



LOA 54'10" Beam 27'8" Draft 3'11" Displ. 38,000 lbs. Fuel 132 gal. Water 160 gal. Power 2/250-kW Dana TM4 E-motors Price \$1.6 million

## Silent 55

**S**tanding on the flybridge of the solar-electric Silent 55 in Ft. Lauderdale, I looked up from my notebook and realized we were already 15 feet from the dock. I hadn't heard the captain, who was standing right in front of me, start the engines, put the boat in gear or pull away from shore. The whole exercise had been utterly, well, silent.

I'd been on boats with electric propulsion before, including a small, sloop-topped Duffy day boat that went about 7 knots flat out. But the Silent 55 was something new. Solar-powered and self-sustaining, it's a 55-foot, ocean-going catamaran with four staterooms and heads.

In 2016, Silent-Yachts formed a collaboration with alternative marine propulsion specialist Jean-Marc Zanni, president of Searious Power, with the goal of increasing the yachts' performance while maintaining a low environmental impact.

A product of this design collaboration, the Silent 55 launched in 2018, but the team has continued to improve and upgrade its drivetrain. The hull I sea trialed was powered by twin 250-kW e-motors, giving it a solid cruising speed of 10 to 12 knots. Under solar power alone, the yacht makes 5 to 6 knots.

Among the many things that make the Silent 55 unique are the 30 solar panels arrayed on its coach roof. The roof incorporates a hydraulic hardtop that "pops up" to provide access to the flybridge helm and seating area. Deploying the hardtop shades the remaining solar panels, however, so when the boat is not in operation, it's more efficient to keep the top closed.

Solar energy charges the Silent 55's lithium-ion batteries, which have a capacity of 210 kWh—the equivalent of three Teslas, according to Zanni, although the propulsion system is quite different from a car's. The batteries are housed in an easily accessible hatch on the bridge deck. They provide power for the Silent 55's twin 250-kW "synchronous permanent magnet" e-motors, which were built by

Dana TM4 in Quebec. Zanni said the motors are designed for buses.

The Silent 55 also has a 100-kW Volvo Penta diesel generator housed in the port hull. "It engages when you exceed a preset amount of power or when the batteries are low; the operator can choose the setting," he said. "Most of the time if you have full sun, you never even have to run the generator ... If you use a lot of AC, you run the generator two or three times a week." The yacht's appliances and other house systems are powered via a 15-kVA inverter. Having a genset on board as a backup to the solar panels enables the boat to continue to voyage at night and in less-than-ideal conditions for solar collection. The result is a silent-running yacht with low maintenance, low operating costs and a low carbon footprint.

Driving the Silent 55 from the flybridge in the Atlantic Ocean off Ft. Lauderdale in brisk, 15-plus-knot winds and 3-foot seas was a pleasure, particularly because the only sounds we heard came from the wind and the music softly playing through the speakers. The double helm seat faces a clean array of electronics, including a proprietary energy management monitor that shows the e-engines' rpm, the battery charge level, the generator's operating state (which was "off" on this sunny morning in Ft. Lauderdale) and the electrical consumption by the yacht's utilities. —*Louisa Beckett*

CRUISE SPEED  
**10**  
KNOTS

TOP SPEED  
**20**  
KNOTS

SOLAR RANGE  
**138**  
MILES



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