TVC 800-800 SQ

Rectangular Thermal Vacuum Chamber for Advanced Aerospace Testing

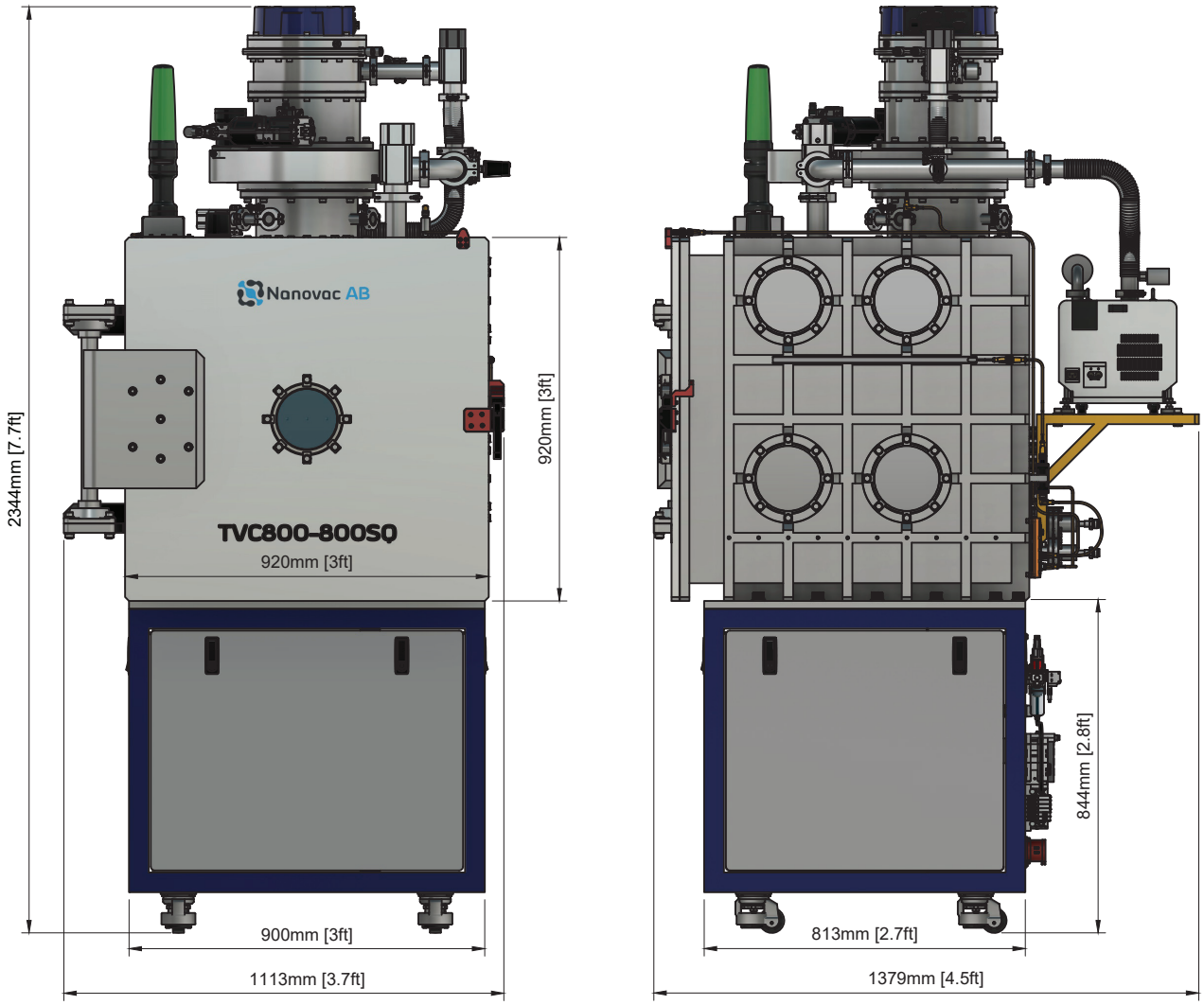
Nanovac AB

The Galaxy TVAC TVC800-800SQ is a versatile rectangular thermal vacuum chamber designed for rigorous aerospace testing. Manufactured in stainless steel, it provides robust construction and accommodates a wide range of applications—ranging from component outgassing to propulsion subsystem tests. A slide-out thermal plate (configured as an option) simplifies loading and positioning of DUTs, while an optional thermal shroud can be integrated for enhanced temperature control. A front-swinging door (left- or right-mounted) ensures easy access, and the system is supported by a powerful vacuum subsystem for stable, repeatable test conditions and the system can be configured for ballroom installation or thru-wall.

