All draught dimensions are approximately and referenced to DWL.

Optional equipment and customization can affect these values and relative performance of the yacht.

00.01 Commissioning

01 Documentation

Builder's Certificate

A Builder's Certificate is supplied when full payment according to contract has been received.

Bill of Sale

A Bill of Sale is supplied, if needed, when full payment according to contract has been received.

The Bill of Sale verifies that there are no liens on the yacht.

Certificate of Delivery

A Certificate of Delivery is to be signed by both parties at the time of the acceptance.

The Certificate of Delivery signifies the formal transfer of Ownership and simultaneously commences the warranty period at the given date.

Warranty

The warranty period for the yacht is two (2) years from the date of delivery. For purchased items, equipment or systems, the Builder provides the necessary documentation for proof of Ownership, warranty and any other documentation and/or manuals as supplied.

00.02 Tests and trials

The correct and safe function of onboard installations and systems are verified by testing and trials as appropriate for each individual yacht. The requirements for test and trial approval are based on safety, functionality, performance and reliability as demanded by the yachts specification, current regulations and the yards high standards.

Testing and trials are done while the yacht is afloat in order to secure realistic data, meeting or exceeding demanding criteria. Records of testing and trials are kept on file at the yard for future reference.

00.03 Trim

The Builder reserves the right to adjust the ballast for trimming purposes.

The flotation of the yacht, built to this standard specification, will correspond to the displacement calculated by the builder. The side trim tolerance, for the yacht built to this standard specification, is +/- 0.5° and the longitudinal trim tolerance, for the yacht built to this Standard specification, is +/- 0.1°.

00.04 Design approval

The design of the hull is in accordance to Rules by one of the Member Societies of IACS (International Association of Classification Societies).

00.05 Hull identification

The model and hull number are shown on the Builder's Plaque at the chart table and the CIN-code is on the starboard upper corner at the transom.

00.06 After sales service

Nautor provides unique technical support and worldwide spare parts service. Records are kept of Nautor's Swans and of the drawings used to build them.

01 HULL

01.01 Laminate

00 General

Scantlings, materials and workmanship throughout are consistent with the construction of a lightweight hull. The composite hull assembly, including bonded structures, is post cured in a computer controlled oven to optimize the material properties for a stiff laminate with excellent strength and fatigue properties

01 Hull layup

The hull shell is an M-grade Corecell™ SAN foam core sandwich construction with carbon fibre epoxy SPRINT® skins and pre-preg unidirectional carbon fibre reinforcements. The hull laminate is laid up in female mould and cured with monitored vacuum in a state-of-the-art computer controlled oven.

01.02 Stiffening

01 Stiffeners

The hull structures are M-grade Corecell™ SAN foam cored sandwich constructions with carbon fibre epoxy SPRINT® skins and pre-preg unidirectional carbon fibre cappings and reinforcements. All structures are bonded using high strength structural adhesives.

02 Structural bulkheads

The structural bulkheads are M-grade Corecell™ SAN foam cored sandwich constructions with carbon fibre epoxy SPRINT® skins and pre-preg unidirectional carbon fibre reinforcements. All structures are bonded using high strength structural adhesives.

03 Chain plates

The composite chain plates are built using pre-preg unidirectional carbon fibre straps laid over stainless steel bushings. The chain plates are attached to the hull using high strength structural adhesives.

01.03 Hull finish

00 General

The hull is painted using polyurethane paint system. The name, homeport and Yacht Club are taped on the transom.

01 Topsides

The topsides are painted in Snow White as standard.

02 Boot top and water lines

The colour can be selected from Nautor's standard colour chart of non-metallic colours. Standard colour is Flag Blue.

04 Bottom

The hull bottom is treated with underwater epoxy primer and antifouling.

01.04 Keel

00 General

The ballast bulb is lead casting with 2.5% antimony and is attached to a high strength steel keel fin. The keel is attached to the hull with AISI 329 bolts. The fin is faired to a tolerance of - 0 / + 3 mm.

01.05 Steering system

00 General

The twin rudder steering system has double steering wheels. The steering cables, with sprocket and chain, are independently connected to the steering tillers.

01 Rudders

The Isotop rudders have composite skins on a foam core, attached to carbon fibre rudder stocks. The rudders are designed with a sacrificial tip. A weed deflector is located in front of the rudder and is surface mounted.

02 Rudder bearings and tillers

The rudders are supported by four self-aligning JP3 bearings. The lower bearings have double seals. Lightweight aluminium steering tillers and autopilot arms are clamped to the rudder stocks.

03 Steering pedestals

The steering consoles are Nautor made in composite with space for navigation and control systems. See section 06.09.03. There is one handhold inboard on each pedestal.

04 Steering wheels

There are two 1200 mm clear coated 3-spoke carbon composite Nautor wheels. The wheels can be disengaged.

01.06 Mast step

00 General

The mast is stepped through the deck onto a carbon fibre mast step.

01.07 Through hull fittings

00 General

Seacocks in engine room are made in bronze. All other through-hull connections below waterline are Forespar Flotech. The inboard side of the seacocks are fitted with a stud long enough to take two hose clamps.

01.08 Transom

01 Transom hatch

A large hatch gives direct access to the dinghy garage. The hatch is of a convertible type to form a large sunbathing/swim platform area. It is made from carbon fibre SPRINT® with pre-preg unidirectional fibres for maximum stiffness and has 9 mm teak recessed on the backside. The hatch is hydraulically operated.

Ergonomically teak covered steps from aft deck down to bathing platform on each side. There is storage space underneath the steps. Possibility to convert one side for storage only instead of steps.

Care and attention is carried out in the engineering for safe operation, ergonomics and optimization to the owner supplied dinghy hence the final design concept may vary as a consequence.

01.09 Hull windows

There are ten hull windows with 250 mm x 900 mm clear opening. Two are in the owner's cabin, three in the guest cabins, one in the TV room, one in the galley, one in Captain's cabin and two are in the crew cabins. Two large hull windows are in the saloon. The windows are of tinted toughened and laminated safety glass.

01.10 Boarding ladders

01 Gangway

The yacht is equipped with an approximately 2.9 m long and 0.4 m wide hydraulically operated telescopic stainless steel gangway. The gangway which has laid teak is installed on port side in the lazarette and covered with a flush mounted automatically operated transom hatch. It has a wired remote control operation as well as control buttons.

02 Boarding ladder

A carbon fibre boarding ladder is provided, allowing boarding the yacht from the side.

03 Bathing ladder

The boarding ladder doubles as a bathing ladder. There are flush mounted stainless steel fittings on the bathing platform, for easy installation. When the bathing ladder is installed on the platform three steps are below the water level.

01.11 Fo'c'sle

There is storage for the sails and equipment into the fo'c'sle. The floorboards are of lightweight composite construction. The top sides are faired and top coated.

01.12 Lazarette

There are provisions for storage of the yacht's equipment in the side lazarettes.

01.13 Dinghy garage

00 General

There is space in the lazarette to store a 4.5 m inflatable dinghy (Owner supplied).

Hydraulic dinghy handling winch included. Rollers and brackets according to Owner supplied dinghy to be quoted.

