



PRESS RELEASE
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Efficiency of VerdeGo Aero Hybrid-Electric Powerplant Validated with Full-Scale Test Program

DAYTONA BEACH, Florida – All of the most compelling next-generation electric aircraft need substantial amounts of onboard energy to be useful, safe, and compliant with regulatory requirements. Electric aircraft designers have faced significant challenges with battery-powered aircraft having limited performance, and conventional propulsion systems that lack sustainability. A rigorous test program at VerdeGo Aero confirms that the VH-3 hybrid powerplant (Figure 1) eliminates the need to compromise.

More than 500 full-scale tests of VerdeGo's prototype hybrid systems have been performed since mid 2020. During endurance tests of up to 6 hours in length, fuel input and electrical output were directly measured (Figure 2), validating the superior efficiency of VerdeGo's hybrid powerplant architecture. Testing was performed during 85°F to 89°F days with all cooling systems operational to enable full power output at zero forward airspeed (simulating hover conditions), which is the most challenging case for powertrain cooling and efficiency. The resulting Specific Fuel Consumption (SFC) was 227g/kWh at 150kW of output, with a very flat efficiency curve that demonstrates high efficiency during all phases of a typical flight (Figure 3).



VerdeGo Hybrid SFC (measured data)

227 g/kWh
0.37 lb/hp hr

*VerdeGo Aero VH-3 Hybrid Powerplant and Experimental SFC Data
Figure 1*

Dave Spitzer, VerdeGo Aero's VP of Product Development, was quoted as saying "When we test our hybrid powerplants, we directly measure fuel going in and kilowatt hours of electrical power flowing out, it doesn't get simpler than that. All of the cooling and auxiliary systems are present, so what we are reporting is what our customers should see in service."

Next-generation aircraft under development at VerdeGo customers such as the Jaupt Air Mobility Hybrid, (Figure 4) are an ideal match with the VH-3 powerplant. The high efficiency of both the Jaupt Air Mobility airframe and the VerdeGo VH-3 yields fuel savings of up to 60% when compared to competing current generation aircraft, while still offering substantial range and performance for demanding commercial passenger and cargo missions. The SFC of competing turbine hybrid approaches is estimated to be between 0.55 and 0.65 lb/hp hr which is 49% to 76% higher than the demonstrated efficiency of VerdeGo's hybrid powerplant.

Jaunt CCO Simon Briceno commented that “The twin VerdeGo VH-3 installation in the Jaunt Hybrid Aircraft will provide unprecedented mission capability and efficiency for customers operating fleets of our aircraft.”

The low fuel consumption of the VH-3 also makes aircraft equipped with this revolutionary powerplant far less sensitive to fuel cost. This is a key enabler for accelerating the adoption of Sustainable Aviation Fuels (SAF) in a larger number of applications where the higher cost of SAF is currently a barrier to their usage. VerdeGo is in the process of shifting its R&D program over to using SAF to validate compatibility with 30/70 and 50/50 blends of SAF/Jet Fuel, along with 100% SAF for the capability to achieve zero net carbon operations.

“Our latest experimental data for efficiency combined with models of operating cost for next-generation aircraft, shows that the VerdeGo VH-3 hybrid powerplant can be paired with Sustainable Aviation Fuels to offer the highest performance, lowest technology risk, lowest cost method of achieving low or zero net carbon emissions,” said Eric Bartsch, CEO and Co-founder of VerdeGo Aero. “We are looking forward to meeting with innovative customers like Jaunt Air Mobility at the NBAA BACE show next week,” he added.

The VH-3 hybrid powerplant is a key enabler of a diverse array of passenger, cargo, autonomous, civilian, and military next-generation aircraft. Conformal VH-3 systems for non-certified applications are projected to be available to customers in late 2023 with certified powerplants available in 2025. VerdeGo’s no-compromises approach to electrification will accelerate the electrification of flight and will lead to faster progress towards aviation sustainability.

About VerdeGo Aero

VerdeGo Aero™ is a leader in propulsion technologies for the next generation of electric aircraft. Founded in 2017, VerdeGo enables its customers to create more competitive aircraft by leveraging years of expertise in hybrid-electric propulsion and battery-electric aircraft systems. VerdeGo’s VH-3 powerplant is being applied in many of the most competitive new aircraft designs for passenger and cargo transportation. VerdeGo’s engineering team also collaborates with VTOL, CTOL, and STOL aircraft customers early in their development process to leverage VerdeGo’s proprietary analysis tools that accelerate conceptual design by assessing complex tradeoffs between airframe, powerplant, and mission capability. VerdeGo specializes in electric powertrains providing up to 1MW for electric aircraft.

VerdeGo is based at the Embry-Riddle Aeronautical University Research Park in Daytona Beach, FL.

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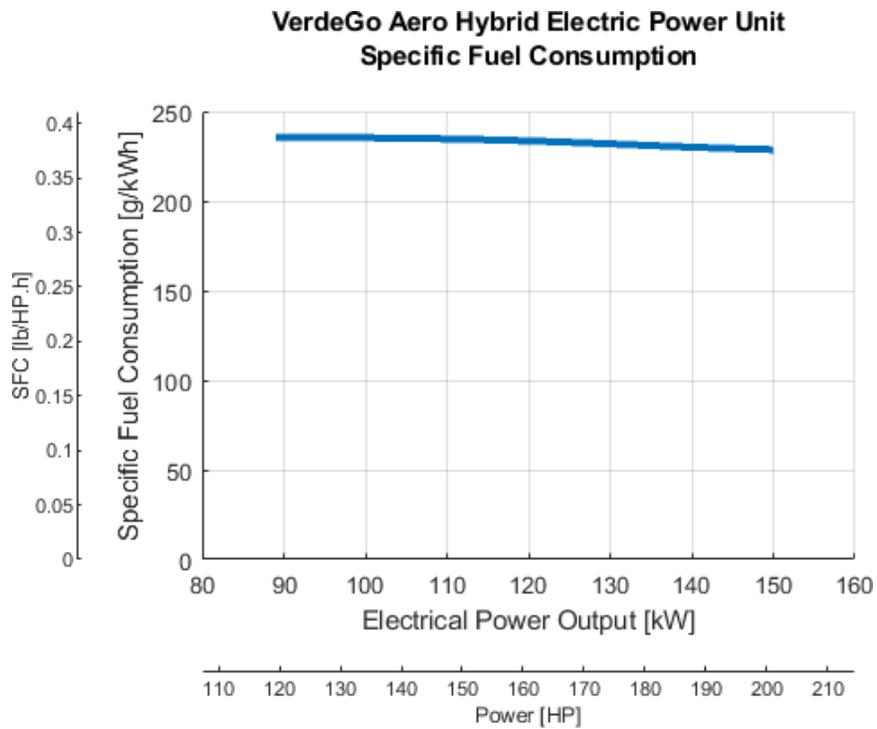
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*Direct Measurement of Fuel Consumption and Electrical Output
 (87F Ambient Temperature, Zero Forward Airspeed, Full Cooling Loads Representing Hovering Flight)
 Figure 2*



*VerdeGo Hybrid Specific Fuel Consumption (SFC) vs. Power Output
 Figure 3*



*Jaunt Air Mobility Aircraft Depicted with Twin VerdeGo VH-3 Powerplants
Figure 4*