

## SOLLEONE — NAUTOR'S SWAN



**Builder:** NAUTOR'S SWAN

**Year Built:** 2009

**Model:** Cruising/Racing Sailboat

**Price:** PRICE ON APPLICATION

**Location:** Spain

**LOA:** 91' 2" (27.77m)

**Beam:** 21' 3" (6.46m)

**Min Draft:** 14' 2" (4.30m)

**Max Draft:** 14' 6" (4.40m)

Our experienced yacht broker, Andrey Shestakov, will help you choose and buy a yacht that best suits your needs **SOLLEONE — NAUTOR'S SWAN** from our catalogue. Presently, at **Shestakov Yacht Sales Inc.**, we have a wide variety of yachts available on our sale's list. We also work in close contact with all the big **yacht manufacturers** from all over the world.

If you would like to buy a yacht **SOLLEONE — NAUTOR'S SWAN** or would like help answering any questions concerning purchasing, selling or chartering a yacht, please call **+1(954)274-4435**

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# SPECIFICATIONS

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## Overview

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### COMMENTS

The Swan 90 is a versatile high performance yacht that combines superior cruising capabilities with the quality and unmistakable style of Nautor's Swan. Designed by German Frers, the Swan 90 has been a huge success with 12 yachts delivered since 2007. A yacht that is perfectly suited to long-range live aboard cruising and unlimited by geographical constraints. Winters in the Caribbean, summers in the Mediterranean, the sun is always shining somewhere and even more accessible aboard a yacht that was built to devour miles and miles of blue ocean in first-rate comfort and luxury.

As a racer, the Swan 90 is a proven winner having claimed victories in the most important events such as Maxi Yacht Rolex Cup, Palmavela, Rolex Middle Sea Race and the RORC Caribbean 600.

Solleone is a full-carbon raised saloon version and was delivered in May 2009. She features four guest cabins, all with Ensuite head and separate shower compartments and comfortably accommodates up to 9 guests.

Solleone will be in the Mediterranean from July 2015 and available for visit and charter.

### HULL & APPENDAGES

Structural bulkheads are of pre-preg foam cored carbon sandwich construction laminated to hull and deck. There is one water tight door in each structural bulkhead forward of the raised saloon which divide the yacht into seven different individual compartments with their own bilge pumping system

### Keel

The ballast bulb is an antimony lead casting and attached to a hi-tensile steel fin.

### Rudder

The rudder is built using carbon fibre/epoxy skins on foam core, with a tubular carbon fibre stock, supported by self-aligning bearings supplied by JP3. The lower bearing has

double seals to prevent leakage. Lightweight aluminum steering quadrant bolted to rudder stock. Rudder was pulled in 2014 and new bearings installed

## Steering Systems

Two custom built composite pedestals with compass, navigation and sail control systems. Two 1200 mm clear coated carbon composite wheels with elkhide covered rim. The wheels can be independently disconnected.

## Transom

The transom door doubles as a bathing/boarding platform. carbon fibre pre-preg construction for maximum stiffness with 9 mm teak on the topside. The door is hydraulically operated by two custom built stainless steel rams. Two stainless/teak ladders, one to provide access from deck to the platform, the other a swimming ladder. Hot/Cold water shower on swim platform. Underwater lights beneath transom.

The starboard side hatch conceals a Swiss Carbon hydraulically operated telescopic gangway with articulation both vertically and horizontally. Port side hatch for shore power, telephone, dive compressor and water connections

## Lazarette

Storage space with carbon fibre lightweight floorboards.

## Forepeak

Storage for sails and equipment, carbon fibre lightweight floorboards, topsides faired and top coated

## DECK

Carbon fibre / epoxy deck laminate using core cell foam core with high density core under the deck fittings. Coaming and coach roof are painted white using Awlgrip paint system, Coaming stripe dark blue Awlgrip. Laid teak 65 x 9 mm nominal thickness, quarter cut, battens on side decks, coamings and cockpit sole glued and vacuum bagged. White TDS deck caulking system

## Sail Handling Hardware

Deck gear by Harken. Genoa tracks recessed into teak deck, double foot blocks for genoa and gennaker sheets. Harken 150 standup blocks for halyards, gennaker sheets and runners. Five Spinlock jammers for halyards

## Winches

All winches are hydraulically driven via the hydraulic main ring system and connected to the valve blocks with flexible hoses.

Four Harken B1110 STCAA HLHY winches in cockpit, primary & secondary

One Harken B1110 STCAA HLHY mainsheet winch

Four Harken B990.3 STR HY halyard winches near the mast

Lewmar Vertical 4000 hydraulic windlass in anchor locker

Sanguinetti hydraulic retractable capstan mooring winch on foredeck

## Deck Equipment

Hydraulically operating Titanium anchoring arm for stowing the bow anchor in deck locker. The controls are on the same wandering lead as the windlass. The pulpit and push pit are 610 mm high with spacing according to ISAF/ORC requirements and made of a Ø 32 mm stainless steel tube. The push pit has gates for easy access to bathing platform / gangway.

## Cleats and fairleads

There are eight 400 mm Versari & Delmonte stainless steel pop-up mooring cleats; two on fore deck, four amidships, two aft. Pop up stainless steel fairleads integrated into toe rail, two forward, four amidships and two aft.

## Hatches

Nautor custom made flush mounted tinted acrylic hatches with gutters and frames in

white painted composite. All hatches are supported by gas cylinders, sizes are for clear openings. Escape hatch in aft cabin above bed. There are six Goiot Cristal 43-18R openable tinted acrylic portholes in coamings, flush mounted with white painted aluminium frames. Nautor custom made teak covered hatches for access to deck lockers and lazarette

## Deck house windows

Parasol grey deckhouse windows made by Form glass, chemically toughened, laminated and glued to the superstructure. Main companionway lockable sliding hatch of tinted acrylic with sliding drop board. The lockable main companionway has a sliding hatch of tinted acrylic and a GRP sliding drop board.

## Cockpits

Aft cockpit is recessed into deck, forward cockpit with two U-shaped settees and two waxed teak cockpit tables that can be lowered to seat level to create an expanded sun bathing area

## Canvas

Sprayhood recessed with a canvas cover over the main entrance.

Sun awning connecting to park avenue boom

Cushions for center cockpit seating with backrests

Covers for steering pedestals, wheels, cockpit tables and mainsail.

## INTERIOR

### General

Mainly teak is used for visible interior and has a waxed natural effect finish. Vinyl covered removable overhead panels are installed in all accommodation areas. The same material is on the inside of the coach roof coamings, Italvipla Roma Col. 6. The floorboards are of PVC-sandwich construction and the top face is teak and finished in the same colour as the rest of the interior. All floorboards are laid on vibration damping materials.

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

All locker doors are fitted with high quality furnishing hinges and are kept closed with push button latches. Doorstoppers are fitted where needed. Automatic lights in hanging lockers

All bathroom mirrors are made of a special marine quality glass. Edges sealed to prevent moisture intrusion. All openable deck hatches are fitted with manual roller blinds and mosquito screens.

Partitions are of sandwich construction on a core of 30 mm foam.

Overhead LED lighting throughout yacht, LED reading lamps at each berth, Red nightlights throughout.

### **Forward Cabin (Crew Cabin)**

Upper and lower berths to starboard, hanging locker forward of berths. Settee to port with folding table and folding pullmann berth above settee. Independent access to deck via 80cm x 80cm hatch with ladder. Head compartment forward with shower, mirrors, storage lockers and vacuum WC.

### **Forward Amidships Cabin (Guest Cabin)**

Guest cabin starboard side forward of saloon with 140cm wide double berth outboard and a folding Pullman berth above. Storage lockers and drawers built into berth. Folding table and storage lockers built into inboard bulkhead. Hanging locker forward of berth, ensuite head compartment with separate shower stall, sinks, mirrors and vacuum WC

### **Aft Amidships Cabin Starboard (Guest cabin)**

The starboard cabin has two single berths. There is a full height hanging locker forward of the outboard berth and upper lockers above the outboard berth. Drawers are placed under the berths where practical. En-suite head compartment forward with washbasin, mirrors, storage lockers and vacuum WC



## Aft Amidships Cabin Port (Guest cabin)

The port guest cabin is equipped with twin berths with a table between. Full height hanging locker aft of outboard berth with built in storage drawers. En-suite head compartment aft with separate shower stall, washbasin, mirrors, storage lockers, heated towel rack and vacuum WC.

