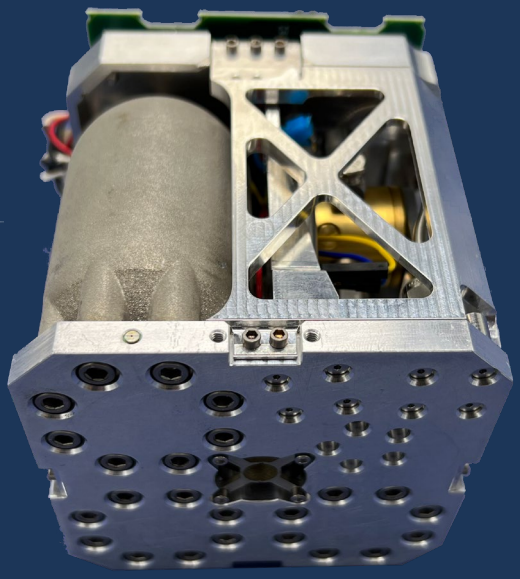
BENCHMARK® space systems

**PRODUCT, CONFIGURATION, AND PRICING INQUIRIES**
Sales@Benchmark-Space.com

# STARLING

## Cold Gas Propulsion Systems

**HERITAGE MISSION PLANNED FOR 2024**



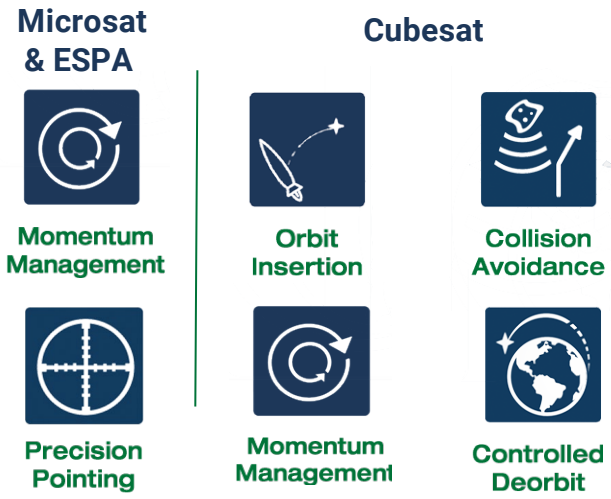
*Shown in 1U Resistojet Configuration*

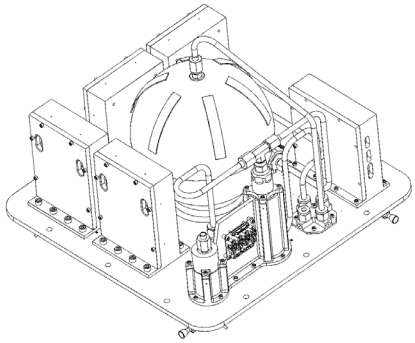
## PRODUCT HIGHLIGHTS

Benchmark's Starling line of gas propulsion systems is designed with unprecedented safety and configurability. With propellant options that include traditional pressurant gas or our patented On-Demand Pressurization System (ODPS™) gas generation technique, and a patent-pending resistojet thruster option, Starling is an ideal system when robust and reliable propulsive capability is essential to mission success. Starling can be configured with 1-4 thrusters, often used for momentum management and attitude control and can be scaled down for primary cubesat operations.

Benchmark's ODPS™ utilizes a non-toxic powdered propellant that is inert and DOT-approved for shipping and can be pressurized on-orbit with as little as 15 W of power, improving safety and providing a path to ISS compatibility. For missions with 100 W of available power, a resistojet configuration can be used to double specific impulse over traditional cold gas systems.

## PRIMARY APPLICATIONS



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# SYSTEM SPECIFICATIONS

## STARLING & STARLING ARDENT

*STARLING SYSTEM PICTURED ON PAGE 1*

| PARAMATER | STARLING | STARLING ARDENT |
|---|---|---|
| THRUST | 10 - 1000 mN | 10 - 1000 mN |
| SPECIFIC IMPULSE | 70 s | 70 – 140 s |
| MAX THROUGHPUT / FIRING TIME | No throughput limitations | |
| PREHEAT | N/A | <10 Minutes |
| SYSTEM DIMENSIONS | 0.5U + | 1U + |
| SYSTEM WET MASS | 0.75 kg + | 1.15 kg + |
| MINIMUM IMPULSE BIT | As low as 5 mN·s | |
| AVERAGE POWER DRAW (IDLE/ FIRING) | <4 W | 10 - 100 W |
| PRESSURIZATION TIME | 10 - 15 Minutes for ODPS™ (one time event)<br>N/A if launching pre-pressurized | |
| FIRST FLIGHT | 2024 Planned | |

## MORE MISSION. LESS COST.

Benchmark is a full lifecycle partner committed to supporting your mission from operational planning through asset decommission in LEO, GEO, and beyond. By combining our heritage propulsion products and advanced control systems with complementary products and services, Benchmark can deliver bundled in-space mobility solutions for 3U through ESPA and OTV spacecraft with significant cost, schedule, and capability benefits over alternative offerings.

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Contact us today to explore your mission!