



CONCEPTUAL STANDARD SPECIFICATION

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CONCEPTUAL STANDARD SPECIFICATION

Dimensions

Length of hull	26.54 m	87.10 ft
Loadline length	23.99 m	78.71 ft
LOA	28.27 m	92.75 ft
LWL	24.99 m	81.99 ft
Beam max	6.72 m	22.05 ft
Draught (standard keel)	4.0 m	13.12 ft
Draught (shoal draft keel)	3.6 m	11.81 ft
Draught (telescopic keel)	3.0 – 4.6 m	9.84 – 15.09 ft
Displacement (light ship)	54,100 kg	119,270 lbs
Ballast (fin and bulb)	15,050 kg	33,180 lbs
Engine, Cummins BTA4.5-ME, 4-cyl	172 kW (230 hp)	

Rig and sail dimensions

IG	36.65 m	116.96 ft
ISP	38.30 m	125.66 ft
J	10.60 m	34.77 ft
P	35.00 m	114.83 ft
E	11.00 m	36.09 ft
TPS	13.00 m	42.65 ft

Sail areas

Jib Area (ORC)	201.88 m ²	2,173.0 ft ²
Mainsail (ORC)	235.51 m ²	2,535.0 ft ²
Total upwind (ORC)	437.39 m ²	4,708.0 ft ²

Tank capacity

Fuel	2,800 l	740 USg
Fresh water	1,500 l	396 USg
Hot water	160 l	42 USg
Grey water	400 l	106 USg
Black water	400 l	106 USg

Battery & power sources

Service battery	24V 1,200 Ah / 5 h
Handling system battery	24V 300 Ah / 20 h
Starting batteries	12V 75Ah / 20h
Diesel generator	Northern Light M864W3 230 V 20 kW 50 Hz
Shore power	230 V 50 A + 230 V 50 A for AC

Naval Architect

FRERS NAVAL ARCHITECTURE & ENGINEERING

Construction Approval

To Be Decided

Builder

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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 Construction approval

The yacht is built with the following approval:

To Be Decided

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 of 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

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

01.01 Laminate

00 General

The hull is a fully thermoformed Corecell M-grade cored glass fibre reinforced epoxy construction with local pre-preg carbon fibre unidirectional reinforcements built in a female mould.

01 Lay up

The lay-up is of SPRINT® / pre-preg type or equivalent, giving a stiff laminate with excellent strength and fatigue properties. The hull laminate is cured in an oven at a temperature specified by the material manufacturer.

01.02 Stiffening

01 Stiffeners

All stiffeners are Corecell M-grade cored carbon fibre reinforced epoxy SPRINT® or equivalent skins with pre-preg unidirectional carbon fibre reinforcements. Special care is taken to assure rigid foundation and proper adhesion to hull.

02 Structural bulkheads

The structural bulkheads are Corecell M-grade cored carbon fibre reinforced epoxy SPRINT® or equivalent with pre-preg unidirectional carbon fibre reinforcements. The bulkheads 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 steel keel fin. The T-keel is attached to the hull with AISI 329 bolts.

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 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 self-aligning upper and lower bearings. Lightweight aluminium steering tillers 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 Nautor designed white painted 3-spoked composite 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

The 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

00 General

The transom is of open transom type.

01 Transom door

A large hatch gives direct access to the aft storage. The hatch extends all the way up to deck level for maximum opening and a discrete look.

The transom hatch doubles as a bathing and boarding platform. It is made from carbon fibre for maximum stiffness and has 9 mm teak recessed on the backside. The hatch is hydraulically operated.

01.09 Hull windows

There are ten hull windows, size and location according to the General Arrangement. The windows are of tinted toughened and laminated safety glass.

01.10 Boarding ladders

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.

01.13 Dinghy garage

00 General

There is space in the lazarette to store a 3.7 m inflatable dinghy, transversally located (Owner supplied).

Launching/retrieval and dinghy hauling system are not provided and will be offered as option depending on type of dinghy installed.

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

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

02.01 Laminate

The main deck is of a carbon fibre SPRINT® / pre-preg construction with a Corecell M-grade core. Coach roof and coamings are of a carbon fibre SPRINT® / pre-preg construction with a 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 60 x 9 mm teak battens with black 5 mm caulking. The side decks, fore deck, cockpit sole and seats are teak covered. 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 B1111.3 STR CAC HL HY primary sheet winches
- Two Harken B1111.3 STR CAC HL HY secondary sheet winches
- Two Harken B1111.3 ST CAC HY 1R HY halyard winches
- One Harken B1111.3 ST CAC HY 1R HY mainsheet winch

03 Anchor windlass

A Maxwell RC-12 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

03 Jammers, clutches

- Provision for jammers on each halyard

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 1050 mm above cockpit level.