There is no provision for spare propane gas bottles, gasoline and diesel fuel tanks in the dinghy garage. These should always be stowed in lockers specially built for this purpose or on deck.

02 DECK

02.01 Laminate

00 General

Scantlings, materials and workmanship throughout are consistent with the construction of a lightweight hull. The composite deck assembly, including bonded structures, is post cured in a computer controlled oven to optimize the material properties for a stiff laminate with excellent strength and fatigue properties

01 Deck layup

The deck and coach roof is a carbon fibre SPRINT® / pre-preg sandwich construction with M-grade Corecell™ SAN foam core. High density core is located in way of high loaded areas. The deck is bonded to the hull using high strength structural adhesives.

02.02 Deck finish

Standard colour is Snow White and working areas are finished with non-skid surface.

02.03 Teak woodwork

01 Teak on the deck

The teak deck consists of 75 mm teak battens with black 5 mm caulking. Side decks, fore deck, cockpit sole and seats have thickness of 9 mm. The teak deck is bonded under vacuum using epoxy.

02.04 Winches and windlasses

00 General

All winches are hydraulically driven from the on-board hydraulic system. All winches are self-tailing and operated by push buttons beside the winch.

01 Drum winches

- Two Harken B1130.3 STR AAA HY primary sheet winches
- Two Harken B1130.3 STR AAA HY secondary sheet winches
- Two Harken B1111.3 ST AAA HY HY halyard winches
- One Harken B1130.3 STR AAA HY mainsheet winch

03 Anchor windlass

The Maxwell 4500 VWCLP hydraulic windlass is installed in the anchor locker. The windlass is controlled by a wired remote control.

02.05 Bow fitting and anchoring

01 Bow fitting

One fixed bowsprit with integrated anchor rollers for easy drop down of anchor including pad eye for gennaker.

02.06 Sail handling systems

00 General

Jib sheets are lead above deck to the primary winches. The 2:1 mainsheet system is lead to a drum winch, mounted on a winch island.

01 Tracks

- Two tracks for the jib, aluminum anodized
- Double cars for jib and staysail sheets
- Pin stops for jib and staysail sheet cars
- End stops

02 Fixed blocks

- Lead blocks for halyards at mast
- Two blocks for gennaker sheets
- Two runner blocks
- Double foot block for jib and stay sail sheets
- Main sheet block on island

04 Pad eyes

- Screw-in pad eye on the bow for gennaker tack line
- Seven U-bolt pad eyes on bulwark, each side
- One U-bolt pad eye for runner dead end on bulwark, each side
- Dead-end fitting for main sheet

02.07 Deck fittings

01 Pulpit and pushpit

Pulpit and pushpit are of \varnothing 32 mm stainless steel tubes. The pulpit is 610 mm high with one intermediate rail. The pushpit consists of two side pushpit and one on centreline. The upper rail at transom is at 980 mm above cockpit level.

03 Cleats and fairleads

There are eight 400 mm stainless steel pop-up mooring cleats; two on fore deck, four amidships and two aft. Chafe protection on bulwark next to the cleats where necessary.

04 Life lines and stanchions

The spacing between the lifelines is conforming to OSR requirements. The upper life lines are stainless 8 mm wire and the lower ones are of 5mm wire with polished turnbuckles and eyes. The stanchions are 610 mm high and made of \varnothing 32 mm stainless steel tubing. There are gates in the lifelines on each side amidships and in the pushpit. Stainless fittings secure safety lines on deck.

99 Other

There is one socket for the flagpole on the aft deck port side and a stainless steel halyard bail forward of the mast.

02.09 Hatches and windows

00 General

Nautor custom made flush mounted tinted glass hatches with gutters in white painted composite. All hatches are supported by gas cylinders. Sizes indicate clear openings.

01 Deck hatches

- One hinged 600 x 600 mm above Owners cabin
- One hinged 600 x 600 mm above Owners cabin passage way
- Two hinged 600 x 600 mm, above forward guest cabin
- One hinged 600 x 600 mm, above TV room
- Two hinged 500 x 500 mm, above saloon

02 Teak covered hatches

- Two hinged hatches to anchor stowage and windlass
- One hinged 800 x 800 mm to sail locker
- One hinged 600 x 600 mm to dinghy garage
- Two hinged 600 x 600 mm to outboard lazarettes

04 Deck house windows

There are tinted deck house windows. The windows are toughened, laminated and glued to the superstructure. There is one window on each side and one forward. Both side windows and the front window are divided by mullions. Two fixed skylights above saloon.

05 Main companionway

There is a lockable manually operated sliding hatch of tinted acrylic.

06 Crew companionway

There is a manually operated hinged hatch of tinted acrylic in crew area.

02.10 Cockpit

00 General

There is a large forward cockpit providing comfort both under sail and at anchor. The aft part of the cockpit has ample space for relaxing and sunbathing. There are two retractable footrests with a teak surface for the helmsman.

01 Cockpit seats

There are two U-shaped sofas with backrests on each side of the forward cockpit.

03 Cockpit tables

There are two permanent fixed teak cockpit tables with stainless steel legs.

02.11 Canvas work

01 Spray hood

There is a recessed stainless steel framed spray hood for the main entrance. The canvas colour can be chosen from Nautor's standard selection.

The sprayhood recess is covered by a composite cover.

04 Cockpit cushions

There are cockpit cushions with backrests in Sunbrella material for the two sofas.

03 INTERIOR

00 General

The main wood for the interior is European oak. All joinery work is done in accordance with the best yacht practices using first grade materials. The saloon, Owner's and guest cabins are finished in wood, painted and upholstered surfaces. The galley and crew accommodation are finished with laminated, painted and wooden surfaces.

Collections of fittings including reading lights, door handles, bathroom faucets and accessories, fabrics and leathers will be offered to the customer from Nautor's standard collection.

Loose furniture can be secured to floorboards or bulkheads in order to be stored at sea.

01 Finish

The wooden interior is varnished using two component urethane varnishes. The surface has a hand rubbed satin finish. Painted surfaces are of two component paint with semi-matt finish. Fabric covered and painted panels are used to create a light and contemporary feeling in accommodation areas. To create durable surfaces laminated panels are used in crew accommodation areas.

02 Overhead panels

Vinyl covered removable overhead panels are installed in all accommodation areas.

03 Floorboards

The floorboards are of Alucore honeycomb construction. The top face material is from Nautor selection. The floorboards are varnished with two component urethane varnish and have semi-matt satin finish.

04 Topsides

The topsides, where visible, are covered with vinyl panels.

05 Cabin door hardware

Hardware and outfit components are of a type designed to eliminate rattling or hanging. The cabin doors are provided with double action locks and catches to hold them in open position where possible.

The bathroom, owner's cabin and guest cabin doors can be locked with a knob from inside for privacy.

06 Locker door hardware

All locker doors are fitted with high quality furnishing hinges. Doors are kept closed with push or pull button latches. A door stopper is fitted where needed.

07 Mirrors

All bathroom and cabin mirrors are glass. The edges are sealed.

08 Blinds and screens

All open able deck hatches are fitted with manual roller blinds and mosquito screens.

All hull windows have manual operated roller blinds for blackout and privacy.

