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ELECTRIC PROPULSION PERFORMANCE TEST SYSTEM - TORONEPP™ 2200 SERIES

Electric Propulsion Performance Test System - ToronEPP™ 2200 Series

An Electric Propulsion Performance Test System provides a controlled high-vacuum environment for ignition, performance, and long-duration thruster validation. ToronEPP™ 2200 is designed for ignition and lifetime testing of small- to medium-power Hall thrusters, with additional capability for cathode, valve, leak, and flow calibration testing.

A modular chamber architecture supports multiple test configurations while maintaining stable operating pressure during propellant flow. This platform helps reduce background-pressure effects that influence thruster behavior and measurement confidence. It is a strong fit for electric propulsion labs running repeated qualification and endurance campaigns.

ToronEPP™ 2200 is an Electric Propulsion Performance Test System built around a large main vacuum chamber with optional axial and lateral chamber modules for expanded test flexibility. The system supports high-vacuum pump-down and maintains controlled operating pressure while xenon or krypton propellant is introduced.

Its configuration is intended for ignition validation, endurance testing, and routine subsystem checks, including propellant feed components and calibration work. The modular interfaces support fixture development and test article changes without rebuilding the full vacuum architecture. ToronEPP 2200 supports reliable, repeatable test conditions for electric propulsion programs where uptime and consistency matter.

APPLICATIONS

Electric Propulsion Performance Test System - ToronEPP™ 2200 Series Applications

- Ignition and lifetime testing of small- to medium-power Hall thrusters
- Electric propulsion performance testing under controlled vacuum conditions

- Cathode evaluation and validation under representative operating environments
- Propellant feed verification, including valve, leak, and flow calibration testing
- Configuration development and comparative testing using modular chamber layouts
- Long-duration endurance runs where stable background pressure supports repeatable results


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FEATURES

Electric Propulsion Performance Test System - ToronEPP™ 2200 Series Key Features

- S30408 stainless steel chamber construction supports corrosion resistance and long service life
- Modular chamber architecture supports multiple test configurations and future expansion
- High-vacuum capability supports ignition, endurance, and qualification-style testing campaigns
- Xenon/krypton propellant support with defined maximum flow rate for lab validation work
- Operating pressure control under propellant flow supports stable, repeatable thruster operation
- Reserved auxiliary interfaces support diagnostics, tooling, and test development needs

TECHNICAL SPECIFICATIONS

Electric Propulsion Performance Test System - ToronEPP™ 2200 Series Technical Specification

Specification	Details	
Models	**ToronEPP™ 2200 A**	**ToronEPP™ 2200 B**
Main Chamber (KM2A)	≥ Φ 2200 mm × 4000 mm	≥ Φ 2200 mm × 4000 mm
Axial Chamber (KM2A)	Φ 1000 mm × 1200 mm	Φ 1000 mm × 1200 mm
Lateral Chamber (KM2A)	Φ 1000 mm × 1200 mm	Two reserved auxiliary interfaces (Φ 1000 mm each)
Xenon/Krypton Propellant Maximum Flow Rate	200 sccm	

Specification	Details	
Models	**ToronEPP™ 2200 A**	**ToronEPP™ 2200 B**
Ultimate Pressure	≤ 5.0×10^{-5} Pa	
Operating Pressure	≤ 5.0×10^{-3} Pa (120 sccm)	

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