03 Cleats and fairleads

There are a total of eight 400 mm stainless steel pop-up mooring cleats.

- Six are installed on bulwark; two on fore deck with roller fairleads on pulpit feet, two amidships and two aft.
- Two are installed on aft deck with roller fairleads on pushpit feet.

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

Flush mounted tinted acrylic hatches. All hatches are supported by gas cylinders. Sizes indicate maximum dimensions of clear opening.

01 Deck hatches

Following hinged glazed deck hatches are installed:

- One flush 600 x 600 mm above Owner's cabin bed
- One flush 400 x 300 mm above Owner's cabin sofa
- One flush 400 x 300 mm above Owner's cabin toilet
- One flush 400 x 300 mm above forward amidship guest cabin
- One flush 400 x 400 mm above forward amidship guest toilet
- Two flush 500 x 500 mm above saloon
- One flush 400 x 300 mm above port aft amidship guest cabin
- One flush 400 x 300 mm above starboard aft amidship guest cabin
- One flush 400 x 300 mm above galley
- One flush 400 x 300 mm above crew mess

02 Teak covered hatches

- One Nautor custom made hinged 800 x 800 mm hatch to sail storage
- Two Nautor custom made hinged 600 x 600 mm hatches to dinghy garage
- One Nautor custom made hinged hatch for anchor windlass
- One Nautor custom made hinged hatch on foredeck

03 Portholes

- Two openable portlights in each aft cabins to cockpit.

04 Deck house windows

There are tinted deck house windows. The windows are toughened, laminated and glued to the superstructure. There are one window on each side and one forward. Both side windows and the front window are made in two pieces divided by one mullion.

05 Main companionway

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

06 Crew companionway

There is a manually operated sliding 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 composite seats with backrest on each side of the forward cockpit. These seats can be moved athwartship for different seating and dining configurations.

03 Cockpit table

There are two teak height adjustable cockpit table with folding leaves, supported by height adjustable 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.

There are three transparent windows in front. The sprayhood recess is covered by a composite cover.

03 INTERIOR

00 General

The interior is finished in wood with features of painted and upholstered surfaces. The main wood for the interior is European oak. The interior is built using both lightweight materials and plywood. All joinery work is done in accordance with the best yacht practices using first grade materials.

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 semi-matt satin finish.

Painted surfaces are in RAL 9010 warm white colour two component paint with semi-matt finish.

Fabric covered and upholstered panels are used to create a light and contemporary feeling in accommodation areas.

02 Overhead panels

Vinyl covered removable overhead panels made in plywood or similar are installed in all accommodation areas.

03 Floorboards

The floorboards are of cored sandwich construction. The top face material is oak. The floorboards are varnished with several layers of urethane varnish. Four suction lifters are provided.

04 Topsides

The topsides, where visible, are covered with vinyl panels made in plywood.

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 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 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 manually operated blinds for blackout and privacy.

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

09 Handrails

Two handrails are fitted at main entrance and crew entrance. Two handrails installed in the saloon ceiling are in polished stainless steel.

10 Wardrobes and cupboards

The wardrobes include hanging rails and shelves where practical.

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

11 Tableware and galley utensils

Galley cupboards and drawers space can be 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 by 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 sandwich construction, consisting of two layers of wood on a light weight foam core. The surface panels are either of wooden plywood, painted or upholstered panels.

03.02 Forward cabin (Owner's cabin)

00 General

The forward cabin features a double bed at centerline, full height hanging lockers on port side and a writing desk on centerline forward with cupboards on both sides. Bulkheads are covered with veneered panels and a wooden headboard. There are two hull windows in the cabin.

01 Beds

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 where practical. There are lee cloths on both sides.

02 Lockers

The hanging locker is fitted with rails for dress hanging.

03 Settees

A swing out chair from Nautor's selection is installed at the writing desk.

04 Table

There is a writing desk with hinged lid on table top and shallow storage underneath.

05 Upholstery and fabrics

Fabrics and leathers are to the Owner's choice from Nautor's Mood collections.

06 Lights and switches

Two reading lights are installed at the head end of the bed. There is a reading 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 side (Guest cabin)

00 General

The cabin on starboard side forward of the saloon is a guest cabin with a double bed and en-suite bathroom, upper locker outboard and a full height hanging locker forward of the bed.