## Aft cabin (Owner's Cabin)

Queen sized berth on centerline with bedside tables on port and starboard, hanging locker with chest of drawers on lower part located starboard and port. Settees on starboard side and vanity desk on port side. Air conditioning integrated into overhead panels to achieve low air speed. Head compartment forward and port contains separate shower stall, vacuum WC, bidet, sinks, mirrors, heated towel rack and storage lockers

## Saloon

U-shaped settee to port and L-shaped settee to starboard with seating for 7-8 guests. Two identical custom made tables that can be raised, lowered and extended. Dining for up to eight persons. There are four lockers, one in each corner of the saloon. Stowage under settees are placed where practical.

Day head compartment aft and starboard with vacuum toilet, mirrors, wash basing and storage lockers

Nav station is located in aft starboard corner of saloon and features an outboard facing navigator seat and a full complement of navigation aids.

## Galley

The galley is located on the port side of the yacht forward of saloon with access to engine room, saloon and crew quarters. Two sinks and dishwasher are located inboard, stove top and work surfaces outboard, crew companionway located forward with washer and dryer installed outboard behind panels. Main electrical panel is located aft and outboard. Drawers and storage lockers

## Domestic Appliances

- 1x front loading refrigerators 107 L

- 2x front loading freezers 95 L
- Miele four-burner gas stove
- Miele electric oven
- Overhead exhaust hood
- Miele Dishwasher
- Food waste disposal integrated with sink.
- Miele Washing machine
- Miele Dryer

## Engine Room

The engine room is located on CL below the saloon. The structure is built in aluminium profiles with entrance from galley. Engine room surfaces and technical equipment are painted white

Partitions between cabins, toilets, corridors, etc. are built to meet a 20 dB reduction of airborne sound.

The engine room is insulated towards cabins and saloon with various layers of rock wool with noise barrier sheets in between. The engine room door is of similar construction as the surrounding partitions. They close onto rubber faced landings for maximum noise reduction

## ENGINE & SYSTEMS

### Propulsion

Volkswagen V6 230 HP turbo charged diesel engine with direct mounted reduction gear. Engine reduction gear are supported on flexible mounts. ZF W220 reduction gear with parallel input and output shafts, 24v clutchable PTO for hydraulic pump 250Nm torque. Aquadrive CVB 32.30 drive shaft between gearbox and four-blade folding Brunton Varifold propeller.

### Fuel System

The feed lines to the engine and diesel generator are equipped with 30-micron fuel filter/water separators with water 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 alarm mounted.

Fuel capacity 1600 L in two in stainless steel tanks, with individual level indicator. Filler line on starboard side. Tanks are equipped with hatches of adequate size to permit inspection and cleaning. All tanks are pressure tested to 0.3bar. Shut off valves are

provided for each tank.

## **Exhaust System**

The Halyard exhaust system has fibreglass silencers and gas/water separators installed for both main engine and diesel generator. Water is discharged below the waterline and exhaust gases from main engine and diesel generator exit under the transom. Silencers are provided with a drain tap. They are flexibly supported on vibration dampening brackets. Major service in 2014 including new seawater pump

## **Diesel Generator**

Two 20 kW M864W Northern Light generator producing single-phase 230 V 50 Hz AC. The units are mounted on elastic seating. Major service in 2014 including fuel injection pumps, alternators and cooling systems

## **Generator Hours - March 2015**

Port Generator : 3,320

Stbd Generator : 3,320

## **Bow Thruster**

Hundested FT1R bow thruster powered by the hydraulic PTO pump on the diesel generator, 18.4kW hydraulic power

## **Fire Fighting System**

There is a total flooding Clean Agent FM200 fire extinguishing system for engine room space with manual remote control. Two fire hydrants with hose reel, one forward and one aft.

## **Hydraulic System**

The hydraulic system is a Bosch-Rexroth custom designed system 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. Central hydraulic system is PLC controlled.

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. The system has two different sources of power. Each source will be operated independently of each other. The sources are obtained from:

1. Generator PTO pump Bosch-Rexroth A10V045 on each genset, 22kW each
2. Two DC Electric motor standby pump units Bosch-Rexroth A10V028, 5 kW each – major service in 2014

All pumps are equipped with a horsepower controller. The function is based on the power requirement from the users with the style of maximum speed/ minimum pressure and maximum pressure/ minimum speed. 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.

## Hydraulic Functions

- Anchor windlass
- Lifting keel and lock
- Forward mooring Sanguinetti
- Jib furler
- Anchor swing arm
- Bow thruster plus up/down
- Autopilot back up, supplies oil to auto pilot cylinders from a genset PTO pump.
- Outhaul
- Jib halyard tensioner
- Cunningham
- Backstay tensioner
- Boom vang
- 2x Halyard winches
- Primary and Secondary winches

- Mainsheet winch
- Genoa Car Pullers
- Main sheet captive winch
- Transom hatch cylinders

## **Pneumatics**

There is one low pressure (6 bar) piston compressor with quick acting couplings in lazarette for transom door air seal plus connection points in engine room and forepeak. The piston compressor is a Thomas 327 CDC 56/24.

## **PLUMBING SYSTEMS**

All systems are based on reliable components with world wide service. Components and valves are labeled with function, and piping is labeled with colour code, including an arrow to indicate direction of flow.

### **Fresh water System**

A pressurized hot and cold water system is installed. The fresh water piping is of polypropylene, nylon and copper tubing. Filler line on side deck is led to a valve chest. The valve chest has valves for each water tank and for water pressure pumps. Hot and cold water is distributed to all heads, to the galley and to deck shower. Cold water deck wash, one fwd and one aft. There are single lever mixing faucets for wash basins, galley sinks and showers.

There are two stainless steel tanks with a total capacity of approx 1000 L. The tanks are provided with baffles, hatches, level indicators and vent pipes. All tanks are pressure tested to 0.3 bars. Tank levels are shown on electrical main switchboard.

The water pressure system is equipped with two Reya A95, 24 V pumps, one is new from 2014. One 24 litre pressure tank is connected to the system. There is a city water connection that allows shore water supply to be piped directly into the pressure water system via a pressure regulator and check valve.

### **Hot Water System**

Gianneschi hot water tank 150 litre capacity with three individually operated heating elements. The hot water pipes are insulated with pipe insulation, hot water circulation quickly distributes heated water throughout boat. Inlet has a check valve to prevent hot water back flow. Outlet has a relief valve for over-pressure protection. There is a

thermostat mixing valve to prevent too hot water in the system.

## Water Maker

The water maker is an Idromar Mini Compact model MC5S, vertical version. The water maker produces 230 l/h (5520 l / 24 h), installed in the engine room. The water maker is provided with dual pre-filters, primary with 25 micron cartridge, secondary with 5 micron cartridge and fresh water flush. The feed water pumps are self priming with sea bronze body and internal parts in stainless steel AISI 316. The high pressure pump is constructed to work with sea water.

## Sea Water System

There are sea cocks of bronze for all through-hull connections below waterline located in accessible position. Inboard side of sea cocks fitted with stud long enough to take two hose clamps.

There is an electrical fire/anchor wash pump with connections on fore and aft deck. G&R type CB 25/16 24 VDC, capacity 180 l / min. There are two fire hydrants with hose reel, one forward and one aft.

## Grey Water System

Grey water from sinks, basins, showers, air conditioning and washer/dryer is collected in two stainless steel grey water tanks, total capacity 400L. Level switches are fitted to each tank, with indication at  $\frac{3}{4}$  full and full. The grey water tanks are emptied by 24 V electrical pumps to sea cocks via siphon breaks

## Black Water System

All toilets are connected to the black water tank. Two stainless steel black water tanks are provided, one for aft toilets and one for forward toilets, total capacity 200 l + 200 l, with indication at  $\frac{3}{4}$  full and full. The tanks are fitted with baffles, inspection covers, and vent lines. The tanks can be emptied by 24 V electrical pumps to sea cocks via siphon breaks. Each tank is also provided with a deck suction line.

