

SPACECRAFT SYSTEMS

Tiny Ultra-High-Pressure Cold-Gas Propulsion System

The Tiny Ultra-High-Pressure Cold-Gas Propulsion System reduces a 60 MPa high-pressure gas source to a lower working pressure through a multi-stage regulator, enabling micro cold-gas thrusters to generate milli-Newton (mN) thrust levels. Designed for spacecraft requiring high precision and compact propulsion, this system offers advantages in total impulse, structural integration, power efficiency, and reliability. The technology incorporates ultra-high-pressure storage, lightweight pressure-reduction structures, and advanced sealing to ensure excellent adaptability and long-term stability in space environments.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Dimensions (mm)	190 × 430 × 190
System Mass (kg)	≤ 2
Total Impulse	> 700 N·s
Power Consumption	< 1 W
Mounting Material	1Cr18Ni9Ti
Operating Temperature (°C)	-5 to +65
Storage Temperature (°C)	-5 to +70
Electrical Interface	Dual FY1-2 connectors
Thrust Range	10-200 mN

Quick Overview

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Key Specifications

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Key Features

- High total impulse and reliability.
- Ultra-high-pressure storage and precise multi-stage pressure regulation.
- Lightweight, compact, and energy-efficient design.
- Excellent environmental adaptability for space missions.

Applications

- Used for **micro-satellite attitude control**, **orbit maintenance**, and **formation-flying missions** requiring milli-Newton thrust precision.

Documentation & Resources

- [Technical Specifications](#)
- [Applications](#)