The deckhouse side windows are fitted with electrically operated pleated blinds. Front windows in the saloon have no blinds or screens.

09 Handrails

Two handrails are mounted at the main entrance and two handrails are mounted in the saloon ceiling.

10 Wardrobes and cupboards

The wardrobes include hanging rails and shelves where practical. Hanging locker internal light automatically switches on when the door is opened.

The cupboards consist of drawers and door covered stowage volume with shelves.

11 Tableware and galley utensils

Galley cupboards and drawers space are fitted with adequate wooden fiddles in order to hold crockery and galley utensils, provided by the Owner, in a safe position. The choice of equipment shall be done at an agreed decision date. Installation will be charged based on time and material.

03.01 Bulkheads

01 Structural bulkheads

For construction see 01.02.02. The structural bulkheads are covered with foam cored or plywood skin panels.

02 Partitions

Partitions are of 70 mm sandwich construction, consisting of two layers of wood with a foam core in between. The surface panels are either of 5 mm plywood with 0.6 mm veneers or painted, laminated or padded panels.

03.02 Forward cabin (Owner's cabin)

00 General

The Owner's cabin features a double bed with bed side tables, a writing/makeup desk, lower cabinets and an armchair. Bulkheads are covered with veneered panels and padded panels. Hanging lockers are placed aft in the cabin.

01 Beds

The width of the double bed is 1700 mm. The spring mattresses are of high quality manufactured for marine use. Mattress bases are Deltaflex batten nets to provide ventilation of underside. There are lee cloths on both sides and in the middle of the bed. There are drawers and storage space under the bed where practical.

02 Lockers

Hanging lockers are fitted with rails for dress hanging.

03 Sofas and chairs

The cushions are custom manufactured to a high standard for comfortable seating. A swing-out chair is installed at the writing desk.

04 Tables

The writing/makeup desk has drawers for storage.

05 Upholstery and fabrics

Upholstery fabrics and leathers are to the Owner's choice from Nautor's standard selection.

06 Lights and switches

Two reading lights and two wall lights are installed at the head end of the bed. There is a table light at the desk.
General cabin lighting with dimmers is created with down light LED spotlights and indirect LED lighting.

03.03 Forward amidships cabin, Starboard and Port side (Guest cabin and Forward Lower Lounge area)

00 General

The cabin on starboard side forward of the saloon is a guest cabin with double bed, bedside tables and a full height hanging locker aft of the bed. The forward lower lounge area is located on port side forward of the saloon with an L-shape sofa and a bookshelf forward of the sofa. Bulkheads are covered with veneered panels and padded panels.

01 Bed

The spring mattresses are of high quality manufactured for marine use. Mattress bases are Deltaflex batten nets to provide ventilation of underside. There are drawers and storage space under the bed and sofa where practical. There are lee cloths on both sides and in the middle of the bed.

02 Lockers

The hanging locker is fitted with a rail for dress hanging.

03 Sofas

The cushions are custom manufactured to a high standard for comfortable seating.

05 Upholstery and fabrics

Upholstery fabrics and leathers are to Owner's choice from Nautor's standard selection.

06 Lights and switches

Reading lights and two wall lights are installed at the head end of the bed. General cabin lighting with dimmers is created with down-light LED spotlights and indirect LED lighting.

03.04 Aft amidships cabins, Starboard and Port side (Guest cabins)

00 General

The aft amidships cabins are guest cabins with twin beds. There is a bedside table between the beds and a full height hanging locker to outboard side. Bulkheads are covered with veneered panels and padded panels.

01 Bed

The spring mattresses are of high quality manufactured for marine use. Mattress bases are Deltaflex batten nets to provide ventilation of underside. There are drawers under the beds where practical. Each bed has a lee cloth.

02 Lockers

Hanging lockers are fitted with a rail for dress hanging.

05 Upholstery and fabrics

Upholstery fabrics and leathers are to Owner's choice from Nautor's standard selection.

06 Lights and switches

One reading light is installed at each bed and one wall light is placed above bedside table. General cabin lighting with dimmers is created with down-light LED spotlights and indirect LED lighting.

03.05 Aft cabins (Crew cabins)

00 General

The crew cabins starboard feature an upper and lower bed outboard and a full height hanging locker. The port aft cabin (Captain's cabin) has a lower bed with storage below and hanging locker aft.

01 Beds

The spring mattresses are of high quality manufactured for marine use. Mattress bases are Deltaflex batten nets to provide ventilation of underside. Drawers are placed where practical under the lower bed. Each bed is fitted with a lee cloth.

02 Lockers

The hanging locker is fitted with rails for dress hanging.

06 Lights and switches

One reading light is installed at each bed. General cabin lighting is created with down light LED-spotlights.

03.06 Saloon

00 General

The saloon features a dining area on starboard side and a lounge area on port side. The dining area seats up to eight people.

01 Chairs

There are five chairs at the dining table. The chairs can be secured onto floorboards while sailing.

02 Lockers

Lower lockers are located aft and forward of the starboard dining sofa.

03 Sofas

There is a U-shaped sofa port in the lounge area and a straight outboard sofa on starboard side for dining. The cushions are custom manufactured to a high standard for comfortable seating.

04 Tables

The dining area table is fixed and the wooden table top is flush. A fixed coffee table is placed in the lounge with two poufs stored below.

05 Upholstery and fabrics

Sofa fabrics and leathers are to Owner's choice from Nautor's standard selection.

06 Lights and switches

General lighting with dimmers is created with down light LED-spotlights and indirect LED-lighting. There are two wall lights installed on the forward bulkhead and two wall lights on the aft bulkhead. There are LED-courtesy lights integrated in the main companionway stairs and in the stairs forward and aft of the saloon.

03.08 Galley

00 General

The galley is in the crew area to port.

01 Finish

The bulkheads are covered with painted or laminated panels. Lockers are in wood. Work tops and fiddles are in Corian.

02 Sink and faucets

There are two under mounted stainless steel sinks and one kitchen faucet with integrated shower at the sinks.

03 Lockers and drawers

Chest of drawers, garbage bin and stowage for pots and pans in lower lockers. There is stowage space for crockery, glasses and dry food in upper and outboard lockers.

06 Lights and switches

General lighting with down light LED spotlights. Working lights under upper lockers.

08 Domestic appliances

- Two front loaded refrigerators, see 06.10
- Two front loaded freezer, see 06.10
- Four zone induction stove; width 600 mm
- Electric convection oven; width 600 mm
- Cooker hood
- Dishwasher
- Microwave oven
- Washing machine; width 600 mm
- Tumble dryer; width 600 mm

99 Other

The space underneath floorboards is used for stowage where practical. There is a fitting for fixing the gimbaled stove in a horizontal position.

03.09 Crew mess

00 General

The crew mess is placed adjacent to the galley. There is a bar counter with three stools to port and a sofa with seating for three people and a table starboard.

05 Upholstery and fabrics

Sofa fabrics are to Owner's choice from Nautor's standard selection.

06 Lights and switches

General lighting is created with down light LED- spotlights.

07 Table

There is a fixed table with wooden table top and low fiddles.