## Toilet Systems

The toilets are Tecma Standard Plus, 24 V. Flushing by fresh pressure water. The function cycle is completely automatic. The high performance turbine pump enables a complete fragmentation of the organic residues. Full black water tank disable flushing of toilets.

## **Bilge Pump Systems**

There are five separate bilges, i.e. fore peak, forward cabin, engine room, aft cabin and lazarette bilges. Each bilge is equipped with a DC driven submersible pump 140 l / min. Two manual Whale Titan, 100 l / min are installed as back-up pumps, one for fore peak and forward bilge, the other for aft engine room and lazarette bilge.

Whale gulper drainage pumps are installed in forepeak, forward area, mast area, engine room, aft area and lazarette to ensure maximum dryness.

## **VENTILATION SYSTEMS**

### **Air Conditioning**

A central cooled / heated waterborne system 230 VAC 50 Hz is fitted for the entire accommodation. Condensation water from the system is collected to the grey water tanks.

The total cooling / heating capacity is divided in proportion to cabin volume and position. The system is designed for air handler to run on low speed for silent operation. There is an individual temperature control in each cabin. The main unit is a Condaria PWM/FCL/18002, 72 000 BTU/h (21 kW).

Forced air ventilation system in all cabins

Independent engine room ventilation and extraction

Battery boxes are ventilated

### **Refrigeration System**

There are four custom made Frigonautica 24V DC water cooled compressors units for fridges and freezers

## ELECTRICAL SYSTEM

The electrical components are chosen based on Nautor's long experience in the yachting industry. Special attention is given to reliability and world wide service ability. Electrical diagrams will be delivered with the yacht, for both DC and AC systems and showing the location of all junction boxes. Cables are labeled with identification numbers at both

ends. At watertight bulkheads wires are run up to deck head height when penetrating the bulkhead or are sealed in place to produce water tightness.

Mast and shrouds are electrically connected to the keel. In the top of mast is an air terminal connected to a lightning conductor, which runs down to the keel. The prop shaft, keel and thruster have their individual sacrificial anodes.

### AC-System

Power supply of 230 V 50 Hz single-phase three-wire AC-system. The 230 V system can be fed by the diesel generator or shore power inlet. The bus is of split bus type. There are also a number of 230 V 50 Hz appliances fed through DC/AC inverters.

Shore inlet plug, 230 V 3-pole 63 A is accessed through a hinged lid at transom. There is a separate shore inlet for air conditioning. For the separate air conditioning inlet, a galvanic insulator is installed in the ground wire. Power from ashore is led to a 15 kVA isolation transformer.

There are two 20 kW M864W Northern Light generator producing single-phase 230 V 50 Hz AC. The unit is mounted on elastic seating. The generator is mounted inside proprietary sound shield.

There are two Mastervolt, Mass 24 V 100 A chargers with 3-step charge characteristics, for the service battery. There is one Mastervolt, Mass 24 V 100 A charger with 3-step charge characteristics, for hydraulics battery. The starting batteries can be charged by one Mastervolt Mass 12 V 10 A charger with 3-step charge characteristics via isolator diode.



Conversion of 24 V DC to 230 V AC 50 Hz for single-phase AC consumers. There is one Mastervolt 24/2500 VA for misc. and one Mastervolt 24/1500 VA for instruments and entertainment. Both inverters have a separate transfer switch.

There are 230 V outlets of schuko type. One outlet per toilet, two outlets per cabin, three in galley, four in saloon, one in engine room, one in sail locker and one in the port side lazarette.

## DC-System

2-pole 24 V insulated return DC-system for lighting, blowers, pumps etc. The wires are sized to minimize voltage drop. There are two battery banks, one for service and one for hydraulics. The service battery bank is 24 V 1200 Ah /1h, Energys gel type powering lights, blowers, pumps, electronics etc. The use of lithium batteries saves 748 Kilograms from the use of standard gel type batteries. Hydraulic batteries are Optima 300 Ah / 20 h and consist of eight Optima Yellow Top S5,5 12 V 75 Ah. The hydraulic bank is used for the 2 x 5 kW central hydraulic and the auto pilot pump. The battery banks are located aft of the engine room.

There is one 24 V 60 A Bosch alternator on the main engine common for service and hydraulics battery banks, through a battery isolator. The hydraulics battery is charged by the main engine alternator through splitting diodes.

24 V DC outlets, one in the port side lazarette, one in engine room, one in anchor locker, one on the mast and one in aft cockpit.

## Plumbing & Monitoring Systems

The alarms are presented on a display in the navigation area for the following components

- Fresh Water tank level
- Fresh Water pump run dry
- Sea Water pump run dry
- Grey water tank level
- Grey pump runtime
- Black water tank level

- Bilge level alarms
- Bilge pump runtime
- LPG gas alarm
- Fuel tank level
- Water in Fuel separator
- Hydraulic oil level
- Hydraulic oil temp
- Low Battery voltage
- Generator overload

There is a separate fire alarm system with one sensor at the aft entrance, one in the engine room and one at the main entrance and one in the galley.

## NAVIGATION EQUIPMENT

### Compasses

Two Suunto 5" magnetic steering compasses at helm adjustable for global balancing.

A C. Plath Navigat X Mk2 gyrocompass as the main heading source for the navigation instruments, autopilot and other instruments requiring accurate heading information. A B&G Halcyon gyrocompass is used as the backup heading source.

### Sailing Instruments

There is a comprehensive Brookes & Gatehouse H3000 package consisting of central processor unit, 1450mm masthead unit, speed/temperature sensor, depth sensor. B&G Hercules H3000 Main processor and a Halcyon gyro processor.

One B&G Graphical Function Display (mono-chrome GFD) at the helm and one NMEA Full Function Display (FFD) located at nav station. One GFD display in aft cabin and one in crew cabin

Four 30/30 repeaters mounted on the mast.

Four 20/20 repeaters in aft cockpit

B&G 360° and 45° analogue wind direction displays on each side of cockpit backrest.

GFDs also display hydraulic pressures for backstay, vang, outhaul, jib halyard, inner forestay as well as forestay length adjuster position.

## **GPS & Radar**

A Furuno NavNet 3D + blackbox radar/chart plotting system consisting of one Furuno 1834C/C-MAP radar/plotter display at the navstation.

Furuno 12" chart plotter / radar below mainsheet winch (new 2014)

Furuno GP-320 DGPS to be used as the main navigator for:

- Furuno NavNet radar/chart plotting system
- PC cartography software MaxSea NavNet Commander V12
- Brookes & Gatehouse
- Brookes & Gatehouse autopilot system

A Furuno GP-37 GPS navigator with WAAS software as back-up.

Radar is a Furuno 4 kW 60 cm radome type antenna integrated with the Furuno NavNet plotter system.

PC cartography software MaxSea NavNet Commander V12, on the computer. The MaxSea NavNet software can also be viewed in the saloon TV. The chart system for the Furuno NavNet system is C-MapNT MAX.

Dual frequency Navtex receiver, Furuno NX300.

Furuno FA-150 class A type AIS system. The target information is sent to the Furuno NavNet system and integrated with the MaxSea NavNet software.

## **Antennas**

The Furuno NavNet GP-320 DGPS antenna on the port lower pushpit rail.

The Furuno GP-37 GPS antenna is mounted on starboard 2nd spreader.

The Furuno FA-150 AIS GPS antenna is mounted on port 3rd spreader.

The Furuno NavNet radar scanner, 60 cm dome type, is mounted front of mast.

The Furuno NX-3H-D Navtex antenna is mounted on 2nd spreader port side.

## **Auto Pilot System**

B&G H3000 ACP2 autopilot system with one Graphical Pilot Display (mono-chrome GPD) control unit at each steering pedestal. Powered by an individual 24V Marsili/ Bosch Rexroth power pack driving the steering quadrant via twin Rexroth low friction cylinders. There is a hydraulic back-up for emergency use, supplied from the main hydraulic system.

## **COMMUNICATION SYSTEMS**

### **VHF Radio**

The Simrad RS-87 DSC VHF has two handsets, one at the nav station and one at the helm, with intercom possibility between the two. Handheld Simrad VHF radio.

