

The Ya, the sustainable yacht's datasheet on Energy

General

Vinylester/glass on foam (hull and deck)
Length 10 meter, 34 ft
Beam 3.96 meter wide
Draught (center board) 2.70 / 0..70m

Heat

Glass: 3 m² on each side especially on higher parallels on the earth, the low sun heats the interior. Glass: 10 mm polycarbonate (lexane),
Insulation: PIR foam, 11 cm The hull is also apt for colder climates.

No diesel, no petrol, no gas on board

The numbers here under don't mean much unless you see everything working as a whole.



Generation electricity (48 Volt)

720 Watt peek solar panels bimini top
480 Watt peek solar deck panels
400 Watt peek windgenerator
2X250 Watt peek hydrogenerators
40 Watt peek window solar panels (12 Volt)

Storage

55 kWh effective battery storage in 48 Volt lead acid batteries.

Output 48 Volt

2 Electric engines of 6,5 kWatt (19 HP total). (1 switch and they change to hydrogenerators)
1 spare outlet

Output 230 volt.

A Studer inverter/converter 230 Volt – 48 volt 6 kW.

2200 Watt water cooker, insulated
2 X 1700 Watt induction cooker, combined with 'hay box'
1400 Watt oven/microwave, combined with 'hay box'
Various outlets.

Output 12 Volt

2 DC-DC converters 48-12 Volt into 1 battery 12 Volt as buffer

1000 Watt anchor winch
40 Watt fridge/freezer (seriously insulated)
LED lights everywhere
Water pump, Black water pump, bilge water pump
Wifi amplifier, Iridium, SSB radio,
USB-connections (5,3 Volt) for tablets and smartphones
Overall use when sailing: 50-100 Watt on plotter, VHF, laptop, USB's, et cetera.

More specifications on Energy Balance.pdf (downloads)