Bulkheads are covered with veneered panels and a upholstered bed headboard.

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 where practical. The bed is fitted with a lee cloth.

02 Lockers

The hanging locker is fitted with rails for dress hanging.

05 Upholstery and fabrics

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

06 Lights and switches

Two reading 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. One wall light is installed on the bulkhead.

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

00 General

The aft amidships cabins are guest cabins with en-suite bathroom. The cabins have twin beds with a bedside table between and a full height hanging locker outboard. Bulkheads are covered with veneered panels and a upholstered bed headboard.

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

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

06 Lights and switches

A reading light is installed at the head end of all beds. General cabin lighting with dimmers is created with down-light LED spotlights and indirect LED lighting. One wall light is installed on the bulkhead.

03.05 Aft Cabins, Starboard and Port side (Crew cabins)

00 General

There is one lower and one upper single bed outboard. A hanging locker is placed inboard. Bulkheads are covered with veneered panels.

01 Beds

The foam mattresses are of high quality manufactured for marine use. Mattress bases are Deltaflex batten nets to provide ventilation of underside. Each bed is fitted with a lee cloth.

02 Lockers

The hanging locker is fitted with rails for dress hanging.

06 Lights and switches

A reading light is installed at the head end of both beds. 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. There are two hull windows in the saloon.

01 Chairs

There are three foldable director's chairs with armrests at the dining table. The chairs can be secured onto floorboards while sailing. The chairs are offered from Nautors standard selection.

03 Sofas

The U-sofa has seat depth 500 mm. The lounge area sofa has seat depth 550mm. The fabric upholstered cushions are custom manufactured to a high standard for comfortable seating.

04 Tables

There is a dining table for eight persons in the dining area. The wooden table is fixed and the table top is flush. There is a fixed wooden coffee table in the lounge area.

05 Upholstery and fabrics

Sofa fabrics and leathers are offered from Nautor's standard selection.

06 Lights and switches

General lighting with dimmers is created with down light LED-spotlights and indirect LED-lighting. Two wall lights are installed on the forward 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 located on starboard side amidships aft of the guest cabins. There is one hull window in the galley.

01 Finish

The bulkheads are covered with painted and veneered panels. Upper and lower lockers are in wood. Work tops and fiddles are in white Corian.

02 Sink and faucets

There is a large under mounted stainless steel sink and one kitchen faucet with integrated shower at the sink.

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 lockers.

06 Lights and switches

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

08 Domestic appliances

All the appliances have a stainless steel finish.

- Two front loaded refrigerators, see 06.10
- Two front loaded freezers, see 06.10
- Four burner electrical stove; width 600 mm
- Electrical oven; width 600 mm
- Cooker hood
- Microwave oven
- Dishwasher
- Combined washer and dryer

Stove and oven are mounted together on a gimbaling module.

99 Other

The space underneath floorboards is used for stowage where practical. There are fittings for fixing the gimballed stove.

03.10 Navigation area

00 General

The navigation area is located on port side amidships aft of the guest cabins. The navigation station consists of a chart table, instrument panels and a chair facing forward.

01 Chart table

Stowage space is arranged under a hinged lid at the chart table. A locker is placed above the instrument panels.

02 Instrument panels

The visible instruments are mounted on hinged panels.

04 Chair

There is an adjustable chair at the navigation desk. The chair is fixed mounted to floor.

06 Lights and switches

A goose neck LED-navigation lamp is fixed at the instrument table.

03.11 Bathrooms general

00 General

Owner's cabin and guest cabins all have en-suite bathroom with a separate shower stall. Crew cabins have en-suite bathrooms with combined shower stalls.

01 Finish

The Owners and guest 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 floorboards in the showers are of water resistant material.

The crew bathroom is mainly made in GRP. The vanity top and the floor are made of composite material.

02 Wash basin

All bathrooms have an under mounted washbasin.

03 Faucets

Faucets and fittings are offered from Nautor's standard selection. The finish of the faucets and fittings is polished chrome.

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

04 Shower doors

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

Shower stall doors are made of tempered 8 mm clear glass and fitted with polished stainless steel fittings.

05 Mirrors

The mirrors are installed on bulkheads or on upper cupboard doors.

06 Lights and switches

General lighting is created with down light LED-spotlights.

07 Accessories

The accessories collections in line with faucets selection are offered to the Owner from Nautor's standard selection.