### **MF/HF Radio**

Sailor system 5000 with handset near main companionway hatch

### **Satellite communication**

Inmarsat Fleet 55 with handset at nav station

Connected to computer for internet access

Antenna mounted on first spreader

### **Cellular Phone Systems**

Nokia E60 quad band GSM phone with internet capability

## Other

ICOM PCR-1500 communications receiver for weather fax and navtex

## ENTERTAINMENT SYSTEMS

### Audio System

Owner's Cabin:

Sony XM-ZR604 stereo system with B&W CCM50 speakers in deckhead

Saloon:

Bose Lifestyle 48 DVD/CD/FM stereo system, stores up to 350 CDs on hard disk, connected to pop-up LCD TV

Cockpit:

Four Bose 32SE speakers installed in cockpit, fed by saloon hi-fi system, controlled by personal music center remote control

Guest Cabins:

Bose SA-3 amplifiers for additional zones

Bose PSII radio remote for additional zones

B&W CCM50 speakers

Ipod docking stations

### Video System

Saloon:

Sony 32" LCD TV connected to Delta and M3 antennas

KVH M7 satellite DVB system with antenna on lower spreader

Crew Mess:

Lava 19" LCD TV connected to Delta and M3 antennas

## Computer System

Two Dell Optiplex GX 745 "Ultra small form factor" computers with DVD station connected to two 19" LCD flat screens at the navigation station, one for communication, one for navigation.

A HP Deskjet 450 printer is provided for hardcopy printouts.

## MAST & RIGGING

Four spreader mast with discontinuous shrouds by Offshore Spars, faired and painted white. The rig is set up for easy handling with swept spreaders 25 degrees. The Boom vang is used on the wind to complement mainsheet. The mast is a carbon fibre intermediate modulus, with luff track for mainsail. The masthead is a moulded carbon fibre unit integral with mast. There is an R&R Electronic Delta DSC Biscaya active antenna at the masthead for the VHF, TV and FM radio. Marco EW3 24 V foghorn.

I = 36,80 m - J = 10.76 m - P = 35.50 m - E = 11.45 m

## Boom

Carbon fibre Park Avenue boom, clear coated. Hydraulic outhaul system. Arrangement for three reefs in the main sail. Leech reef lines with stoppers at goose neck. Boom preventer system. Built-in deck lights. Lazy jacks

## Standing Rigging

EC6+ composite rigging with rod headstay. Kevlar inner forestay and running backstays

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Additional braid of spectra chafe protection cover on V1 and D5 shouids

## Running Rigging

All Ropes are Dyneema, screw shackle for main halyard, all other Tylaska Snap Shackle

All Halyards Internal

1x Main sheet

2x Jib sheets

2x Staysail sheets

2x Gennaker sheets

2x Gennaker halyards

1x Staysail halyard

2x Jib halyard

1x Mainsail halyard

2x Running Backstay tails

1x Preventer

1x Spare main halyard (Gantling)

2x Trysail sheets

2x Inboard reef lines

2x Outboard reef lines

## Rig Hydraulics

All the hydraulic functions are powered by central hydraulic system. All Navtec cylinders are black anodized, serviced in 2014.

- Reckmann UD4 Sphere hydraulic furling head stay with R6 double groove Carbon foil.
- Navtec cylinder for inner forestay tensioner, Navtec -40 SE.

- Navtec boom vang, Navtec -90
- Navtec jib halyard tensioner, Navtec -30 FE
- Mainsail outhaul, Navtec -22 FE.
- Cunningham Navtec -17 FE
- Two cylinders with mechanical locks for split backstay adjustment, 2x Navtec -30 L.
- Removable hydraulic mast jacks with spacer and removable manual pump.

## EQUIPMENT

### General

Owner's Manuals are provided in with directions for use and maintenance, drawings and diagrams for main systems and handbooks for machinery and components.

### Tender

4.0 metre rigid inflatable tender with 30 HP outboard engine

Mounted on foredeck

### Anchoring and Mooring

- One CQR 180 lbs anchor on hydraulically powered swinging titanium anchor arm
- Fortress FX-85 stern anchor
- 125 m 12 mm high-tensile anchor chain
- 100 m 25 mm plaited nylon anchor line
- Assorted mooring lines
- Eight Avon air fenders with lines
- Anchor day shape and light with cable and plug
- Two floating boat hooks

### Sailing Gear

- One removable MPS block Harken C5813 ø150 mm on C7403 base
- Four screw in deck eyes for outboard sheeting
- Four winch handles



## Safety Equipment

Man Overboard Module mounted on stern pushpit – serviced in November 2014

Two eight-man AVON Modula 8 Supervacuum packed life rafts.

Portable fire extinguishers Gloria P2G for each cabin and a fire blanket in galley.

Jackstays

EPIRB with GPS

## Spares and Tools

Basic spare part kits provided for Engine, Generator and other systems

Basic engine and generator tool kits are provided.

## Miscellaneous

Four handles for opening deck hatches and four suction lifters for floorboards.

Sounding rods for fuel and water tanks are provided

Bosun's chairs

Flag pole

## SAILS

### Sail

	Year	Sailmaker	Material/Notes
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### MAINSAILS

Full-batten mainsail 2014 North Sails Italy Carbon spectra, two reefs

Full-batten mainsail 2009 North Sails Italy 3DL Marathon, two reefs

**UPWIND**

Furling Genoa	2014 North Sails Italy Carbon spectra
Furling Genoa	2009 North Sails Italy 3DL Marathon
Staysail	2009 North Sails Italy 3DL Marathon, soft hanks

**DOWNWIND**

Code Zero	2009 North Sails Italy With furler
Gennaker	2009 North Sails Italy With bucket/sock

**STORM SAILS**

Main trysail	2009 North Sails Italy Dacron with orange paint
Storm jib	2009 North Sails Italy Dacron with orange paint

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## Basic Information

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**Category:** Cruising/Racing Sailboat

**Sub Category:** Cruising Sailboat

**Model Year:** 2009

**Year Built:** 2009

**Country:** Spain

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## Dimensions

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**LOA:** 91' 2" (27.77m)

**LWL:** 80' 7" (24.55m)

**Beam:** 21' 3" (6.46m)

**Min Draft:** 14' 2" (4.30m)

**Max Draft:** 14' 6" (4.40m)

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## Speed, Capacities and Weight

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**Displacement:** 119049.62148 Pounds

**Water Capacity:** 264.172052 Gallons

**Holding Tank:** 105.6688208 Gallons

**Fuel Capacity:** 449.0924884 Gallons

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## Accommodations

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**Total Cabins:** 4

**Total Berths:** 9

**Sleeps:** 9

**Total Heads:** 4

**Crew Cabin:** 1

**Crew Berths:** 4

**Crew Sleeps:** 4

**Crew Heads:** 1

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## Hull and Deck Information

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**Hull Material:** Carbon Fiber

**Hull Configuration:** Fin & Bulb

**Hull Color:** Flag Blue

**Hull Designer:** Frers Naval Architecture

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## Engine Information

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**Engines:** 1

**Manufacturer:** Volkswagen

**Model:** TDI V6

**Engine Type:** Outboard

**Fuel Type:** Diesel

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# DETAILED INFORMATION

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## Detailed Specifications

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### COMMENTS

The Swan 90 is a versatile high performance yacht that combines superior cruising capabilities with the quality and unmistakable style of Nautor's Swan. Designed by German Frers, the Swan 90 has been a huge success with 12 yachts delivered since 2007. A yacht that is perfectly suited to long-range live aboard cruising and unlimited by geographical constraints. Winters in the Caribbean, summers in the Mediterranean, the sun is always shining somewhere and even more accessible aboard a yacht that was built to devour miles and miles of blue ocean in first-rate comfort and luxury.

As a racer, the Swan 90 is a proven winner having claimed victories in the most important events such as Maxi Yacht Rolex Cup, Palmavela, Rolex Middle Sea Race and the RORC Caribbean 600.

Solleone is a full-carbon raised saloon version and was delivered in May 2009. She features four guest cabins,

all with Ensuite head and separate shower compartments and comfortably accommodates up to 9 guests.

## HULL & APPENDAGES

Structural bulkheads are of pre-preg foam cored carbon sandwich construction laminated to hull and deck. There is one water tight door in each structural bulkhead forward of the raised saloon which divide the yacht into seven different individual compartments with their own bilge pumping system

### Keel

The ballast bulb is an antimony lead casting and attached to a hi-tensile steel fin.

