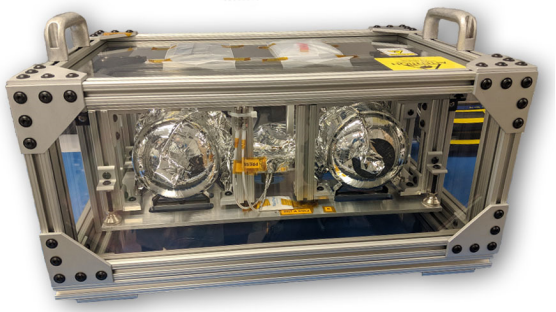
bradford comet



Water-Based Propulsion for Small Satellites

Efficient. Affordable. Easy to work with.

Comet is a launch-safe and cost-effective electrothermal propulsion system that offers the ideal balance of cost and performance. This high-performance propulsion unit uses water as propellant, making the system easy to work with and easy to fuel. Its highly-flexible interface is easy to integrate into your small satellite, regardless of size and form factor, and easy to operate on orbit. Comet has also been optimized for minimal power consumption and short maneuvering times, allowing you to focus more resources on your payload.

Currently in production, Comet is flight-ready and **shipping now**.

Comet Specifications

Performance Characteristics	
Typical Specific Impulse	175 s
Warm-Up Time	10 minutes
Power Consumption while Thrusting	55 W for indefinite thrust 25 W for < 1 minute thrust
Power Consumption while Idle	0.25 W
Nominal Thrust	17 mN
Mechanical / Electrical Characteristics	
Dimensions of Thruster Head	10 x 10 x 3 cm
Dimensions of Propellant Tank	Sized for your application
Dimensions of 1,000 Ns Tank	10 x 10 x 17 cm
Input Voltage Range	8 – 34 V
Physical Layer Interface	RS422/485, CAN
Protocol and Command Interface	NSPv4, customizable

Features

- Integrated propellant management and control unit
- Digital command and telemetry interface
- Dedicated WARM, ARM, and FIRE commands
- Programmable thruster power consumption
- Custom-locatable fill and drain ports
- Customizable body heaters as-needed with thermostat
- 5°C to 60°C operating temperature range
- Electronics inspection to J-STD-001 (space addendum) standards
- Environmental testing per NASA GEVS specifications

Advantages:

- Non-toxic; safe for humans and launch vehicles
- Approved for flight on multiple launch vehicles
- More thrust with less electrical power
- Highly-flexible interface suitable for a wide range of spacecraft sizes