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. Access to the engine room is through openable hatches in both corridors 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

02 Bulkhead insulation

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

03 Floor board 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

There is a drip tray under the engine and diesel generator.

04.01 Main engine

01 Engine

The main propulsion engine, a Cummins BTA4.5-ME, is a modern 4 cylinder in-line common rail diesel engine displacing 4.5 liters and delivering 230 mhp (172 kW) at 2600 rpm.

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

02 Gearbox

There is a direct mounted ZF 85 A reduction 2.5:1 with an Aquadrive CV32 coupling (constant velocity joint) for down angle in combination with Aquadrive B30 thrust bearing. 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 60 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 a flexible coupling 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 generator. 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 10µ Racor 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 standard.

01 Tanks

The fuel tanks are built in stainless steel. The total fuel capacity is 2800 l. The tanks have individual level indicators. The filler line is separate for port and starboard side. 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 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 discharged 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 generator is mounted in sound shields on elastic mounts.
See also section 06.01.02

04.07 Oil handling system

00 General

There is a drip tray installed under the main engine and diesel generator. A portable electric oil drain pump is installed for the draining of the diesel generator and main engine oil pans.

04.08 Engine controls

00 General

The following functions are installed in the starboard coaming:

- Ignition lock
- Stop button
- Multifunction display
- Paralleling button for start and generator's batteries
- Control light for starting and service batteries charging

The following function is installed on SB pedestal:

- Electronic engine control

04.09 Thruster

00 General

The bow thruster is a SidePower SRHP240, swing type. The thruster is powered by a hydraulic PTO on the diesel generator. The thruster is controlled by a joystick on starboard pedestal.

04.10 Firefighting system

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

04.20 Hydraulics

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 Hydraulic functions

- Hydraulic emergency stop
- Quick release for vang
- Windlass, on wired remote
- Jib furler
- Jib furler length adjuster
- Bow thrusters (up / down, to port / to starboard)
- Inner forestay tensioner
- Halyard winch PORT
- Halyard winch STBD
- Boom vang, single acting
- Jib halyard tensioner
- Main outhaul
- Cunningham
- Primary winch PORT
- Primary winch STBD
- Secondary winch PORT
- Secondary winch STBD
- Main sheet winch
- Transom hatch
- Backstay tensioners

04.22 Power pack

00 General

The power pack is equipped with two electric pump units as well as one pump unit mounted on the diesel generator power take off. The power pack is also equipped with a return filter, oil level sensor, temperature sensor and an air breather. A separate electric pump, Reverso GP-302, is installed inside the engine room for filling of the hydraulic power pack.

05 PLUMBING AND VENTILATION

00 General

The components are chosen based on Nautor's long experience in the yachting industry. All installations are done to best known marine practise. 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 fresh water piping is made in a multi-layered press fitting system and nylon tubing.

Two filler lines on side deck, forward and aft are each led to a filling manifold. A suction manifold has valves for selecting which tank and water pressure pump to use.

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

01 Water tanks

There are polyethylene water tanks with a total capacity of 1500 l. 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.

02 Pressure water system

The water pressure system has two 24 V DC pressure water pumps. One 8 l pressure tank is connected to the cold water system.

03 Hot water system

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 12 l pressure tank is connected to the water heater.

04 Water maker

The water maker is a Idromar MSK230, 230 VAC with a capacity of 250 l/h. Both the low and high pressure pumps are located in the engine room for silent operation. The water maker is provided with dual pre-filters, the primary with a 25 micron cartridge, the secondary with a 5 micron cartridge. The system is installed with fresh water flush.

05.02 Sea water system

00 General

The 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 Deck wash pump

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

02 Sea water outlet

There is one sea water outlet in the forepeak locker and one in the lazarette.

05.03 Grey water system

00 General

Grey water from wash basins, showers, condensing water from the optional 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 400 l. Level switches are fitted to each tank. The tanks are ventilated overboard 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 400 l. Level switches are fitted to each tank. The tanks are ventilated 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 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 five separate bilges: fore peak, accommodation area forward, engine room, accommodation area aft 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 forward, the other one for the engine room, accommodation area aft and lazarette bilge.

Special attention is paid to ensure that bilge pumps 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

Shower trays and wash basins are drained directly to the nearest grey water tank, if necessary by transfer pumps.
Galley sink drains directly to a seacock. Condensing water from the optional air-conditioning system is collected to transfer pumps.

03 Deck drains

Deck drains are connected mainly to outlets above waterline.