### Rudder

The rudder is built using carbon fibre/epoxy skins on

foam core, with a tubular carbon fibre stock, supported by self-aligning bearings supplied by JP3. The lower bearing has double seals to prevent leakage. Lightweight aluminum steering quadrant bolted to rudder stock. Rudder was pulled in 2014 and new bearings installed

## Steering Systems

Two custom built composite pedestals with compass, navigation and sail control systems. Two 1200 mm clear coated carbon composite wheels with elkhide covered rim. The wheels can be independently disconnected.

## Transom

The transom door doubles as a bathing/boarding platform. carbon fibre pre-preg construction for maximum stiffness with 9 mm teak on the topside. The door is hydraulically operated by two custom built stainless steel rams. Two stainless/teak ladders, one to provide access from deck to the platform, the other a swimming ladder. Hot/Cold water shower on swim platform. Underwater lights beneath transom.

The starboard side hatch conceals a Swiss Carbon hydraulically operated telescopic gangway with articulation both vertically and horizontally. Port side hatch for shore power, telephone, dive compressor and water connections

## Lazarette

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Storage space with carbon fibre lightweight floorboards.

## Forepeak

Storage for sails and equipment, carbon fibre lightweight floorboards, topsides faired and top coated

## DECK

Carbon fibre / epoxy deck laminate using core cell foam core with high density core under the deck fittings. Coaming and coach roof are painted white using Awlgrip paint system, Coaming stripe dark blue Awlgrip. Laid teak 65 x 9 mm nominal thickness, quarter cut, battens on side decks, coamings and cockpit sole glued and vacuum bagged. White TDS deck caulking system

## Sail Handling Hardware

Deck gear by Harken. Genoa tracks recessed into teak deck, double foot blocks for genoa and gennaker sheets. Harken 150 standup blocks for halyards, gennaker sheets and runners. Five Spinlock jammers for halyards



## Winches

All winches are hydraulically driven via the hydraulic main ring system and connected to the valve blocks with flexible hoses.

Four Harken B1110 STCAA HLHY winches in cockpit, primary & secondary

One Harken B1110 STCAA HLHY mainsheet winch

Four Harken B990.3 STR HY halyard winches near the mast

Lewmar Vertical 4000 hydraulic windlass in anchor locker

Sanguinetti hydraulic retractable capstan mooring winch on foredeck

## Deck Equipment

Hydraulically operating Titanium anchoring arm for stowing the bow anchor in deck locker. The controls are on the same wandering lead as the windlass. The pulpit and push pit are 610 mm high with spacing according to ISAF/ORC requirements and made of a Ø 32 mm stainless steel tube. The push pit has gates for easy access to bathing platform / gangway.

## Cleats and fairleads

There are eight 400 mm Versari & Delmonte stainless steel pop-up mooring cleats; two on fore deck, four amidships, two aft. Pop up stainless steel fairleads integrated into toe rail, two forward, four amidships and two aft.

## Hatches

Nautor custom made flush mounted tinted acrylic hatches with gutters and frames in white painted composite. All hatches are supported by gas cylinders, sizes are for clear openings. Escape hatch in aft cabin above bed. There are six Goiot Cristal 43-18R openable tinted acrylic portholes in coamings, flush mounted with white painted aluminium frames. Nautor custom made teak covered hatches for access to deck lockers and lazarette

## Deck house windows

Parasol grey deckhouse windows made by Form glass, chemically toughened, laminated and glued to the superstructure. Main companionway lockable sliding hatch of tinted acrylic with sliding drop board. The lockable main companionway has a sliding hatch of tinted acrylic and a GRP sliding drop board.

## Cockpits

Aft cockpit is recessed into deck, forward cockpit with two U-shaped settees and two waxed teak cockpit tables that can be lowered to seat level to create an expanded sun bathing area

## Canvas

Sprayhood recessed with a canvas cover over the main entrance.

Sun awning connecting to park avenue boom

Cushions for center cockpit seating with backrests

Covers for steering pedestals, wheels, cockpit tables and mainsail

## INTERIOR

### General

Mainly teak is used for visible interior and has a waxed

natural effect finish. Vinyl covered removable overhead panels are installed in all accommodation areas. The same material is on the inside of the coach roof coamings, Italvipla Roma Col. 6. The floorboards are of PVC-sandwich construction and the top face is teak and finished in the same colour as the rest of the interior. All floorboards are laid on vibration damping materials.

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

All locker doors are fitted with high quality furnishing hinges and are kept closed with push button latches. Doorstoppers are fitted where needed. Automatic lights in hanging lockers

All bathroom mirrors are made of a special marine quality glass. Edges sealed to prevent moisture intrusion. All openable deck hatches are fitted with manual roller blinds and mosquito screens.

Partitions are of sandwich construction on a core of 30 mm foam.

Overhead LED lighting throughout yacht, LED reading lamps at each berth, Red nightlights throughout.

Forward Cabin (Crew Cabin)

Upper and lower berths to starboard, hanging locker

forward of berths. Settee to port with folding table and folding pullmann berth above settee. Independent access to deck via 80cm x 80cm hatch with ladder. Head compartment forward with shower, mirrors, storage lockers and vacuum WC.

#### Forward Amidships Cabin (Guest Cabin)

Guest cabin starboard side forward of saloon with 140cm wide double berth outboard and a folding Pullman berth above. Storage lockers and drawers built into berth. Folding table and storage lockers built into inboard bulkhead. Hanging locker forward of berth, ensuite head compartment with separate shower stall, sinks, mirrors and vacuum WC

#### Aft Amidships Cabin Starboard (Guest cabin)

The starboard cabin has two single berths. There is a full height hanging locker forward of the outboard berth and upper lockers above the outboard berth. Drawers are placed under the berths where practical. En-suite head compartment forward with washbasin, mirrors, storage lockers and vacuum WC

#### Aft Amidships Cabin Port (Guest cabin)

The port guest cabin is equipped with twin berths with a table between. Full height hanging locker aft of outboard berth with built in storage drawers. En-suite head compartment aft with separate shower stall, washbasin, mirrors, storage lockers, heated towel rack and vacuum

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WC.

### Aft cabin (Owner's Cabin)

Queen sized berth on centerline with bedside tables on port and starboard, hanging locker with chest of drawers on lower part located starboard and port. Settees on starboard side and vanity desk on port side. Air conditioning integrated into overhead panels to achieve low air speed. Head compartment forward and port contains separate shower stall, vacuum WC, bidet, sinks, mirrors, heated towel rack and storage lockers

### Saloon

U-shaped settee to port and L-shaped settee to starboard with seating for 7-8 guests. Two identical custom made tables that can be raised, lowered and extended. Dining for up to eight persons. There are four lockers, one in each corner of the saloon. Stowage under settees are placed where practical.

Day head compartment aft and starboard with vacuum toilet, mirrors, wash basing and storage lockers

Nav station is located in aft starboard corner of saloon and features an outboard facing navigator seat and a full complement of navigation aids.

### Galley

The galley is located on the port side of the yacht forward of saloon with access to engine room, saloon and crew quarters. Two sinks and dishwasher are located inboard, stove top and work surfaces outboard, crew companionway located forward with washer and dryer installed outboard behind panels. Main electrical panel is located aft and outboard. Drawers and storage lockers

## Domestic Appliances

1x front loading refrigerators 107 L

2x front loading freezers 95 L

Miele four-burner gas stove

Miele electric oven

Overhead exhaust hood

Miele Dishwasher

Food waste disposal integrated with sink.

Miele Washing machine

Miele Dryer

## Engine Room

The engine room is located on CL below the saloon. The structure is built in aluminium profiles with entrance from galley. Engine room surfaces and technical equipment are painted white

Partitions between cabins, toilets, corridors, etc. are built to meet a 20 dB reduction of airborne sound.

