



# Partner Projects

## Airborne Electronic Warfare Systems Remain Cool Under Pressure

### Customer

A major motion control supplier to the United States Air Force (USAF).

### Application

To protect sophisticated airborne Electronic Warfare (EW) systems from damage due to excessive heat, the USAF developed a liquid cooling system that utilized a highly customized pump driven by a high power, light weight custom electric motor.

### Challenge

The customer contracted with Windings to build custom stator components for the electric motors, which were highly successful. However, the customer's process for stator encapsulation produced finished stators that varied considerably in shape and density resulting in unacceptably high scrap rates.

### Solution

Windings' Engineering Services team worked closely with the customer's engineers to develop a consistent shape and form for the finished stators. Windings' engineers recommended and received approval for a material change to

incorporate higher temperature rated thermal switches inside the potting compound and more reliable connections to the motor. Recognizing Windings' significant manufacturing experience and superior manufacturing capabilities, the customer also shifted responsibility for the stator potting to Windings.

### Results

With assistance from Windings' Engineering Services team, the customer now receives a turnkey product with consistent form and reliable construction from Windings that they can immediately incorporate into their assembly and deliver to their customer. The end result was significant reduction in manufacturing time, scrap and rework for the customer.

### Windings

For more than 50 years, Windings has provided engineered electromagnetic solutions for critical applications in the Aerospace, Space and Defense industries. As a full-service provider, Windings is a leader in the engineering, optimization and manufacturing of custom electric motors, generators and related components including rotors, stators, lamination stacks and insulation systems.

For further information, please contact us!

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