

SILENT-YACHTS

Technical Specifications

SILENT 55



SILENT-YACHTS

1 General Information	3
2 Main Technical Characteristics	3
2.1 Dimensions and capacities.....	3
2.2 Engines and Performance	4
2.3 Tests before Delivery.....	4
3. Construction Characteristics:.....	5
4. External Layout and Standard Fittings.....	5
4.1 Transoms	5
4.2 Engine- / Technical Compartments.....	5
4.3 Foredeck.....	5
4.4 Flybridge.....	6
4.5 Deck fittings	6
4.6 Exterior decoration.....	6
5 Interior Decoration and Fittings	6
5.1 Layout Versions.....	6
5.2 Electricity.....	7
5.3 General Interior.....	7
5.4 Saloon	7
5.5 General Cabins.....	8
5.6 Bathrooms	9
6 Energy Production and Storage	9
7 Navigation Control Systems and Electronics	10
8 Fresh Water and Sewage System.....	10

SILENT-YACHTS

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

2.1 Dimensions and capacities

Concept	Mag. Michael Köhler Silent Yachts
Yacht design & Engineering	iYacht GmbH
Length overall	16.70 m / 54.8 ft
Length waterline	16.52 m / 54,2ft
Beam overall	8.46 m / 27.7 ft
Draft	1,20 m / 3,9 ft
Slenderness ratio (Lwl/Bwl)	10.08
Light displacement (EC)	19 tons
Water	500 l / 132 gal
Waste-water	2 x 475 L, 1 x 135 L
Fuel	2 x 300 L
Standard engines	2 x 30 kW e-motors
CE Certification	A: 12; B: 12; C: 16; D: 20

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

SILENT-YACHTS

2.2 Engines and Performance

2 x 30 kW high efficiency motors

Cruising speed 6-7 kts, top speed approx. 11 knots

High-efficiency propellers on turnable saildrives – commercial version

Engine controls and control panels at inside and outside helm

Access to engine- / technical-compartments via c and /or via stern entrance

Engine-compartments ventilation: natural aeration and forced extraction

Generator-, engine- and technical compartments sound protected

LED-light in each technical compartment

2 x 300 L fuel tank for range extender

Equipment includes:

Filtration: pre-filter, water-separator and filter

Fuel cut-out remote control

Fuel filler, aeration

Electric reading gauges on chart table

2.3 Tests before Delivery

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

- Preliminary test of the electrical system
- Preliminary test of the hydraulic system
- Preliminary test of propulsion system
- Test for maneuvering
- Test of speed at different rpm
- Test and commissioning of electronics systems
- Control and check of the correct installation and operation of all components
- All surveys required for CE must be passed successfully

SILENT-YACHTS

3. Construction Characteristics:

Light weight glass sandwich composite construction, carbon reinforced
Resin infusion and vacuum bagging for strong and lightweight structure
High quality and osmosis free Vinylester resin with high interlaminar shear strength
Sophisticated highly torsion resistant hull and bulkhead structure
Watertight bulkheads, sealed floor-sections and collision-compartments for ultimate safety
Foam sandwich structure of boat acts as thermal and sound insulation
Interior furniture acts as reinforcing light weight structure
Complete boat in gelcoat laminate surface
Built as standard in accordance with CE regulations. USCG on request.

4. External Layout and Standard Fittings

4.1 Transoms

- (a) Shower (H/C) in starboard transom
- (b) Inox handrails
- (c) 1 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

4.2 Engine- / Technical Compartments

- (a) Access through liftable stairways
- (b) Sufficient space for generator and all other technical components
- (c) Space for a motorbike, watertoys etc. (only on "cruiser"-version)
- (d) Sound-protected, LED-light, 230 V socket

4.3 Foredeck

- (a) 2 deck-hatches for access to forward storage-compartments
- (b) 1.500 W electric windlass (10 mm chain)

SILENT-YACHTS

- (c) Composite longitudinal compression-beam, comfortable trampolines made of UV-resistant heavy duty mesh
- (d) backrests on the trampoline

4.4 Flybridge

- (a) Central helm console for engine controls and navigation equipment
- (b) moulded U-shaped sofa with table
- (c) sun-beds with flipable backrests
- (d) Fixed solar-roof (optionally retractable)

4.5 Deck fittings

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

4.6 Exterior decoration

- (a) Silent-Yachts logo on sides of coach roof, Model name on each hull

US SPECIFICATIONS

For boats sold in USA only

- 110 V electrical panel, 110 V sockets

5 Interior Decoration and Fittings

5.1 Layout Versions

- VERSION 3/3: 1 full-width (>7 m) VIP-cabin in the front, 2 VIP-cabins with en-suite bathrooms in the hulls (= 3 cabins, 3 bathrooms)

Other optional variations:

- VERSION 4/3: port-side 2 twin- or double-bed cabins sharing 1 bathroom, starboard 1 VIP-cabin with en-suite bathroom, 1 full-width (>7 m) VIP-cabin in the front with en suite bathroom and walk-in-locker (= 4 cabins, 3 bathrooms)
- VERSION 4/4: 2 double-bed cabins with en suite bathrooms in the front, 2 VIP-cabins with en-suite bathrooms in the hulls (= 4 cabins, 4 bathrooms)