The engine room is insulated towards cabins and saloon with various layers of rock wool with noise barrier sheets in between. The engine room door is of similar construction as the surrounding partitions. They close onto rubber faced landings for maximum noise reduction

## ENGINE & SYSTEMS

### Propulsion

Volkswagen V6 230 HP turbo charged diesel engine with direct mounted reduction gear. Engine reduction gear are supported on flexible mounts. ZF W220 reduction gear with parallel input and output shafts, 24v clutchable PTO for hydraulic pump 250Nm torque. Aquadrive CVB 32.30 drive shaft between gearbox and four-blade folding Brunton Varifold propeller.

Engine Hours: 4,043 (March 2016)



## Fuel System

The feed lines to the engine and diesel generator are equipped with 30-micron fuel filter/water separators with water 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 alarm mounted.

Fuel capacity 1600 L in two in stainless steel tanks, with individual level indicator. Filler line on starboard side. Tanks are equipped with hatches of adequate size to permit inspection and cleaning. All tanks are pressure tested to 0.3bar. Shut off valves are provided for each tank.

## Exhaust System

The Halyard exhaust system has fibreglass silencers and gas/water separators installed for both main engine and diesel generator. Water is discharged below the waterline and exhaust gases from main engine and diesel generator exit under the transom. Silencers are provided with a drain tap. They are flexibly supported on vibration dampening brackets. Major service in 2014 including new seawater pump

## Diesel Generator

Two 20 kW M864W Northern Light generator producing single-phase 230 V 50 Hz AC. The units are mounted on elastic seating. Major service in 2014 including fuel injection pumps, alternators and cooling systems

Port Generator Hours : 3,866 (March 2016)

Stbd Generator Hours : 3,827 (March 2016)

### Bow Thruster

Hundested FT1R bow thruster powered by the hydraulic PTO pump on the diesel generator, 18.4kW hydraulic power

### Fire Fighting System

There is a total flooding Clean Agent FM200 fire extinguishing system for engine room space with manual remote control. Two fire hydrants with hose reel, one forward and one aft.

### Hydraulic System

The hydraulic system is a Bosch-Rexroth custom designed system 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. Central hydraulic system is PLC controlled.

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. The system has two different sources of power. Each source will be operated independently of each other. The sources are obtained from:

1. Generator PTO pump Bosch-Rexroth A10V045 on each genset, 22kW each
2. Two DC Electric motor standby pump units Bosch-Rexroth A10V028, 5 kW each – major service in 2014

All pumps are equipped with a horsepower controller. The function is based on the power requirement from the users with the style of maximum speed/ minimum pressure and maximum pressure/ minimum speed. 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.

Hydraulic Functions

Anchor windlass

Lifting keel and lock

Forward mooring Sanguinetti

Jib furler

Anchor swing arm

Bow thruster plus up/down

Autopilot back up, supplies oil to auto pilot cylinders from a genset PTO pump.

Outhaul

Jib halyard tensioner

Cunningham

Backstay tensioner

Boom vang

2x Halyard winches

Primary and Secondary winches

Mainsheet winch

Genoa Car Pullers

Main sheet captive winch

Transom hatch cylinders

## Pneumatics

There is one low pressure (6 bar) piston compressor with quick acting couplings in lazarette for transom door air seal plus connection points in engine room and forepeak. The piston compressor is a Thomas 327 CDC 56/24.

## PLUMBING SYSTEMS

All systems are based on reliable components with worldwide service. Components and valves are labeled with function, and piping is labeled with colour code, including an arrow to indicate direction of flow.

### Fresh water System

A pressurized hot and cold water system is installed. The fresh water piping is of polypropylene, nylon and copper tubing. Filler line on side deck is led to a valve chest. The valve chest has valves for each water tank and for water pressure pumps. Hot and cold water is distributed to all heads, to the galley and to deck shower. Cold water deck wash, one fwd and one aft. There are single lever mixing faucets for wash basins,

galley sinks and showers.

There are two stainless steel tanks with a total capacity of approx 1000 L. The tanks are provided with baffles, hatches, level indicators and vent pipes. All tanks are pressure tested to 0.3 bars. Tank levels are shown on electrical main switchboard.

The water pressure system is equipped with two Reya A95, 24 V pumps, one is new from 2014. One 24 litre pressure tank is connected to the system. There is a city water connection that allows shore water supply to be piped directly into the pressure water system via a pressure regulator and check valve.

### Hot Water System

Gianneschi hot water tank 150 litre capacity with three individually operated heating elements. The hot water pipes are insulated with pipe insulation, hot water circulation quickly distributes heated water throughout boat. Inlet has a check valve to prevent hot water back flow. Outlet has a relief valve for over-pressure protection. There is a thermostat mixing valve to prevent too hot water in the system.

### Water Maker

The water maker is an Idromar Mini Compact model MC5S, vertical version. The water maker produces 230 l/h (5520 l / 24 h), installed in the engine room. The water maker is provided with dual pre-filters, primary with 25 micron cartridge, secondary with 5 micron cartridge and fresh water flush. The feed water pumps are self priming with sea bronze body and internal parts in stainless steel AISI 316. The high pressure pump is

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constructed to work with sea water.

### Sea Water System

There are sea cocks of bronze for all through-hull connections below waterline located in accessible position. Inboard side of sea cocks fitted with stud long enough to take two hose clamps.

There is an electrical fire/anchor wash pump with connections on fore and aft deck. G&R type CB 25/16 24 VDC, capacity 180 l / min. There are two fire hydrants with hose reel, one forward and one aft.

### Grey Water System

Grey water from sinks, basins, showers, air conditioning and washer/dryer is collected in two stainless steel grey water tanks, total capacity 400L. Level switches are fitted to each tank, with indication at  $\frac{3}{4}$  full and full. The grey water tanks are emptied by 24 V electrical pumps to sea cocks via siphon breaks

### Black Water System

All toilets are connected to the black water tank. Two stainless steel black water tanks are provided, one for aft toilets and one for forward toilets, total capacity 200 l + 200 l, with indication at  $\frac{3}{4}$  full and full. The tanks are fitted with baffles, inspection covers, and vent lines. The tanks can be emptied by 24 V electrical pumps to sea cocks via siphon breaks. Each tank is also provided with

a deck suction line.

## Toilet Systems

The toilets are Tecma Standard Plus, 24 V. Flushing by fresh pressure water. The function cycle is completely automatic. The high performance turbine pump enables a complete fragmentation of the organic residues. Full black water tank disable flushing of toilets.

## Bilge Pump Systems

There are five separate bilges, i.e. fore peak, forward cabin, engine room, aft cabin and lazarette bilges. Each bilge is equipped with a DC driven submersible pump 140 l / min. Two manual Whale Titan, 100 l / min are installed as back-up pumps, one for fore peak and forward bilge, the other for aft engine room and lazarette bilge.

Whale gulper drainage pumps are installed in forepeak, forward area, mast area, engine room, aft area and lazarette to ensure maximum dryness.

## VENTILATION SYSTEMS



## Air Conditioning

A central cooled / heated waterborne system 230 VAC 50 Hz is fitted for the entire accommodation. Condensation water from the system is collected to the grey water tanks.

The total cooling / heating capacity is divided in proportion to cabin volume and position. The system is designed for air handler to run on low speed for silent operation. There is an individual temperature control in each cabin. The main unit is a Condaria PWM/FCL/18002, 72 000 BTU/h (21 kW).

Forced air ventilation system in all cabins

Independent engine room ventilation and extraction

Battery boxes are ventilated

## Refrigeration System

There are four custom made Frigonautica 24V DC water cooled compressors units for fridges and freezers

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## ELECTRICAL SYSTEM

The electrical components are chosen based on Nautor's long experience in the yachting industry. Special attention is given to reliability and worldwide service ability. Electrical diagrams will be delivered with the yacht, for both DC and AC systems and showing the location of all junction boxes. Cables are labeled with identification numbers at both

ends. At watertight bulkheads wires are run up to deck head height when penetrating the bulkhead or are sealed in place to produce water tightness.

Mast and shrouds are electrically connected to the keel. In the top of mast is an air terminal connected to a lightning conductor, which runs down to the keel. The prop shaft, keel and thruster have their individual sacrificial anodes.

## AC-System

Power supply of 230 V 50 Hz single-phase three-wire AC-system. The 230 V system can be fed by the diesel generator or shore power inlet. The bus is of split bus type. There are also a number of 230 V 50 Hz appliances fed through DC/AC inverters.