99 Other

Crew entrance/access to deck via a wooden ladder. A drained and ventilated oilskin locker is placed in the crew area to port.

03.10 Navigation area

00 General

The navigation area is placed in the crew mess. The navigation station consists of a chart table, instrument panels and a chair or a seat.

01 Chart table

Storage space is arranged under a hinged lid at the chart table and in a lower locker. A locker for manuals is placed above the instrument panels.

02 Instrument panels

The visible instruments are mounted on openable panels.

04 Chair

A fixed floor mounted, adjustable chair at the navigation desk.

05 Upholstery and fabrics

Chair fabrics are to Owner's choice from Nautor's standard selection.

06 Lights and switches

General lighting is created with LED spotlights. A goose neck LED-navigation light is fixed at the instrument table.

03.11 Bathrooms general

00 General

Owner's cabin and guest cabins have an en-suite bathroom with a separate shower stall.

The aft port crew cabin has an en-suite bathroom with a separate shower stall. The starboard two crew bathrooms have a shared shower stall.

01 Finish

The bathrooms are built in first grade materials using wood, GRP and Corian. The lockers are in wood and the vanity tops are made in Corian. The shower stalls are made in GRP. The floorboards in the bathrooms are the same type as in the cabins.

The crew bathrooms are mainly made in GRP.

02 Washbasin

The bathrooms have an under mounted Corian washbasin.

The crew bathrooms have a composite washbasin.

03 Faucets

Faucets and fittings are to Owner's choice from Nautor's standard selection. The finish on faucets and fittings is polished chrome.

There is one faucet at the washbasin and one wall mounted hand shower in the shower stalls.

04 Shower doors

Shower doors open inwards into shower stalls. There is a step to keep water on the drained side.

The shower doors are made of tempered 8 mm clear glass and fitted with polished fittings.

05 Mirrors

The mirrors are installed on upper cupboard doors.

06 Lights and switches

General lighting is created with down light LED-spotlights.

07 Accessories

The accessories follow the faucet collection.

Set per bathroom:

- Two towel hooks
- One bar for towels
- One concealed waste bin
- One toilet brush & holder
- One soap dispenser
- One toilet roll holder

03.16 Engine room

00 General

The engine room is located under the saloon. There are hatches for emergency exit and inspection in the saloon floor.

Access to the engine room is in the corridor aft of the saloon.

01 Finish

Engine room surfaces and technical equipment are painted in white colour where practical.

03.18 Noise and vibration control

01 Hull insulation

The freeboards in Owner's cabin and the guest areas are insulated with sound absorption foam down to longitudinal stiffeners level. Special care is taken to sound insulate the hull above the propeller area.

02 Bulkhead insulation

Partitions between cabins and corridors are built to reduce airborne noise.

03 Floorboard insulation

All floorboards are lying on vibration damping materials.

04 Engine room insulation

The engine room is fire and sound insulated towards cabins and saloon. The insulation consists of rock wool insulation and white painted noise damping sandwich aluminium sheets.

The engine room accesses are of similar construction as the surrounding partitions. They close onto rubber faced landings for maximum noise reduction.

99 Other

Cabin doors are of similar construction as the surrounding partitions. They close onto rubber faced landings and have drop down threshold seals for maximum noise reduction.

03.19 Corridors

00 Corridors general

The bulkheads in forward and aft corridor of the saloon are covered with veneered panels.

06 Lights and switches

General lighting with down light LED spotlights.

04 ENGINE AND HYDRAULICS

00 General

The system components are chosen based on Nautor's long experience in the yachting industry. All installations are done to best known marine practise. There is a drip tray under the engine and the diesel generators.

04.01 Main engine

01 Engine

The main propulsion engine, a Scania DI13, is a modern 6 cylinder common rail in-line diesel engine displacing 12.7 liters and delivering 350 mhp (257 kW) at 1800 rpm.

Engine and reduction gear are supported on isolators to minimize noise and vibration.

Emission compliance: IMO Tier III, EU Stage IIIA

02 Gearbox

There is a direct mounted gearbox, ZF 360 A with a reduction ratio of 1.767:1. Engine and reduction gear are supported on flexible mounts.

04.02 Propulsion system

01 Propeller shaft

The propeller shaft is made of corrosive resistant steel with a diameter of 70 mm. The shaft is supported by water-lubricated rubber bearings at the propeller bracket and stern tube. The propeller shaft is connected to the gearbox via an Aquadrive HDL thrust bearing and a CV shaft for quiet and vibration free running.

02 Propeller

The propeller is a folding 4-blade Brunton Varifold.

04.03 Cooling system

00 General

There are thermostatically controlled fresh water cooling systems with sea water heat exchanger, for both engine and the generators. The seawater intake via a seacock has a strainer and is discharged through the exhaust water separators via a seacock.

04.04 Fuel system

00 General

The feed lines to the engine and diesel generator are equipped with 10 μ fuel filter/water separators with water in fuel alarm. Dual version mounted for main engine so as to permit uninterrupted running of the engine while changing filter elements. Single version for diesel generator, vacuum gauges with water in fuel alarm mounted.

All flexible hoses are according to ISO 7840.

01 Tanks

The fuel tanks are built in stainless steel. The total fuel capacity is 4000 l (1056 US gal). The tanks have individual level indicators. Deck fill line is led from the deck connection to a selection manifold that has shut-off valves for each fuel tank. The tanks are equipped with hatches of adequate size to allow inspection and cleaning. All tanks are pressure tested to 0.45 bars. Shut off valves are provided for each tank. Sounding rods for tanks are included.

04.05 Exhaust system

00 General

The hot exhaust gases from the main engine are led through a Selective Catalytic Reduction (SCR) system which reduces nitrogen oxides (NOx) to comply with the IMO Marpol Annex VI Regulation 13.

After the SCR system the exhaust gases are discharged through a wet exhaust system. The silencers and gas/water separators are in composite. They are installed on soft mounts for both the main engine and diesel generator. Water is drained out below the waterline and exhaust gases exit under the transom well above the waterline. All silencers are provided with a drain tap.

04.06 Diesel generator

00 General

The generators are mounted in sound shields on elastic mounts.
See also section 06.01.02

04.07 Oil handling system

00 General

There is an electric portable oil drain pump for the diesel generators and main engine.

04.08 Engine controls

00 General

The following function is installed on SB pedestal:

- Engine control on/off
- Engine start/stop
- Paralleling button for start and generator's batteries
- Control light for starting and service batteries charging

04.09 Thruster

00 General

The bow thruster is an OMS 400 S, 56 kW of retractable type.

The thruster is hydraulically driven from the hydraulic main ring.

04.10 Firefighting system

There is a total flooding Aerosol fire extinguishing system for engine room space and generators with manual remote control.

04.20 Hydraulics

00 General

The hydraulic system is designed to supply all hydraulic functions quietly and smoothly, eliminating any inherent hydraulic noise.

The alternative power sources are installed to meet the demands of the sail handling equipment. Since the sail handling is dependent on hydraulic systems it is important to have alternative power sources to ensure trouble-free operation.

