



An **Allied Motion** company

ThinGap Space Qualification Capabilities Statement

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Overview

ThinGap's brushless DC electric motor kits are high quality, high performance motion components. The company has an extensive space heritage with commercial, scientific and military programs, including 2,500 motor kits supplied for an undisclosed LEO satellite constellation, 20+ space-grade programs actively being supported, and delivery of flight-grade kits for NASA's PACE Program.

ThinGap has a standard approach and delivery set for providing space-grade motors, as well as the capability to support more stringent customer-specific flow downs.

Commercial Space Standard

ThinGap has established a commercial standard to provide "space-grade" motor kits using a set of process and material callouts. Essentially any of ThinGap's standard motor kits can be upgraded to a space standard. The defined space upgrades provide an affordable option, especially for high volume and rapid reaction programs, such as commercial LEO applications.

The baseline for commercial space motor kits includes the following:

- A controlled Materials and Processes (M&P) list
- Use of low outgassing materials, per NASA guidelines
- Class 3 PCBs
- Leaded solder and IPC J-STD workmanship
- Raw material certifications
- First Article Inspection Reports

Additional Supplemental Deliverables

ThinGap can quote a wide range of customer requested flow downs applicable to motor deliveries. When requested, the company can engage third parties to satisfy requirements outside its on-site capabilities, including certain types of testing and analysis. Optional customer requested deliverables include i.) structural and finite element analyses, ii.) on-site source inspection, iii.) DFARS compliant material sourcing, and iv.) thermal vacuum testing conducted by a third party.

At the time of quoting, ThinGap requests a customer-provided compliance matrix with any required callouts or flow downs to be completed and returned by ThinGap.

Summary

The company prides itself on its heritage and being able to support a range of requirements called for by space applications. Default deliverables are the baseline of the company's capabilities, and can be supplemented with additional customer-specific requirements as required.

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