05.07 Ventilation

00 General

The yacht has a forced ventilation system. Fresh air is led into the cabins and exhaust air out from bathrooms and showers. There is an exhaust air outlet for each shower stall.

01 Natural ventilation

Natural ventilation through deck hatches. See section 05.07.05.

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 an adjusting valve on each connection for tuning the system.
The fresh air inlet is equipped with a filter. Silencers are installed after the fans in order to have a quietly running installation.

03 Galley fan system

Galley cooker hood, see section 06.08.02.

04 Engine room ventilation

Engine room is ventilated by two fans, one outlet fan controlled by temperature and one inlet fan controlled by under pressure. Air inlet and outlet are fitted with water traps and remote controlled fire dampers. On engine room fire extinguisher release the fire dampers close and power supply to the fans are cut off.

05 Battery box ventilation

The service and handling battery boxes are provided with ventilation.

05.08 Climate control

00 General

A central waterborne cooling / heating system is installed for the entire accommodation. Condense water from the main unit and cabin units are collected to the grey water tanks. The system is designed for operation in Mediterranean climate.

01 Cabin units

The total cooling / heating capacity is divided in proportion to cabin volume and position. The system is designed for the air handlers to run on low speed for silent operation. There is an individual touch control panels in each cabin. The blower has 8-speed controls and an 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 DC35 inverter compressors with a total cooling capacity of 70.000 BTU / h (20.5 kW) and a total heating capacity in reverse cycle of 77.000 BTU / h (22.5 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

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 all 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 is also a number of 230 V 50 Hz appliances powered by a DC/AC inverter.

01 Shore power

The shore power inlet is 230 V 1-phase 50 A. There is also an additional shore inlet 230 V 1-phase 50 A for air conditioning. The two shore power cables are 15 m long. Inlets are located in the aft area of the cockpit.

02 Generator

There is one 20 kW Northern Light M864W diesel generator producing single-phase 230 V 50 Hz AC. The unit is mounted on elastic seatings. The generator is mounted inside a sound shield. Maximum permissible heel angle is 23° port and starboard, intermittent 35° up to two minutes. The generator is equipped with a PTO, see section 04.20.00

03 Chargers

There are two 24 V Mastervolt ChargeMaster Plus 24/110, 110 A chargers with 3-step charge characteristics for the service battery.
There are two Mastervolt Magic 24/24 30 A DC/DC converters charging the handling system battery from the service battery.
There is one Mastervolt ChargeMaster 12/15-2, 15A charger with 3-step charge characteristics for the starter batteries.

04 Inverter

One Mastervolt Mass Sine Ultra 24/4000 inverter, which converts 24 V DC to 230 V AC 50 Hz 4000 VA for single-phase AC consumers.

07 Outlets AC

There are 230 V outlets of schuko type, model Victor Carre by CJC. One outlet per bathroom, except port crew toilet, 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 earthing point. The plate is located aft of the propeller bracket.

01 Lightning protection

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

02 Galvanic protection

Main engine, gear box, bronze seacocks and keel are bonded to sacrificial anodes, quantity two. The propeller shaft and the bow thruster have their own individual sacrificial anodes.

06.04 DC-system

00 General

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

There are two battery banks, one for service systems and one for handling systems.

The service battery bank is 24 V 1200 Ah / 5 h consisting of 24 single cells, 2 V each. They are Energys 8 PzV 600 maintenance-free type gel batteries. This battery bank powers lights, fans, pumps and electronics. The handling system batteries are 300 Ah / 20 h consisting of 8 Optima Yellow Top DC 5.5 12 V 75 Ah.

The handling system bank is used for the hydraulic power pack.

02 Alternator

There is one 28 V 150 A, Mastervolt Alpha 24/150III 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 sailing locker, one on the mast and one in aft cockpit. There are two USB-A outlets in each cabin, navigation station crew mess and saloon. There is one in galley, port crew toilet and one water proof socket in cockpit area.

06.05 Plumbing and monitoring system

01 Fresh water system

The fresh water pumps stop 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 automatically or manually emptied by 24 V electrical pumps.

04 Black water system

The tanks can be emptied by 24 V electrical pumps.

05 Drainage system

The 24 V 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. The 24 V drain pumps are controlled by optical sensors.

08 Water metering

Water tank levels are displayed on the main control panel. Sensors made by Wema.

09 Fuel metering

The fuel tanks levels are displayed on the main control panel. Sensors made by Wema.