Equipped with our award-winning SpaceSoft™ automation software and on-board industrial PC, the TVC800-800SQ offers advanced data logging, recipe-based operations, and real-time monitoring. For teams requiring precise environmental control, custom flange configurations, and integrated partial-pressure analysis, this chamber delivers a flexible platform that can evolve alongside your testing needs.

Key Features & Highlights

- **Robust Vacuum Performance**
  - 2200 l/s turbo molecular pump with 35 m³/h dry backing pump
  - Integrated wide-range vacuum gauge and two Pirani gauges for foreline/backing
- **Modular, Customizable Design**
  - Rectangular stainless-steel chamber with default 6×ISO160 flanges (one with viewport), ISO250 high-vacuum port, CF200 facility flange, and a Nanovac rectangular port
  - Door mount can be swapped (left/right) to suit your lab layout
- **Award-Winning SpaceSoft™ Software**
  - Windows 11 on an industrial PC; advanced cycle programming adhering to ANSI/ISA 88
  - Patent-pending QuickTrend™ algorithm for partial pressure monitoring (requires RGA option)
  - Full API for real-time DUT interaction and data synchronization
- **Automation & Safety**
  - On-board PLC ensures all safety interlocks meet EN ISO 13849-1
  - Distributed I/O architecture reduces wiring and simplifies future upgrades
- **Remote Connectivity**
  - Industrial VPN router for remote monitoring, system updates, and email alerts
  - Secure remote access for real-time supervision and support



Category	Specification
Internal Dimensions	800mm (W) x 800mm (H) x 825mm (D) Capable of handling up to 1x16U cubesat (with solar panel assembly). OFHC Cu thermal plate : 700 (W) x 690 (D)
Door	Front swinging door (left/right mounting possible) - Aluminium 6061T6
Chamber Material	Stainless Steel (SS304) - other materials on request
Vacuum Pumping	300 to 2200 l/s turbo molecular pump options (with gate valve option) 15, 35 or 60 m^3/h dry backing pump (600 m^3/h as remote large capacity option)
Vacuum Level	<$1e^{-6}$ mbar (empty, clean chamber)
Pressure Measurement	1 x Wide Range Gauge (Chamber Pressure) 2 x Pirani Gauges (Foreline/Backing)
Temperature Sensors	4 independent TC channels (Type K) by default (can be upgraded to accomodate more channels if required)
Temperature Range	-70°C to +120°C (default) (~600W cooling capacity at -60°C) Other temperatures available - contact us for details LN_2 available as option
Flange Configuration	- 6 x ISO160 ports (one is front view port), 1 x ISO250 high vacuum port, 1 x CF200 Nanovac Vacuum Interface Port (with 4 x CF35 ports), 1 x CF35 (RGA option), 1 x ISO63, 1 x NW50KF, 5 x NW25KF, 1 x Rectangular Nanovac Flange (Usable dimension 375mm (W) x 305mm (H)). Other configurations available upon request.
Thermal Shroud	Prepared interface (option) LN_2 or other cooling solutions available (daisy chain)
Software & Controls	SpaceSoft™ suite under Windows 11 On-board PLC with EN ISO 13849-1 compliance Touch Screen (low cost) option Integrated ANSI ISA 88 database structure + API for advanced DUT control/integration Remote Access through onboard industrial VPN (allows for configurable e-mail notificiations)
Power Requirements	200-230VAC 50/60Hz / 380-415VAC 50/60Hz (current requirement depends on final configuration)

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