01 Hydraulic functions

- Windlass
- Jib furler
- Jib furler length adjuster
- Inner forestay tensioner
- Bow thrusters (to PORT / to STBD)
- Halyard winch PORT
- Halyard winch STBD
- Boom vang, single acting
- Main outhaul
- Cunningham
- Jib halyard tensioner
- Primary winch PORT
- Primary winch STBD
- Secondary winch PORT
- Secondary winch STBD
- Mainsheet winch
- Transom hatch
- Dinghy winch
- Backstay tensioners

04.21 Central hydraulic system

00 General

The hydraulic system is defined on a basis of a central power pack supplying regionally located valve groups, thereby achieving minimal weight to power ratio with the effect of using minimum electrical power with maximum hydraulic movement.

Each control valve group is situated close to the operating unit, giving a precise control and allows for a quiet and smooth operation, eliminating inherent hydraulic noise and vibration.

01 Power sources

The hydraulic main ring has 5, independently operated, sources of power. The sources are obtained from:

- One pump on the main engine PTO
- Two on the generator PTO's
- Two pumps on the 5kW DC-motor standby units

04.22 Power pack

00 General

The power pack is equipped with a return oil filter, an oil level sensor, a temperature sensor and an air breather.

A separate electric pump is installed inside the engine room for filling of the hydraulic reservoir.

05 PLUMBING AND VENTILATION

00 General

Components and valves are labelled with function, and piping is labelled with colour code, including an arrow to indicate direction of flow.

05.01 Fresh water system

00 General

A pressurised hot and cold water system is installed. The pressure water system is made in a multi-layered press fitting system. Hot water tubing has thermal pipe insulation.

Deck fill lines from port side are led from the deck connections to selection manifolds with shut off valves for each fresh water tank. and for the water pressure pump.

Hot and cold water is distributed to all heads, to the galley and to a deck shower. Cold water deck wash, one forward and one aft. There are single lever mixing faucets for wash basins, galley sinks, and showers. One deck shower is installed at bathing platform.

01 Water tanks

Fresh water in polyethylene tanks with a total capacity of 2600 l (686 USg). The tanks are provided with baffles, hatches, level indicators and vent pipes. All tanks are pressure tested to 0.2 bars. Tank levels are shown on the electrical main switchboard. Sounding rods for tanks are included.

02 Pressure water system

The water pressure system has 2 pcs 230 V AC pressure pumps installed. One 12 l pressure tank is connected to the cold water system.

03 Hot water system

There are two stainless steel water heaters installed with a total capacity of 200 l (54 USg). Hot water can be heated either by engine cooling water or with an electrical heating element.

The inlet has a check valve to prevent hot water back flow. The outlet has a relief valve for over-pressure protection. There is a thermostat mixing valve for maximum hot water temperature.

One hot water expansion vessel is connected to each water heater.
A hot water circulating system is installed with a Vortex BWO 155, 230V AC circulation pump.

04 Water maker

The water maker is an Idromar MC5DX, 230V AC single phase 50hz with a capacity of 500 l/h (12000 l/day). The unit and low pressure pumps are located in the engine room. The water maker is provided with pre-filters, charcoal filter and fresh water flush.

05.02 Sea water system

00 General

Seacocks in engine room are made of bronze. All other through-hull connections below waterline are made of reinforced polymer compounds. The inboard side of the seacocks are fitted with a stud long enough to take two hose clamps.

01 Deck wash pump

There is an electrical deck wash/fire pump, Gianneschi CB 25/16 24V DC capacity 160 l/min.

02 Sea water outlet

One outlet and hose in forepeak locker and one outlet at transom.

05.03 Grey water system

00 General

Grey water from wash basins, showers, condensing water from air conditioning and freezer/fridges is collected to grey water tanks, if necessary by transfer pumps.

01 Tanks

Two polyethylene grey water tanks are provided, one forward and one aft, total capacity 600 l (158 USg). Level switches are fitted to each tank, indication for $\frac{3}{4}$ full and full. The tanks are ventilated with SaniGard vent filter and fitted with inspection lids.

02 Tank discharge systems

The grey water tanks are emptied by 24 V electrical pumps to seacocks via siphon breaks. Manual back up pumps are also provided.

05.04 Black water system

00 General

All toilets are connected to black water tanks. It is not possible to flush toilets directly over board.

01 Tanks

There are two polyethylene black water tanks, one forward and one aft, total capacity 600 l (158 USg). Level switches are fitted to each tank, indication for $\frac{3}{4}$ full and full. The tanks are ventilated with SaniGard vent filter and fitted with inspection lids.

02 Tank discharge systems

The black water tanks are emptied by 24 V electrical pumps to seacocks via siphon breaks. Manual back up pumps are also provided and a deck suction line for each tank.

03 Toilet systems

The toilets are Planus StiloPlus 24 V. They flush by pressure using 2.5 l fresh water per flush. The function cycle is completely automatic. The high performance turbine pump enables a complete fragmentation of the organic residues.

It is not possible to flush the toilet if the black water tank is full.

05.05 Drainage system

00 General

The deck drains are connected mainly to outlets above waterline.

01 Bilge pump systems

There are four separate bilges: fore peak, accommodation area, engine room and lazarette bilge. Each bilge is equipped with a DC driven submersible pump. Two manual Whale pumps are installed as back-up pumps, one for the fore peak and accommodation area, the other one for the engine room and lazarette bilge.

Special attention is paid to ensure that bilge pump suction pipes are mounted in easily accessible positions to allow debris to be cleared. There is a separate bilge drain system with Whale Gulper pumps for keeping bilge dry.

02 Interior drains

Galley sink drains via a Y-valve either directly to a seacock or to the nearest grey water tank. Condensing water from the air-conditioning system is collected to transfer pumps.

Shower trays and wash basins are drained directly to the nearest grey water tank, if necessary by transfer pumps.

03 Deck drains

Deck drains are connected mainly to outlets above waterline. The cockpit area is drained to a dedicated under water seacock.

05.07 Ventilation

00 General

The yacht has a forced ventilation system. Fresh air is led into the cabins and exhaust air is taken out from bathrooms and showers.

02 Forced ventilation

Both the supply and the exhaust systems have central fans. The speed of the fans is interlinked to each other.

There is a control valve on each connection for the system balancing.

The fresh air inlet is equipped with a duct filter. Silencers are installed after the fans in order to have a quietly running system.

03 Galley fan system

Galley cooker hood, see section 06.08.02.

04 Engine room ventilation

Air inlet and outlet are fitted with water traps and remote controlled fire dampers. Two fans are provided, one for supply air and one for exhaust air. The exhaust fan is controlled by temperature and the supply fan by the pressure difference between the inside and outside of the engine room.

Power supply to the fans is disconnected at engine room fire extinguisher release.

05 Battery box ventilation

The service battery box has a duct connection to the mast.

05.08 Climate control

00 General

A central waterborne system working on 230V AC 50/60 Hz is fitted; this enables cooling / heating the entire accommodation. Condensation water from the main and cabin units are collected to the grey water tanks. This system is designed to operate in Mediterranean climate conditions.

01 Cabin units

The total cooling / heating capacity is divided in proportion to cabin volume, position and number of persons. There is individual control panel for each space inside a hanging locker or other cabinet door. On the panel user can set the temperature and fan running speed (8 steps) or choose automatic mode.

