

SILENT-YACHTS

TECHNICAL SPECIFICATIONS SILENT 60



* The rendering above is showing optionally available equipment

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1 General Information

The following technical specifications ("Specifications") describe in detail the technical elements of the construction of the Solar Yacht SILENT 55.

All components are marine grade and have a CE certificate. SILENT 55 has been designed and is built in accordance with the ISO rules and in compliance with the safety standards according to the 94/25/CE directive.

2 Main Technical Characteristics

Dimensions and capacities

Concept and innovation	Mag. Michael Köhler	SILENT-YACHTS
Design & Naval Engineering	Dr. Albert Nazarov / AN-Design	
Length overall	17,99 m	59,0 ft
Length of waterline	17,80 m	58,4 ft
Beam overall	8,99 m	29,5 ft
Draft	0,93 m	3,0 ft
Slenderness ratio (Lwl/Bwl)	10,08	
Light displacement *)	25 tons	25 tons
Water *)	500 L	132 gal (US)
Waste-water *)	2 x 500 L	2 x 132 gal (US)
Fuel *)	2 x 500 L	2 x 132 gal (US)
Standard motors (electric)	2 x 30 kW	
CE Certification	A: 12; B: 12; C: 16; D: 20	

*) Light displacement and performance predictions subject to change due to specification of vessel.

Engines and Performance

- a) 2 x 30 kW high efficiency motors
- b) Cruising speed 6-7 knots, top speed approx. 11 knots
- c) High-efficiency propellers on turnable saildrives – commercial version
- d) Engine controls and control panels at inside and outside helm

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- e) Access to engine- / technical-compartments via cockpit hatch
- f) Engine-compartments ventilation: natural aeration and forced extraction
- g) Generator-, engine- and technical compartments sound protected
- h) Equipment includes:
 - Filtration: pre-filter, water-separator and filter
 - Fuel cut-out remote control
 - Fuel filler, aeration
 - Gauges for fuel level on chart table

Tests before Delivery

Before the delivery the manufacturer will carry out the following test:

- a) Preliminary test of electrical system
- b) Preliminary test of hydraulic system
- c) Preliminary test of propulsion system
- d) Test for maneuvering
- e) Test of speed at different rpm
- f) Test and commissioning of electronics systems
- g) Control and check of the correct installation and operation of all components
- h) All surveys required for CE must be passed successfully

3 Construction Characteristics

- a) Light weight glass sandwich composite construction, carbon reinforced
- b) Resin infusion and vacuum bagging for strong and lightweight structure
- c) High quality and osmosis free vinyl ester resin with high interlaminar shear strength
- d) Sophisticated highly torsion resistant hull and bulkhead structure
- e) Watertight bulkheads, sealed floor-sections and collision-compartments for ultimate safety
- f) Foam sandwich structure of boat acts as thermal and sound insulation
- g) Complete boat in gelcoat laminate surface

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4 External Layout and Standard Fittings

Transoms

- a) Shower (H/C) in starboard transom
- b) Inox handrails
- c) 1x swimming ladder at transom step
- d) L-bench at the salon-wall with cockpit table for 8 persons
- e) All voids are accessible for ropes, fenders, cushions etc.
- f) Stairs to flybridge

Engine- / Technical Compartments

- a) Access through liftable stairways
- b) Sufficient space for generator and all other technical components
- c) Space for 2 bikes, watertoys etc. in the stb. stern compartment
- d) Sound-protection
- e) LED-light and 230 V socket in each technical compartment

Foredeck

- a) 2 x deck-hatches for access to forward storage-compartments
- b) 1.500 W electric windlass (12 mm chain)
- c) Large flush front deck
- d) Large hatches give access to storages for fenders, ropes, deckchairs
- e) Dedicated storage for the (optional) kite

Flybridge

- a) Central helm console for engine controls and navigation equipment
- b) U-shaped sofa with table, large sunbed
- c) storage underneath all sofas
- d) Helm bench with flipable backrest
- e) Rigid solar-roof (optionally retractable)

Deck fittings

- a) 10 x mooring cleats total (2 x stern, 2 x mid-ship, 1 x bow on each hull)
- b) 630 - 900 mm inox stanchions with inox handrail
- c) Pulpit in stainless steel, optional bow seats with teak

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Exterior decoration

SILENT-YACHTS logo on sides of coach roof, model name on each hull

US SPECIFICATIONS

For boats sold in USA only:

- 110 V electrical panels, 110 V sockets

5 Interior Decoration and Fittings

Layout Versions

- 4 CABIN VERSION:** 1 full-width VIP-cabin in the front with en-suite bathroom, port-side 2 double-bed cabins each with en-suite bathroom, starboard 1 VIP-cabin with en-suite bathroom
- 6 CABIN VERSION:** 2 double-bed cabins with en-suite bathrooms in the front, 2 double-bed cabins with en-suite bathroom in the center, 2 twin- or double bed cabins with en-suite bathroom in the aft of the hulls

Front Exit Version:

- 4 CABIN VERSION:** port-side 2 double-bed cabins each with en-suite bathroom, starboard 2 double-bed cabins each with en-suite bathroom
- 6 CABIN VERSION:** 2 double-bed cabins with en-suite bathroom in the front, 2 double-bed cabins with en-suite bathroom in the center, 2 twin- or double bed cabins with en-suite bathroom in the aft of the hulls

All cabins with en-suite bathroom.

All bathrooms incl. sink, electric toilet and separate shower.

Some cabins are available with double bed or two single beds, center cabins available with bunk beds.

Customized versions on request.

