



ACTUATOR MEASUREMENT SYSTEM - TORONAMS™ 2500

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An Actuator Measurement System provides high-precision force measurement in a controlled environment to validate micro-thrust devices and actuator behavior. Actuator Measurement System – ToronAMS™ 2500 combines vacuum simulation, vibration isolation, and high-accuracy thrust evaluation to support reliable thruster and actuator performance assessment.

The platform is designed to reduce external noise sources that can distort micro-force data. A large vacuum chamber supports representative operating conditions for space and vacuum applications. This system enables accurate measurement results that support performance validation and model correlation.

ToronAMS™ 2500 is an Actuator Measurement System built around a vacuum chamber, vibration isolation platform, and high-accuracy thrust evaluation hardware. The vacuum system supports low-pressure testing where micro-thrust and fine actuator outputs can be characterized without atmospheric effects.

The vibration isolation system reduces external disturbance, supporting cleaner measurement signals and better repeatability. High-accuracy thrust evaluation supports micro-force and milli-Newton class measurement ranges for different actuator and thruster classes. The system is suited for R&D, verification, and modeling work where reliable force data is required for design decisions.

APPLICATIONS

Actuator Measurement System – ToronAMS™ 2500 Applications

- Micro-thrust measurement and evaluation for electric propulsion components and micro-thrusters
- Actuator force characterization under vacuum conditions for space hardware validation
- Performance verification to support control algorithm development and stability studies
- Data generation for mathematical modeling and model correlation against measured thrust

- Comparative testing across actuator designs, operating points, and hardware revisions
- Lab validation of thrust performance where low noise and high resolution are required



FEATURES

Actuator Measurement System - ToronAMS™ 2500 Key Features

- S30408 stainless steel chamber construction supports corrosion resistance and long service life
- Vacuum simulation environment supports representative space or vacuum-condition testing
- Vibration isolation system supports reduced external disturbance for micro-thrust evaluation
- Low natural frequency isolation design supports improved measurement stability
- High-accuracy thrust evaluation supports micro-Newton resolution with fast response time
- Supports both micro-thrust and higher thrust measurement ranges for broader test coverage

TECHNICAL SPECIFICATIONS

Actuator Measurement System - ToronAMS™ 2500 Technical Specification

Specification	Details
Vacuum System Chamber	Φ 2500 mm × 4500 mm
Krypton Pumping Speed	> 30,000 L/s
Maximum Load Capacity of Platform	> 200 kg
Operating Environment	Lab / Vacuum Conditions
Natural Frequency	≤ 1 Hz
Vibration Isolation Efficiency	≥ 50% at 2 Hz; ≥ 90% at 4 Hz
High-Accuracy Thrust Evaluation Measurement Range (Micro-Thrust)	0.1 μN to 100 μN

Specification	Details
Noise (10 mHz to 1 Hz)	$\leq 0.1 \mu\text{N}$
Resolution (Micro-Thrust)	$\leq 0.1 \mu\text{N}$
Response Time	100 ms
High-Accuracy Thrust Evaluation Measurement Range (Higher Thrust)	0 to 500 mN
Resolution (Higher Thrust)	$\leq 0.1 \text{ mN}$
Load Capacity (Higher Thrust)	$\geq 5 \text{ kg}$



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