02 Main unit

Chiller unit working on 230V AC 50/60 Hz from shore power inlet or diesel generator. The main unit consist of two Climma DC50 inverter compressors with a total cooling capacity of 100.000 BTU/h (29.3 kW) and a total heating capacity in reverse cycle of 110.000 BTU/h (32.2 kW). The refrigerant used in the compressor is R410a.

There is a sea water cooled condenser with separate sea water pump.

05.09 Refrigeration system

00 General

Standard Frigonautica Isotherm Compact Magnum 24 V DC water cooled compressor units for fridges and freezer.

05.10 Galley equipment

See section 06.10

06 ELECTRICAL

00 General

The electrical components are chosen based on the Nautor's long experience in the yachting industry. Electrical diagrams will be delivered with the yacht, for both DC and AC systems and showing the location of junction boxes. Cables are labelled with identification numbers at both ends.

06.01 AC-system

00 General

The AC system is a 230 V 50 Hz single-phase three-wire AC-system. The 230 V can be powered by the diesel generator or by shore connection. There are also a number of 230 V 50 Hz appliances powered by DC/AC inverter.

01 Shore power

The shore power inlet is 230 V 1-phase 63 A. There is also an additional shore inlet 230 V 1-phase 50 A for the air conditioning. The shore power cables are 15 m long. Note; the full length of the cables must be uncoiled when in use. Inlets are located in the lazarette. See also section 06.01.05.

02 Generators

There are two 26 kW Northern Light M944W3 diesel generators producing single-phase 230 V 50 Hz AC. The units are mounted on elastic seatings. The generators are mounted inside sound shields. Maximum permissible heel angle is 23° port and starboard, intermittent 35° up to two minutes. The generators are equipped with PTO see sect 04.21.01.

03 Chargers

There are three Mastervolt ChargeMaster Plus chargers 24/110-2, each with 3-step 110 A charge characteristics for charging of the service batteries. The charging is also controlled by battery temperature. See also sect 06.01.04.

There is one Mastervolt Magic 24/24-30 DC/DC converter charging the electronics battery from the service battery.

04 Inverter

Two Mastervolt Mass Sine Ultra 24/4000 inverter connected in parallel, converts 24 V DC to 230 V single-phase AC 50 Hz. The unit can together produce 8000 VA. There is one Mass inverter 24/1500 for electronics, which can produce 1500 VA.

Two inverters 24/4000 Sine Wave in parallel for:

- Cooker hood
- Microwave oven
- Outlets
- Ventilation
- Fresh water pump

One inverter 24/1500 Sine Wave for entertainment:

- TV
- DVD/CD/Stereo
- Computer

05 Transformer AC

Power from ashore is led via 14kVA 1-phase 230/230V isolation transformer for shore inlet 1. Shore inlet 2 is equipped with a galvanic isolator.

07 Outlets AC

There are 230 V outlets of schuko type, model Victor Carre by CJC. One outlet per bathroom, two outlets per cabins, two double outlets in galley, four outlets in the saloon, one in engine room, one in lazarette, one in sail locker and two outlets at the chart table.

06.02 Earthing system

00 General

The AC system is using a grounding plate as an underwater earth point. The plate is located aft of the propeller bracket.

01 Lightning protection

The mast and the shrouds are electrically connected to the keel. In the top of the mast there is an air terminal connected to a lightning conductor, which runs down to a grounding plate.

02 Galvanic protection

The propeller shaft, the keel and the thrusters have their own individual sacrificial anodes.

03 Isolation test

There is an isolation test panel for check of de-leakage.

06.04 DC-system

00 General

The DC-system is based on Multiplexing Technology. The CAN-technology allows distributed switching and protection of electrical loads.

All functions can be controlled and monitored on a 16" touch screen at the chart table.

It also has the possibility to include alarm functions which can be displayed on the same screen.

The most important functions have a manual override.

The DC system is 2-pole 24 V, with an insulated return, mainly used for lighting, fans and pumps. The wires are sized to minimise voltage drop.

01 Service batteries

The service battery bank is 24 V 1800 Ah / 5 h consisting of 9 pcs of Mastervolt MLI Ultra 24/5500 Lithium-Ion, powering the lights, fans, pumps and hydraulics.

02 Alternator

There is one 28 V 150 A, Mastervolt Alpha 24/150MB alternator on the main engine equipped with an external regulator. The alternator is charging the service battery bank.

05 Outlets DC

There are five 24 V DC outlets, one in the side of the lazarette, one in the engine room, one in the fo'c'sle, one on the mast and one in aft cockpit.

Inside the yacht are USB A +C chargers socket 5V 3A for one device.

When simultaneous charging of two devices, 1,5A, One charger per cabin and chart table and two in the saloon.

06.05 Plumbing and monitoring system

00 General

The alarms and levels are displayed on the touch screen at the navigation table.

01 Fresh water system

The fresh water pumps stop automatically if they run out of water.

02 Sea water system

The sea water pump is equipped with a timer that stops the pump if it is run continuously longer than 30 min.

03 Grey water system

The grey water tanks are emptied by 24 V electrical pumps to seacocks via siphon breaks. Manual back up pumps are also provided.

04 Black water system

The tanks can be emptied by 24 V electrical pumps to seacocks via siphon breaks. Manual back up pumps are also provided. Each tank is also provided with a deck suction line.

05 Drainage system

The bilge pumps can be operated in manual or automatic mode. The automatic mode is controlled by a GEMS LS-270E level switch next to the pump. If these pumps are activated, a high level alarm will be displayed. The bilge areas are equipped with level controlled stripper pumps. The pumps in the engine room are manually controlled.

08 Water metering

Water tank levels are displayed on the touch screen. The tank level sensors are made by Wema.

09 Fuel metering

The fuel tanks levels are displayed on the touch screen. The tank level sensors are made by Wema.

10 Monitoring system

The following alarms/ readings are displayed on the touch screen including an audio signal at the helm:

- Bilge levels high
- Black water tank levels high
- Black water tank levels full
- Grey water tank levels high
- Grey water tank levels full
- Deck wash pump runs dry
- Water in fuel separators
- Low battery voltage, service battery bank
- Low battery voltage, electronics battery
- Navigation light failure (side, stern and motoring lights)

Level metering:

- Ah metering service battery
- Ah metering electronics battery
- Water tanks
- Fuel tanks
- Black water tanks
- Grey water tanks

11 Fire alarm

In aft corridor are the fire alarm panels, four loops:

- Two temperature sensors and two smoke detectors in the engine room
- The port and starboard lazarette sides, dingy garage and the fo'c'sle has heat detectors detectors, four in total.
- Call points at the exit routes and in the engine room, three pcs.

- Fire alarm inside genset sound shields.

Battery powered standalone smoke detectors in living areas.

06.06 Engine and generator DC

01 Starting batteries

There are two 24 V banks, one for the main engine and one for the generator. The batteries are of model Optima Red Top with a capacity of 50 Ah / 20 h each.

The starting batteries are of maintenance free AGM type and located in the engine room. Each bank consists of two pieces of 12 V each.

