



# Press Release

## ThinGap Demonstrates High Power Capability with 45 kW Generator Assembly

*Showcasing ThinGap's highly adaptable technology, the TGD 129-114 introduces carbon fiber components for the most extreme TG Series part set ever made.*

*Designed for the high-power and high-speed required in UAV and other Airborne applications.*

**Camarillo, CA (March 15, 2024)** – ThinGap has completed its latest high-power motor-generator prototype, the TGD 129-114, in support of a Government-funded defense program. In generator mode, the new assembly is designed for a steady 10 kW of power output at 7,000 RPM and is capable of 45 kW at 20,000 RPM. Mechanically, the TGD 129-114 has an outer diameter (OD) of 134 mm (5.28 in.), and an axial height of 124 mm (4.91 in.), making it about the same size as a coffee can.

Developed for use by the United States Army in airborne applications, namely Class II unmanned aerial vehicles (UAVs), the TGD 129-114 is the most radical evolution of the ThinGap TG Series to date. Designed for the extremely high continuous speed requirements typical in airborne generator applications, as well as being strength and weight optimized. Previous TG Series part sets have been used as starter-generators in other UAV platforms.

To minimize unit weight and maximize rotor inertia, the new assembly uses carbon fiber reinforced polymer (CFRP) for both the inner and outer sleeves that retrain the rotor's magnets and are joined together by a purposely designed metallic top cap with fan blades that forces airflow across the stator. First developed in the late 1950s, CFRPs have become ubiquitous in demanding, high-performance applications such as aerospace and motorsports to reduce weight while not sacrificing strength.

The TGD 129-114 demonstrates ThinGap's ability to deliver tailor-made high-power solutions. With more than two decades of experience in the design and production of slotless motor kits, ThinGap leverages its proven designs and analytical modeling that results in highly accurate transitions from predicted performance to real world operation. Furthermore, the process steps needed to produce motors of all sizes are highly scalable, and ThinGap has shipped large class motors with up to 400 kW of output power.

For additional information on custom motor development, please contact the company at [info@thingap.com](mailto:info@thingap.com) or visit [www.thingap.com](http://www.thingap.com).

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### **About ThinGap**

*For over twenty years, ThinGap has been a world leader in the design and manufacturing of USA-made, high performance frameless electric motor and generator kits.*