SILENT-YACHTS

- VERSION 5/3: 4 twin- or double-bed cabins (2 in each hull) sharing 2 bathrooms, 1 full-width (>7 m) VIP-cabin in the front, (= 5 cabins, 3 bathrooms)
- VERSION 6/4: 2 double-bed cabins with en suite bathrooms in the front, 4 twin- or double-bed cabins (2 in each hull) sharing 2 bathrooms (= 6 cabins, 4 bathrooms)

All bathrooms incl. sink, electric toilet and separate shower.
All cabins either with double bed or two single beds.
Other versions on request

5.2 Electricity

- (a) Fuses and interrupters for 12, 24 and 48 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

5.3 General Interior

- (a) Headroom in the cabins, bathrooms and corridors 2.04 m
- (b) Headroom in the front-cabin 2,00 m, front-cabin bathrooms /walk-in-closet 2,04 m
- (c) Headroom in the saloon / kitchen: 2.09 m
- (d) Large portlights in all cabins
- (e) Natural aeration and forced aspiration-system in all cabins / bathrooms
- (f) Interior furniture built in light weight materials covered with real wood veneers
- (g) Thermal insulation for excellent room climate
- (h) All walls lacquered or covered with wood, vinyl leather or Alcantara optic materials
- (i) Standard interior with mix of modern maple, teak, white wine or other veneers with white lacquered surfaces and colored floors.
- (j) Other Interior veneers like Wengé, Palisander, Oak, Mahogany, Aniegre and Décor Materials are also standard. Special veneers and leathers on request
- (k) Hand rails in inox, optionally covered with leather
- (l) All cabin- and bathroom doors in light weight material, high quality, soft closure
- (m) Door-locks with high quality "anti-rattle" mechanism, all drawers soft closure
- (n) Port lights and deck hatches in "flush deck" design and CE approved
- (o) All steps with anti skid surface, LED courtesy-lights

5.4 Saloon

- (a) Vast panoramic saloon of ~ 40 m² - headroom: 2.09 m
- (b) Sliding saloon door and sliding window- opens at full saloon-width

SILENT-YACHTS

- (c) Sliding window on the stb. side
- (d) Sliding door and sliding windows transform the closed saloon into an open cockpit-area
- (e) LED lights

Inside Helms-Position and Chart Table

- (a) Helm-position with steering, engine-controls and -displays, compass
- (b) Large instrument console for electronic equipment
- (c) 2 x 230 V (US 110 V) socket, 2 x 12 V sockets
- (d) Helms-seat for two persons (~120 cm wide)
- (e) 360° view from the helms-position
- (f) Vast storage underneath with ~120 cm long drawers

Saloon 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
- (d) Induction cook-top (4 plates)
- (e) Fridge or side-by-side fridge/ freezer (depending on version)

5.5 General Cabins

- (a) 1 large double bed or 2 single beds with slatted base
- (b) Maritime mattresses in PU-foam with varied densities for greater comfort and restful sleep (140 mm thick), anti-mite, anti-fungus, antibacterial, hypoallergenic
- (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, 12 V and USB socket
- (f) LED-ceiling-lights and reading lights back side of the bed

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 port-side with large vanity-table, large shower and 230 V plugs
- (e) Walk-in locker on starboard with extensive hanging lockers, desk, large mirror and lockers with shelves

SILENT-YACHTS

5.6 Bathrooms

- (a) En-Suite Bathroom in "Version 3 VIP", "Version 2/2 + 2 VIP" and "Version 4/4"
- (b) Sink / basin with mixer tap (H/C)
- (c) Locker under / above the sink / basin and other locker for various items
- (d) Upper cabinet with mirror
- (e) Non-skid flooring
- (f) Accessories like towel holder, soap-dispenser, paper-holder
- (g) Electric toilet
- (h) Separate shower (H/C) with acryl door in each bathroom
- (i) Storage-shelf and seat in shower
- (j) 230 V (US 110 V) socket
- (k) LED spotlights

Master Bathroom (in the 3 VIP-Cabins version)

Additionally to the above mentioned features

- (a) Generous bathroom
- (b) Large "king-size" shower
- (c) Large sink / basin
- (d) Additional mirror and lockers

6 Energy Production and Storage

- (a) 30 high-efficiency solar-panels with ~10 kWp in total for propulsion and household
- (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 50 A charger
- (f) Charger 80 A for 48V Batteries
- (g) Inverter 15 kVA - sufficient for all standard household appliances
- (h) Charge-, consumption- and capacity controls for all electric circuits

SILENT-YACHTS

7 Navigation Control Systems and Electronics

- (a) 2 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 and Sewage System

- (a) All hoses and pipes are marine grade
 - (b) Fresh water:
 - 500 L fresh water tank (1000 L as option)
 - Fresh water circuit including pressure pumps
 - electric boilers for all showers / sinks
 - 1 hand shower on stern platform (H/C)
- Waste water:
2 x waste water tank with electric macerator pump
- (c) Drainage circuit:
 - Self-draining cockpit as per CE standards
 - Automatically activated electric bilge pump in each watertight compartment