10 Monitoring system

The electrical system has an integrated alarm and monitoring system. At the main electric panel, is a 7" touch display. This display shows tank volumes, voltage levels in the DC and AC system and state of charge of the service battery.

The alarm and monitoring system is prepared for an optional connection to the B&G plotters

Following alarms/ signals are indicated on the 7" display, including an audio signal at the helm:

- Bilge levels high
- Black water tank levels high and full
- Grey water tank levels high and full
- Water in fuel separators
- Low battery voltage, service battery bank
- Low battery voltage, handling system battery bank
- Navigation light failure (side, stern and motoring lights)

Level metering:

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

11 Fire alarm

There are battery powered smoke detectors in all living areas. There are smoke/heat detectors in the engine room which gives alarm at the main control panel.

06.06 Engine and generator DC

01 Starting batteries

There are two Optima Yellow Top DC 5.5 12 V 75 Ah batteries, one for the main engine and one for the generator.

The starting batteries are of maintenance free AGM type batteries and located in the engine room.

02 Parallel solenoid

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

99 Other

There is a 12 V 90 A alternator on the main engine for charging engine starting battery.

There is a 12 V 35 A alternator on the diesel generator for charging the diesel generator starting battery.

06.07 Instrument power supply

00 General

The radio and instrument power supply is by the service battery.

06.08 Ventilation and heaters

01 Forced ventilation

See section 05.07.02

02 Galley fan system

Miele DA 3466

03 Engine room

There is a temperature controlled 24 V exhaust fan. The fan stops if the fire extinguisher is activated.

04 Battery boxes

See section 05.07.05

06.09 Electrical panels

00 General

There is a main control panel in aft corridor.

01 AC and DC panels

The AC and DC voltages and consumptions of the yacht's main systems can be monitored from the main control panel in aft corridor.

02 Diesel generator control panel

The control panel is located in aft corridor.

03 Cockpit panels

- Engine control, see 04.08
- Sail handling and furling controls

06.10 Domestic appliances

00 General

Selected appliances are well known brands of high quality.

01 Dish washer

Miele G 5000 i Active 2,0kW 230V

05 Microwave oven

Miele M 2224 SC 800 W with grill

07 Washer/Dryer

Miele combo WTR870 WPM PWash & TDos 8/5 kg 2.3 kW 230 V

09 Refrigerators

There are two 24 V DC refrigerators in galley, approximately 160 l each.

10 Freezer

There are two 24 V DC freezer in galley, approximately 130 l each.

12 Stove and oven

Four burner electric induction hob Miele KM 7465 FL 230 V 7.3 kW
combined with oven Miele H 7840 BPX 3.2 kW.

06.11 Lights

00 General

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

01 Deck lighting system

Cockpit lighting in fwd cockpit area, four light fittings.

One light fitting below each steering pedestal facing deck.

02 Over head lights

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

03 Reading and table lights

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

07 Indirect and courtesy lights

Cabins

- Indirect LED light at base of beds
- One wall light in each guest cabin BCM 2161

Saloon

- Indirect LED light in base of sofas
- One wall light at forward bulkhead BCM 2161

08 Navigation lights on deck

- Stern light LED Lopolight

- Port side light LED Lopolight
- Starboard side light LED Lopolight

The 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 navigation lights are controlled from the cockpit display.

10 Spreader lights

There are four spreader lights on the lowest spreader pair. They are controlled from the cockpit display.

11 Windex light

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

12 Boom lights

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

The 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, masthead unit, speed sensor and depth/water temperature sensor.

01 Main unit

The following main units and modules are installed:

- B&G H5000 CPU Hercules
- B&G H5000 analogue modules 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.

Graphic displays can display sensors listed in 07.02.04.

04 Sensors

There are standard B&G depth and speed/water temperature sensors with plastic flanged housings.

Vertical wind sensor at mast head type WS730, 1450mm

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

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

07.03 Navigation systems

00 General

There is a B&G Zeus 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 B&G Zeus³S Glass helm 16 inch 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.

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.

07.05 Entertainment systems

01 Audio system

Saloon:

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

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.

07.06 Autopilot system

01 Main unit

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

02 Power pack

There is a dedicated continuously running 24 V 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 antenna

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

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

02 Communication antenna

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

03 Entertainment antenna

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

07.10 Safety systems

01 Foghorn

There is a Marco EW3 24 V foghorn.

08 RIG

00 General

The fractional rig is a carbon fibre three spreader rig designed for offshore cruising. The rig is set up with swept back spreaders for easy handling. The rig has a furling headstay and slab reefing with two (2) reefs. An optional furling staysail is hoisted into a lock, supported by runners and tensioned with the under deck tensioner. The mast and the boom are white painted, Snow White.