Shore inlet plug, 230 V 3-pole 63 A is accessed through a hinged lid at transom. There is a separate shore inlet

for air conditioning. For the separate air conditioning inlet, a galvanic insulator is installed in the ground wire. Power from ashore is led to a 15 kVA isolation transformer.

There are two 20 kW M864W Northern Light generator producing single-phase 230 V 50 Hz AC. The unit is mounted on elastic seating. The generator is mounted inside proprietary sound shield.

There are two Mastervolt, Mass 24 V 100 A chargers with 3-step charge characteristics, for the service battery. There is one Mastervolt, Mass 24 V 100 A charger with 3-step charge characteristics, for hydraulics battery. The starting batteries can be charged by one Mastervolt Mass 12 V 10 A charger with 3-step charge characteristics via isolator diode.

Conversion of 24 V DC to 230 V AC 50 Hz for single-phase AC consumers. There is one Mastervolt 24/2500 VA for misc. and one Mastervolt 24/1500 VA for instruments and entertainment. Both inverters have a separate transfer switch.

There are 230 V outlets of schuko type. One outlet per toilet, two outlets per cabin, three in galley, four in saloon, one in engine room, one in sail locker and one in the port side lazarette.

## DC-System

2-pole 24 V insulated return DC-system for lighting, blowers, pumps etc. The wires are sized to minimize voltage drop. There are two battery banks, one for service and one for hydraulics. The service battery bank is 24 V 1200 Ah /1h, Energys gel type powering lights, blowers, pumps, electronics etc. The use of lithium batteries saves 748 Kilograms from the use of standard gel type batteries. Hydraulic batteries are Optima 300 Ah / 20 h and consist of eight Optima Yellow Top S5,5 12 V 75 Ah. The hydraulic bank is used for the 2 x 5 kW central hydraulic and the auto pilot pump. The battery banks are located aft of the engine room.

There is one 24 V 60 A Bosch alternator on the main engine common for service and hydraulics battery banks, through a battery isolator. The hydraulics battery is charged by the main engine alternator through splitting diodes.

24 V DC outlets, one in the port side lazarette, one in engine room, one in anchor locker, one on the mast and one in aft cockpit.

## Plumbing & Monitoring Systems

The alarms are presented on a display in the navigation area for the following components

Fresh Water tank level

Fresh Water pump run dry

Sea Water pump run dry

Grey water tank level

Grey pump runtime

Black water tank level

Bilge level alarms

Bilge pump runtime

LPG gas alarm

Fuel tank level

Water in Fuel separator

Hydraulic oil level

Hydraulic oil temp

Low Battery voltage

Generator overload

There is a separate fire alarm system with one sensor at the aft entrance, one in the engine room and one at the main entrance and one in the galley.

## NAVIGATION EQUIPMENT

### Compasses

Two Suunto 5" magnetic steering compasses at helm adjustable for global balancing.

A C. Plath Navigat X Mk2 gyrocompass as the main heading source for the navigation instruments, autopilot and other instruments requiring accurate heading information. A B&G Halcyon gyrocompass is used as the backup heading source.

### Sailing Instruments

There is a comprehensive Brookes & Gatehouse H3000 package consisting of central processor unit, 1450mm masthead unit, speed/temperature sensor, depth sensor. B&G Hercules H3000 Main processor and a Halcyon gyro processor.

One B&G Graphical Function Display (mono-chrome GFD) at the helm and one NMEA Full Function Display (FFD) located at nav station. One GFD display in aft cabin

and one in crew cabin

Four 30/30 repeaters mounted on the mast.

Four 20/20 repeaters in aft cockpit

B&G 360° and 45° analogue wind direction displays on each side of cockpit backrest.

GFDs also display hydraulic pressures for backstay, vang, outhaul, jib halyard, inner forestay as well as forestay length adjuster position.

GPS & Radar

A Furuno NavNet 3D + blackbox radar/chart plotting system consisting of one Furuno 1834C/C-MAP radar/plotter display at the navstation.

Furuno 12" chart plotter / radar below mainsheet winch (new 2014)

Furuno GP-320 DGPS to be used as the main navigator for:

Furuno NavNet radar/chart plotting system

PC cartography software MaxSea NavNet Commander V12

Brookes & Gatehouse

Brookes & Gatehouse autopilot system

A Furuno GP-37 GPS navigator with WAAS software as back-up.

Radar is a Furuno 4 kW 60 cm radome type antenna integrated with the Furuno NavNet plotter system.

PC cartography software MaxSea NavNet Commander V12, on the computer. The MaxSea NavNet software can also be viewed in the saloon TV. The chart system for the Furuno NavNet system is C-MapNT MAX.

Dual frequency Navtex receiver, Furuno NX300.

Furuno FA-150 class A type AIS system. The target information is sent to the Furuno NavNet system and integrated with the MaxSea NavNet software.

## Antennas

The Furuno NavNet GP-320 DGPS antenna on the port lower pushpit rail.

The Furuno GP-37 GPS antenna is mounted on starboard 2nd spreader.

The Furuno FA-150 AIS GPS antenna is mounted on port 3rd spreader.



The Furuno NavNet radar scanner, 60 cm dome type, is mounted front of mast.

The Furuno NX-3H-D Navtex antenna is mounted on 2nd spreader port side.

### Auto Pilot System

B&G H3000 ACP2 autopilot system with one Graphical Pilot Display (mono-chrome GPD) control unit at each steering pedestal. Powered by an individual 24V Marsili/Bosch Rexroth power pack driving the steering quadrant via twin Rexroth low friction cylinders. There is a hydraulic back-up for emergency use, supplied from the main hydraulic system

## COMMUNICATION SYSTEMS

## VHF Radio

The Simrad RS-87 DSC VHF has two handsets, one at the nav station and one at the helm, with intercom possibility between the two. Handheld Simrad VHF radio.

## MF/HF Radio

Sailor system 5000 with handset near main companionway hatch

## Satellite communication

Inmarsat Fleet 55 with handset at nav station

Connected to computer for internet access

Antenna mounted on first spreader

## Cellular Phone Systems

Nokia E60 quad band GSM phone with internet capability

## Other

ICOM PCR-1500 communications receiver for weather

fax and navtex

## ENTERTAINMENT SYSTEMS

### Audio System

#### Owner's Cabin:

Sony XM-ZR604 stereo system with B&W CCM50 speakers in deckhead

#### Saloon:

Bose Lifestyle 48 DVD/CD/FM stereo system, stores up to 350 CDs on hard disk, connected to pop-up LCD TV

#### Cockpit:

Four Bose 32SE speakers installed in cockpit, fed by saloon hi-fi system, controlled by personal music center

remote control

Guest Cabins:

Bose SA-3 amplifiers for additional zones

Bose PSII radio remote for additional zones

B&W CCM50 speakers

Ipod docking stations

Video System

Saloon:

Sony 32" LCD TV connected to Delta and M3 antennas

KVH M7 satellite DVB system with antenna on lower spreader

Crew Mess:

Lava 19" LCD TV connected to Delta and M3 antennas

## Computer System

Two Dell Optiplex GX 745 "Ultra small form factor" computers with DVD station connected to two 19" LCD flat screens at the navigation station, one for communication, one for navigation.

A HP Deskjet 450 printer is provided for hardcopy printouts.

## MAST & RIGGING

Four spreader mast with discontinuous shrouds by Offshore Spars, faired and painted white. The rig is set up for easy handling with swept spreaders 25 degrees. The Boom vang is used on the wind to complement mainsheet. The mast is a carbon fibre intermediate modulus, with luff track for mainsail. The masthead is a moulded carbon fibre unit integral with mast. There is an R&R Electronic Delta DSC Biscaya active antenna at the masthead for the VHF, TV and FM radio. Marco EW3 24 V foghorn.