02 Parallel solenoid

There is a paralleling button on the switch panel in cockpit, for paralleling of the main engine and generator starting batteries.

99 Other

There is a 24 V 100 A alternator on the main engine for charging engine starting battery.

There is a 24 V 20 A alternator on the diesel generator for charging the diesel generator starting battery.

06.07 Instrument power supply

00 General

The radio and instrument dc power supply is by the electronics battery.

01 Electronics battery

There is one Mastervolt MLI Ultra 24/5500 24V 200Ah/1h Lithium-Ion battery for radios and electronics.

06.08 Ventilation and heaters

01 Forced ventilation

See section 05.07.02

02 Galley fan system

Miele DA 3366

03 Engine room

There are temperature and pressure controlled ventilation fans. The fans stop if the fire extinguisher is activated.

04 Battery boxes

See section 05.07.05

06 Air conditioning system

The control panels for fan coils in saloon and cabins are installed inside of the hanging lockers.

06.09 Electrical panels

00 General

There is a touch screen at the navigation table.

01 AC and DC panels

The AC and DC voltages and consumptions of the yachts main systems can be monitored on the touch screen.

02 Diesel generator control panel

The generator is started and stopped via the touch display. There are local control panels at the generators in the engine room.

03 Cockpit panels

- Engine control, see 04.08 and 04.09
- Start and stop of diesel generator
- Sail handling and furling controls by deck switches
- Navigation light control

06.10 Domestic appliances

00 General

Selected appliances are well known brands of high quality.

01 Dish washer

Miele G 4268 SCVi XXL 230 V 2.2 kW.

05 Microwave oven

Miele M 2224 SC 800W.

07 Washer

Miele WCE330 PWash 2.0 8 kg 230 V 2.3 kW.

08 Dryer

Miele TCE520WP Active Plus 8 kg 230 V 1.1 kW.

09 Refrigerators

Two 160 l, 24 V DC refrigerators in galley.

10 Freezer

Two Frigonautica 130 l, 24 V DC freezer in galley.

12 Stove and oven

Four burner electric induction hob Miele KM 7201 FR 230 V 7.3 kW
combined with oven Miele H 2265 1B 3.2 kW.

06.11 Lights

00 General

Light switches and outlets are chrome, Nina Carre and Victor Carre by CJC.

02 Over head lights

LED spotlights Cantalupi TOP 5 R. There are dimmer controls in owners-, guest cabins and in the saloon.
There are LED lights in fore peak, engine room and lazarette.

03 Reading lights

There is a reading light of type BCM 2155/LD3WI/3, polished chrome with an integrated on/off switch at each fixed bed.

05 Locker lights

There are automatic LED lights in all hanging lockers.

07 Indirect and courtesy lights

Cabins

- Indirect LED light at base of beds
- One wall light in each guest cabin, Astro Park Lane Grande

Saloon

- Indirect LED light in base of sofas
- Four wall lights, Astro Park Lane Grande, two on fwd- and two on aft bulkheads

08 Navigation lights on deck

- Stern light LED Lopolight
- Port side light LED Lopolight at bow
- Starboard side light LED Lopolight at bow

All navigation lights are controlled from the cockpit display.

09 Navigation lights in mast

The mast steaming light is a LED model.
The mast anchor light is a LED 360° model.
The lights are controlled from the cockpit display.

10 Spreader lights

There are four spreader lights, facing down, on the lowest spreader pair.
They are controlled from the cockpit display. Two spreaders are equipped with lights facing upward.

11 Windex lights

The Windex light at top of mast is controlled from the cockpit display.

12 Boom lights

There are two LED boom lights circuits. One circuit is consisting of three lights facing down and the other circuit with one light facing aft, at aft deck.
The lights are controlled from the cockpit display.

14 Flood light

A deck LED light is mounted under the steaming light in front of the mast to light up the foredeck. It is controlled from the cockpit display.

07 ELECTRONICS

00 General

Final specification will depend on the availability at the time of purchase and may change accordingly.

07.01 Compasses

01 Magnetic compasses

There is one Silva 125FT magnetic steering compass at each steering console. Compass adjustment and deviation card is not included.

02 Fluxgate compass

A B&G Precision-9 compass is used as the main heading source for navigation instruments, autopilot and other instruments requiring accurate heading information.

07.02 Sailing instruments

00 General

There is a comprehensive Brookes & Gatehouse H5000 Hercules package with central processor unit, wind sensor unit, speed sensor, depth/water temperature sensor and barometric pressure sensor.

01 Main unit

The following main units and modules are installed:

- B&G H5000 CPU Hercules
- B&G H5000 analog module for rig sensors

02 Digital displays

There is one B&G Graphic Display located at the navigation area and one Graphic Display on each steering console.

One B&G Pilot Controller is located on the starboard steering console. See section 07.06.01.

The Graphic Displays can display sensors listed in 07.02.04.

04 Sensors

- One B&G H5000 speed sensor with plastic flanged housing.
- One B&G DT800 depth/water temperature sensor with plastic flanged housing.
- Vertical wind sensor at mast head, type WS730, 1450 mm
- B&G barometric pressure sensor

Following additional sensors are displayed in the B&G system:

- Backstay pressure
- Forestay pressure
- Boom vang pressure
- Jib halyard pressure
- Inner forestay pressure

07.03 Navigation systems

00 General

There is a B&G Zeus radar/chart plotting system with operator stations at the navigation area and steering consoles.

01 GPS

A B&G ZG100 10Hz GPS antenna is used as the main navigator for:

- B&G Zeus chart plotting system
- B&G sailing instruments
- B&G autopilot system

02 Radar

The B&G HALO 24" pulse compression dome 48 nm radar antenna is integrated with the B&G Zeus navigation system. See section 07.07.01 for antenna position.

03 Chart systems

Navigation area station comprises of one B&G Zeus³S Glass Helm 16 inch multifunction display and control unit ZC2. Charts are not included.

Each steering console is installed with one multifunction display 12 inch, B&G Zeus³S-12. Charts are not included.

99 AIS system

Class B AIS transponder, B&G V3100 including GPS antenna and VHF antenna splitter, B&G NSPL-500. The system is connected to the B&G Zeus navigation system and VHF antenna on mast top. See section 07.07.01 for GPS antenna position.

07.04 Communication systems

01 VHF Radio

VHF radio B&G V100 with two wired handsets, one at the navigation station and one at the steering console, with intercom possibility between the two.

99 LAN

There is a Yachtspot internet system that searches for 4G networks or public WiFi "hot-spots" and broadcasts them into the yachts wireless local area network (WLAN). System Includes Yachtspot 4G&WiFi PRO GX terminal, managed PoE Gigabit Switch, security gateway, cloud key and wireless routers. See section 07.07.02 for antenna positions.

07.05 Entertainment systems

01 Audio system

System plays FM radio and music stored on an iPhone/iPad.

Saloon:

Marine entertainment system Fusion Apollo MS-RA770 positioned in saloon connected to two pair of B&W CCM362 speakers in the ceiling.