Principal dimensions:

IG = 35.65 m
ISP = 38.30 m
J = 10.60 m
P = 35.00 m
E = 11.00 m
Mast height above DWL = 40.53 m

08.01 Mast

Mast tube

- The mast is an autoclave cured Standard Modulus pre-preg carbon fibre tube with a tapered top section.
- Laminate and stiffness is optimized panel by panel for weight savings
- Local reinforcements and patches in high load areas

Masthead

- The carbon fibre masthead crane has attachment for a single backstay.
- One (1) lightning conductor (spike) 300mm higher than anything else in the top of the mast including a 70 mm² ground wire down to mast base
- One (1) B&G wind sensor (L=1450 mm) attachment
- One (1) Maxi Windex attachment
- One (1) Delta Biscaya antenna attachment
- One (1) masthead light attachment, see lights section below.
- One (1) sheave for main halyard with dead-end for 2:1 use
- One (1) sheave for spare main/utility halyard with dead-end for 2:1 use
- One (1) sheave for masthead spinnaker halyard
- One (1) sheave for Code-0 halyard with dead-end for 2:1 use
- All halyards have stainless steel chafe protection
- Two (2) padeyes and folding steps near top of mast for service

Cap tangs and rigging attachments

- Two (2) external upper cap tang end terminals for rod rigging
- Two (2) external tangs for aramid runners (check stays)
- Six (6) end terminals for lower diagonals at spreader roots

Hounds

- One (1) external headstay lug
- Two (2) sheaves with chafe protection for jib halyards

Inner forestay

- One (1) Facnor spigot style internal halyard lock with integral halyard sheave for 1:1 hoistable staysail on anti-torsion cable.

Spreaders

- Three (3) sets of tapered Standard Modulus carbon fibre "straight" airfoil spreaders in a swept back configuration
- Spreader tips with tip cups for discontinuous rod rigging
- Metal spreader bars and locking pins
- Courtesy flag halyards with blocks under port and starboard low spreaders

Tracks and cars

- Main sail track is a Harken 32 mm T-track, or equivalent
- Switch track system in lower part for reduced luff car stack height
- One (1) trysail track merging with main sail track by trysail switch track
- Trysail loader section with tack padeye near deck

Lights and cables

- One (1) Lopolight LED white 360 degrees anchor light installed at masthead
- One (1) LED Windex light
- One (1) Lopolight LED (5 Nm) steaming light installed at front of mast
- One (1) LED deck (flood) light combined in housing of steaming light
- Four (4) LED spreader down lights, two under each lower spreader.
- Internal conduits are provided for cables, one to the masthead and two to first spreaders.

Halyard exits and jammers

- All halyard exits are slot type fitted with polished stainless steel chafe protection both inside and outside.
- Four (5) Spinlock ZS jammers for halyards without locks
- Two (1) Spinlock XCS stoppers for parking halyards with locks

Goosenecks and cylinder attachments

- One (1) carbon fibre boom gooseneck securely bonded to the mast
- One (1) carbon fibre vang gooseneck securely bonded to the mast
- Aluminium lug for jib halyard tensioner with retainer and carbon fibre cover.

Mast collar with carbon deck chock plate

- A carbon fibre deck chock plate is securely bonded to mast tube flush with the surrounding deck when rig is in jacked up and tuned position.
- Delrin shims are installed all around for wear protection and to minimize gap
- Ten (10) connection points for mast halyard and reef line blocks.
- Rubber water seal with inner and outer clamping rings in stainless steel.

Brackets

- One (1) bracket for B&G Halo 24" radar dome antenna in front of mast with foghorn underneath

Lazy jacks

- Internal lazy jack retrieval lines with exit ferrules port and starboard.
- Lower exits slots on port and starboard side with stainless steel chafe protection.
- Two (2) Spinlock XCS stoppers are installed at gooseneck level.

Mast step and other

- Two (2) water lock are installed, one with drain above deck and second above jack bar with drain hose connection.
- Four (4) folding steps installed for easy reach of boom and mainsail stack.
- One (1) Ø 80 mm reinforced ventilation connection at mast step with tube exiting at lower spreader.
- Neoprene mast boot with Dacron cover over deck partners and four composite folding steps.
- One (1) insulated anodized aluminium mast butt with rocker
- One (1) insulated anodized aluminium mast base
- Enough anodized aluminium spacer shims for stack height
- One (1) anodized aluminium lifting bar
- Two (2) removable commercial grade hydraulic jack cylinders
- One (1) high pressure electric pump, pressure gauge and hoses with quick disconnects.