I = 36,80 m - J = 10.76 m - P = 35.50 m - E = 11.45 m

## Boom

Carbon fibre Park Avenue boom, clear coated. Hydraulic outhaul system. Arrangement for three reefs in the main sail. Leech reef lines with stoppers at goose neck. Boom preventer system. Built-in deck lights. Lazy jacks

## Standing Rigging

EC6+ composite rigging with rod headstay. Kevlar inner forestay and running backstays

Additional braid of spectra chafe proection cover on V1 and D5 shouds

## Running Rigging

All Ropes are Dyneema, screw shackle for main halyard, all other Tylaska Snap Shackle

All Halyards Internal

1 x Main sheet

2 x Jib sheets

2 x Staysail sheets

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2 x Gennaker sheets

2 x Gennaker halyards

1 x Staysail halyard

2 x Jib halyard

1 x Mainsail halyard

2 x Running Backstay tails

1 x Preventer

1 x Spare main halyard (Gantling)

2 x Trysail sheets

2 x Inboard reef lines

2 x Outboard reef lines

### Rig Hydraulics

All the hydraulic functions are powered by central hydraulic system. All Navtec cylinders are black anodized, serviced in 2014.

Reckmann UD4 Sphere hydraulic furling head stay with R6 double groove Carbon foil.

Navtec cylinder for inner forestay tensioner, Navtec -40

SE.

Navtec boom vang, Navtec -90

Navtec jib halyard tensioner, Navtec -30 FE

Mainsail outhaul, Navtec -22 FE.

Cunningham Navtec -17 FE

Two cylinders with mechanical locks for split backstay adjustment, 2x Navtec -30 L.

Removable hydraulic mast jacks with spacer and removable manual pump.

## EQUIPMENT

### General

Owner's Manuals are provided in with directions for use and maintenance, drawings and diagrams for main systems and handbooks for machinery and components.



## Tender

4.0 metre rigid inflatable tender with 30 HP outboard engine

Mounted on foredeck

## Anchoring and Mooring

One CQR 180 lbs anchor on hydraulically powered swinging titanium anchor arm

Fortress FX-85 stern anchor

125 m 12 mm high-tensile anchor chain

100 m 25 mm plaited nylon anchor line

Assorted mooring lines

Eight Avon air fenders with lines

Anchor day shape and light with cable and plug

Two floating boat hooks

## Sailing Gear

One removable MPS block Harken C5813 ø150 mm on C7403 base

Four screw in deck eyes for outboard sheeting

Four winch handles

### Safety Equipment

Man Overboard Module mounted on stern pushpit – serviced in November 2014

Two eight-man AVON Modula 8 Supervacuum packed life rafts.

Portable fire extinguishers Gloria P2G for each cabin and a fire blanket in galley.

### Jackstays

EPIRB with GPS

### Spares and Tools

Basic spare part kits provided for Engine, Generator and other systems

Basic engine and generator tool kits are provided.

## Miscellaneous

Four handles for opening deck hatches and four suction lifters for floorboards.

Sounding rods for fuel and water tanks are provided

Bosun's chairs

Flag pole

## SAILS

Sails	Year	Sailmaker	Material/Notes
MAINSAILS	2014	North Sails Italy	Carbon spectra, two reefs
Full-batten mainsail	2009	North Sails Italy	3DL Marathon, two reefs

## UPWIND

Furling Genoa	2014	North Sails Italy	Carbon spectra
Furling Genoa	2009	North Sails Italy	3DL Marathon
Staysail	2009	North Sails Italy	3DL Marathon, soft hanks
DOWNWIND			
Code Zero	2009	North Sails Italy	With furler
Gennaker	2009	North Sails Italy	With bucket/sock
STORM SAILS			
Main trysail	2009	North Sails Italy	Dacron with orange paint
Storm jib	2009	North Sails Italy	Dacron with orange paint

## EXCLUSIONS

A detailed inventory and a list of exclusions will be provided pursuant to a Purchase Agreement.

## DISCLAIMER

All speeds, measurements, capacities, consumptions, etc. may be approximate or estimated. Specifications provided for information only. Data was obtained from sources believed to be reliable and is not guaranteed by owner or brokers. Buyer assumes the responsibility to ascertain the correctness of all data contained herein and otherwise provided and must instruct his agent and surveyors to confirm all details for accuracy prior to purchase. Subject to prior sale, price and inventory change, or withdrawal from market without notice.

## Exclusions

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Owner's personal belongings.

## Disclaimer

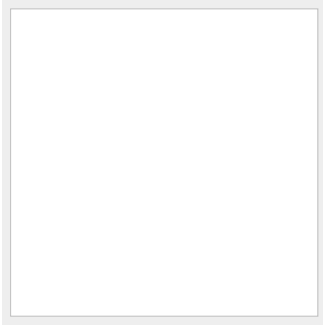
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The Company offers the details of this vessel or yacht in good faith but cannot guarantee or warrant the accuracy of this information nor warrant the condition of the vessel. A buyer should instruct his representatives, agents, or his surveyors, to investigate such details as the buyer desires validated. This vessel or yacht is offered

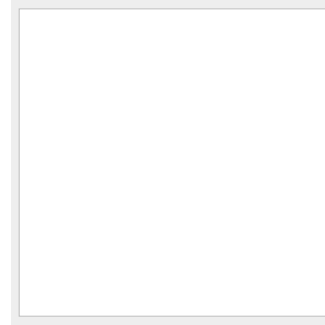
subject to prior sale, price change, or withdrawal without notice.

# PHOTOS

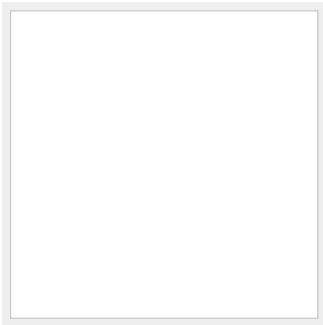
**Salon/Dining**



**Salon/Dining**



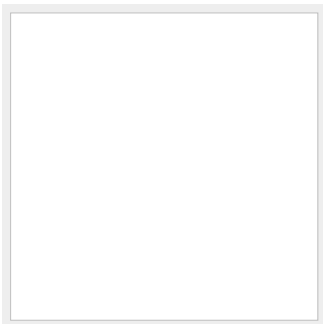
**Salon/Dining**



**Stateroom**



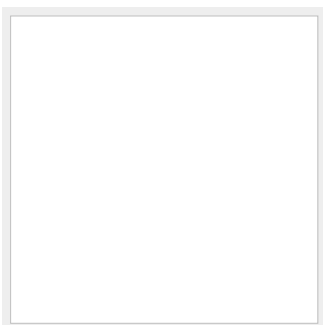
**Stateroom**



**Stateroom**



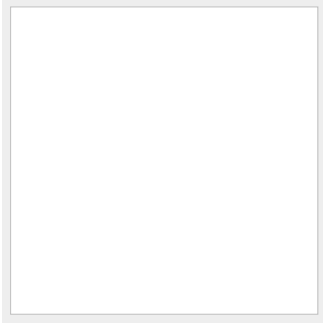
**Stateroom**



**Bath**



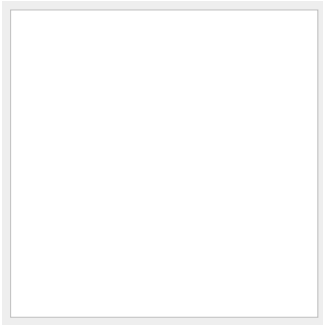
**Galley**



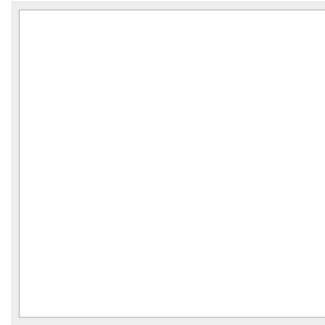
**Crew Lounge**



**Deck**



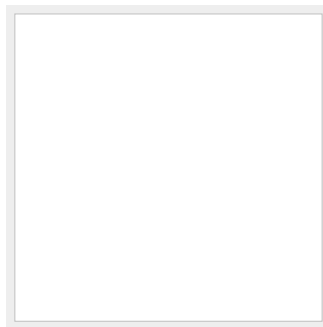
**Deck**



**Underway**



**Underway**





# CONTACTS

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Andrey Shestakov, leading yacht broker of the sales department of Shestakov Yacht Sales Inc. Shestakov Yacht Sales Inc., the official representative of the Miami/Fort Lauderdale FL headquarters.

## Contact details

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## Telephones

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USA: **+1(954)274-4435**

## Office hours

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Monday – Saturday: **9:00 - 21:00** EDT

Sunday: **closed**

## Address

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