Cockpit:

Cockpit speaker system includes amplifier JL Audio MHD-600/4-24 and 2 pair of JL Audio M6-770-GwGw 7.7 inch loudspeakers connected to the Fusion Apollo RA770 stereo unit in the saloon. The cockpit speakers are controlled by B&G the Zeus MFD displays positioned at each steering console.

02 Video system

Forward lower lounge area:

LED TV 43 inch, Samsung series 7 connected to Delta antenna for terrestrial TV. System includes Apple TV 4K 32 GB enabling video streaming from iPhone/iPad.

07.06 Autopilot system

01 Main unit

There is a B&G H5000 Pilot Computer system with one H5000 Pilot Controller on starboard steering console.

02 Power pack

There is a dedicated continuously running 24V Marsili power pack powering the hydraulic cylinders.

03 Hydraulic cylinders

The autopilot is driving the steering quadrant via twin low friction cylinders.

07.07 Aerials

01 Navigation antennas

The B&G ZG100 GPS antenna is mounted on the port lower pushpit rail.

The B&G B&G V3100 AIS GPS antenna is mounted on the starboard lower pushpit rail.

The B&G HALO 24" radar dome antenna is mounted on the front of the mast.

02 Communication antennas

The B&G V100 VHF is connected to the RR Electronic Delta Biscaya active antenna at masthead.

Yachtspot 4G/WiFi antennas are mounted on the 1st spreaders.
WiFi antenna covering deck area is mounted on the lower pushpit rail.

03 Entertainment antenna

There is an R&R Electronic Delta Biscaya active antenna at the masthead for VHF, TV and FM radio.

07.08 Computer system

01 Main unit

Computer Dell OptiPlex MFF with cordless keyboard and mouse is connected to the B&G 16 inch monitor at the navigation station. See section 07.03.03.

07.10 Safety systems

01 Foghorn

There is a Marco EW3 24 V foghorn.

08 RIG

00 General

The four spreaders fractional mast is design for offshore cruising. It is setup for easy handling with spreaders swept aft. There is a removable inner forestay and running check stay to support the inner forestay.

Colour: Polyurethane paint

Rig dimensions

IG	43.30 m	142.06 ft
J	12.92 m	42.39 ft
P	42.00 m	137.80 ft
E	13.96 m	45.80 ft
TPS	15.90 m	52.17 ft

Sail areas

Jib Area (ORC)	304.3 m ²
Mainsail (ORC)	344.0 m ²

08.01 Mast

01 Mast tube

There is an autoclave cured carbon masthead. The top of the mast head has to be designed to accommodate all the relevant navigation and sailing instruments, including navigation lights and lightning protection.

- Wind wand attachment
- Crane for permanent backstay
- One (1) gennaker halyard sheave
- One (1) Code 0 halyard sheave and 2:1 dead end
- One (1) main halyard 1:1 sheave; dead-end for 2:1 use
- One (1) spare main/utility halyard sheave
- Halyard chafe protections
- Main halyard lock, full hoist with 2 reef positions
- Inner forestay lock
- Two (2) jib halyard sheaves

02 Spreaders

- Four (4) sets of carbon fiber spreaders
- Tips to accept rod rigging

Spreaders lights:

- For the spreaders lights see section 6.11

Flags:

- Blocks for courtesy flags are mounted on port and starboard under S1

03 Mast tracks

A main sail luff track is installed on the aft wall of the mast tube. A trysail luff track is installed alongside the main luff track. Luff tracks are mechanically fastened to the mast tube. The main sail track is a Harken 32 mm T-track with switch track system at the bottom to reduce the stack height.

04 Mast fittings

All Internal wiring are shielded in wire channels and secured to the mast. A water stop is installed at the height of the lowest halyard exit. Ventilation conduits are lead to the mast.

08.02 Booms and poles

- The Park Avenue type main boom is built of standard modulus carbon fibre
- Boom accommodates a slab reefing system with 2 reef points
- Outhaul track and car mounted at the outboard end complete with hydraulic cylinder
- Complete lazy jack system
- Attachment for Boom preventer
- Four lights mounted on the underside of the boom
- Port and starboard double grooves on the boom for mainsail cover and sun awning

08.03 Standing rigging

- The standing rigging is made of rod rigging, lateral and forestay
- Aramid running backstay and inner forestay
- Headstay lower attachment fitting to fit a jib furler
- Inner forestay on lock at mast

08.04 Running rigging

The following set of running rigging is supplied with appropriate terminations and connections.

Description	Quantity	Material
Mainsheet	One	Dyneema
Jib sheet	Two	Dyneema
Staysail	Two	Dyneema
Gennaker/Code 0 sheets	Two	Dyneema
Mainsail halyard	One	Dyneema
Spare main halyard 2:1	One	Dyneema
Gennaker halyard	One	Dyneema
Code 0 halyard 2:1	One	Dyneema
Jib halyard	Two	Dyneema
Staysail halyard	One	Dyneema
Backstay Tail	Two	Dyneema
Check stays Tail	Two	Dyneema
Reef lines	Two	Dyneema
Cunningham strop	One	Dyneema
Outhaul Strop	One	Dyneema
Preventer line	One	Dyneema
One set of lazy jacks		

Sizes are specified by spar builder.

08.05 Furlers

Hydraulically operated jib furler with a single groove foil. There is a hydraulic real time adjuster to adjust the length of the headstay.

08.06 Rig hydraulics

All hydraulic functions are powered by the yachts central hydraulic system.

- Headstay length adjuster
- Jib halyard tensioner
- Inner forestay tensioner
- Boom vang, single acting
- Cunningham
- Mainsail outhaul
- Two cylinders for backstay bridle adjustment

04 Mast jack

There is a hydraulic mast jack with spacer and removable manual pump.

09 EQUIPMENT

00 General

An Owner's Manual is provided with directions for use and maintenance, drawings and diagrams for main systems and handbooks for machinery and components.

09.02 Anchoring and mooring

- One 108 kg galvanised anchor with integrated anchor rollers on the bowsprit
- One Fortress FX-125 secondary anchor + bag stowed below deck
- 120 m 13 mm high-tensile anchor chain
- 120 m 25mm plaited nylon spare anchor line
- Four mooring lines 20 m each, diameter 28 mm
- Four mooring lines 40 m each, diameter 28 mm
- Eight inflatable Fendress IF2458 (61x147) black air fenders with lines
- One boat hook stowed below

09.03 Sailing gear

- Two 10" power grip and two 10" single grip winch handles

01 Sails

To be provided by the Owner. The Builder has to provide the sail maker with measurements needed, to notify sail maker of mast stepping schedule and to assist sail maker with installation and testing of sails.

09.04 Firefighting equipment

There are portable extinguishers Gloria P2G for each cabin and a fire blanket in galley.

Note: Please notice that there is no provision for gasoline to be stowed in the lazarette or anywhere inside the yacht.

09.05 Safety equipment

There are safety lines on deck. All other safety equipment has to be provided by the Owner.

09.06 Spare parts

- Basic spare parts kit for engine and generator

09.07 Tools

- Basic tool kits for engine and generator

09.99 Other

- One half model of the hull
- Two handles for opening the hatches
- Four suction lifters for floorboards
- Flag pole in clear coated carbon fibre
- Launching and rigging in Pietarsaari

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