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Electricity

- a) Fuses and interrupters for 12 and 24 V DC and 230 V AC (US Version 110 V)
- b) All wiring with tin-coated copper cables of marine grade
- c) All cables labelled and numbered and mounted on rails
- d) All lights high quality LED
- e) Main switchboard for battery level, fuel-, water- and blackwater-levels, navigation lights
- f) Shore-power connection with fuse

General Interior

- a) Headroom in the cabins, bathrooms and corridors 2,10 m (6,9´)
- b) Headroom in the salon / galley: 2,20 m (7,3´)
- c) Large portlights in all cabins
- d) Natural aeration and forced aspiration-system in all cabins / bathrooms
- e) Interior furniture built in laminated plywood
- f) Thermal insulation for excellent room climate
- g) All walls in laminated plywood, lacquered or covered with technical leather
- h) Standard interior with mix of modern materials and stylings
- i) Hand rails in inox, optionally covered with leather
- j) All cabin- and bathroom doors in light weight material, high quality, soft closure
- k) Door-locks with high quality "anti-rattle" mechanism, all drawers soft closure
- l) Port lights and deck hatches in "flush deck" design and CE approved
- m) All steps with anti skid surface, LED courtesy-lights

Salon

- a) Vast panoramic salon of ~ 40 m²
- b) Sliding salon door and sliding window- opens at full salon-width
- c) Sliding window on the port side
- d) Dimmable LED spot lights on the ceiling

Inside Helm-Position

- a) Helm-position with steering, engine-controls and -displays, compass
- b) Large helm console for electronic equipment

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- c) 2 x 230 V (US 110 V) socket, 2 x 12 V, 2 x USB sockets
- d) Helms-seat for two persons (~120 cm wide)
- e) 360° view from the helm-position
- f) Vast storage underneath with ~120 cm long drawers

Salon Lounge Area

- a) "L" shaped sofa with comfortable cushions, could serve as bed
- b) Dining table for 8 persons

Pantry

- a) "U" shaped kitchen with acrylic stone worktop
- b) Sink in stainless steel
- c) 230 V (US 110 V) sockets on the worktop 3 x 2 sockets)
- d) Induction cook-top (4 plates)
- e) Fridge or side-by-side fridge/freezer (depending on version)
- f) Several lockers and drawers (soft closure)

Front Exit Version

- a) Front exit to front cockpit, two lounge seats, steps up to the front deck
- b) Weathertight front door
- c) Grating at the front door with drainage system underneath

General Cabins

- a) 1 large double bed or 2 single beds with slatted base and comfortably upholstered headboard
- b) Maritime mattresses in PU-foam with varied densities for greater comfort and restful sleep (140 mm thick), anti-mite, anti-fungus, antibacterial, hypoallergenic and comfortably upholstered headboard
- c) Storage under the bed, accessible from the side or from the top
- d) Hanging lockers and lockers with shelves, storage boards (depending on version)
- e) 2 x 230 V (US 110 V) sockets, 2 x USB socket
- f) LED-ceiling-lights and reading lights back side of the bed

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Front VIP-Cabin - Additionally to the above-mentioned features

- a) Full-width cabin > 7 m wide
- b) 1 large double bed 200 x 180 with side access with slatted base
- c) Vast storage area on the bridgedeck alongside the bulkhead
- d) Bathroom on portside with upholstered seat, large shower and 230 V plugs

Bathrooms

- a) Sink / basin with mixer tap (H/C)
- b) Locker under / above the sink / basin
- c) Mirror above the basin
- d) Non-skid flooring
- e) Accessories like towel holder, soap-dispenser, paper-holder
- f) Electric toilet
- g) Separate shower (H/C) in each bathroom
- h) Storage-shelf and seat in shower
- i) 2 x 230 V (US 110 V) socket
- j) LED spotlights

Bathroom of Master- and VIP Cabin

Additionally to the above mentioned features:

- a) Generous bathroom
- b) Large "king-size" shower
- c) Additional mirror and lockers

6 Energy Production and Storage

- a) 42 high-efficiency solar-panels with >16 kWp in total
- b) MPPT solar charge regulators
- c) Range-Extender 22 kW @ 48 V
- d) Lithium batteries 48 V, 70 kWh
- e) 24 V service batteries with 30 A charger
- f) Charger 80 A for 48 V batteries
- g) Inverter 10 kVA - sufficient for all standard household appliances
- h) Charge-, consumption- and capacity controls for all electric circuits

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7 Steering System

- a) 2 x rudder blades with stainless steel rudder shaft (except with turnable saildrives)
- b) Epoxy tube for rudder bearings
- c) Self-aligning upper and lower bearings
- d) Hydraulic steering system (except with turnable saildrives)

8 Fresh Water, Bilge and Sewage System

- a) All hoses and pipes are marine grade
- b) Fresh water:
 - 500 L fresh water tank (1.000 L as option)
 - Fresh water circuit including pressure pumps
 - Electric boilers for all showers / sinks
 - 1 x hand shower on stern platform (H/C)
- c) Waste water:
 - 2 x waste water tank with electric MACERATOR pump
- d) Drainage circuit:
 - Self-draining cockpit as per CE standards
 - Automatically activated electric bilge pump & manual pump in every watertight compartment

9 Safety and Redundancy

- a) 3 watertight bilges per hull
- b) Collision compartment in the front
- c) Hermetically closed compartment at the bow bottom
- d) Oversized electric bilge pumps and additional manual bilge pumps for double safety
- e) Kevlar reinforcement of bow, hull sole and keel
- f) All vital systems are redundant