08.02 Boom

The boom is a Standard Modulus pre-preg carbon fiber construction with a deep V-shape for main sail storage. The boom is setup for a loose footed main sail with 2 reefs. Mainsheet is a 2:1 setup with dead-end at deck level.

Inboard end

- Carbon fibre inboard end construction with anodized aluminium gooseneck swivel with sheaves for reef lines, cunningham and internal preventer.
- One (1) cunningham cylinder installed in bottom of boom with protective carbon cover
- Two (2) Spinlock ZS jammers installed internally underside of boom for outboard end reef lines with lead to halyard winches port and starboard.
- One (1) Spinlock ZS jammer installed internally underside of boom for internal preventer, with lead to halyard winch.

Boom vang fitting

- External anodized aluminium lug for single acting boom vang.
- Padeye for parking preventer line under boom.

Mainsheet

- One (1) stainless steel ferrule exit for internal preventer.
- One (1) high load soft loop padeye for external mainsheet block
- One (1) high load soft loop padeye for boom parking bridles

Outboard end

- Two (2) high load sheaves for reef lines.
- One (1) anodized aluminium track with outhaul car and high load sheave
- One (1) outhaul cylinder installed in bottom of boom with protective carbon cover
- One (1) high load padeye for topping lift and main halyard parking

Lazy jacks, sun awning and sail cover tracks

- Four point lazy jack system with end terminals in between the double tracks each side. Retrieving lines to inboard end with cam cleats each side.
- Two (2) tracks for sail cover, on each side inside boom.
- Two (2) tracks for sun awning tent, on each side inside boom.
- Four (4) folding padeyes at end of tracks for tensioning canvas.

Lights

There are two dimmable LED boom down light circuits:

- Three (3) LED boom down lights in guest cockpit.
- One (1) LED boom down light facing the aft deck.

08.03 Standing rigging

- Nitronic 50 rod side rigging and forestay.
- Aramid single split backstay, inner forestay and running backstays.

08.04 Running rigging

Colour coded Dyneema, snap shackles or D shackles.

Description	Quantity	Material
Main sheet 2:1	One	Dyneema
Jib sheets	Two	Dyneema
Gennaker/Code 0 sheets	Two	Dyneema
Staysail sheets	Two	Dyneema
Tack line	One	Dyneema
Spinnaker halyard 1:1	One	Dyneema
Spinnaker/Code 0 halyard 2:1	One	Dyneema
Staysail halyard 1:1 (lock)	One	Dyneema
Jib halyards	Two	Dyneema
Mainsail halyard 2:1	One	Dyneema
Reef lines	Two	Dyneema
Spare main sail halyard 1:1	One	Dyneema
Cunningham	One	Dyneema
Preventer line	One	Dyneema
Runner tails	Two	Dyneema
Burgee lines	Two	Dyneema
One set of lazy jacks	One	Dyneema

The sizes are specified by spar builder.

08.05 Furler

There is a hydraulically operated headstay furler, with a double groove aluminium foil.

08.06 Rig hydraulics

All hydraulic functions are powered by the central hydraulic system.

- One (1) Jib halyard tensioner
- One (1) Inner forestay tensioner below deck, on foredeck
- One (1) Mainsail outhaul cylinder
- One (1) Cunningham cylinder
- One (1) Boom vang
- Two (2) Backstay cylinders

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 70 kg stainless steel anchor on short bowsprit
- One Fortress FX-85 34 kg aluminium anchor + bag stowed below deck
- 100 m 12 mm high-tensile anchor chain
- 5 m 10 mm high-tensile spare anchor chain spliced to 50 m 24 mm plaited nylon spare anchor line
- Four mooring lines 15 m each, diameter 20 mm
- Two mooring lines 25 m each, diameter 20 mm
- Eight inflatable fenders with lines, Fendress IF1436 black, 360 x 910 mm
- 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 Owner. The Builder will 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: At no time should gasoline be stowed in the lazarette or anywhere inside the yacht.

09.05 Safety equipment

- Safety lines for deck
- Safety belts for galley and navigation station

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 deck hatches
- Four suction lifters for floorboards
- Sounding rods for fuel and water tanks
- Flagpole in clear coated carbon fibre
- Launching and rigging in Pietarsaari

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