Cryotron V

CryoVent

The Cryotron series provides a cost-effective solution for enhancing operational safety and efficiency. By eliminating the need for elevated access, it reduces fall hazards and installation costs. Its integrated ventilation and monitoring systems mitigate asphyxiation risks and improve operational efficiency by maintaining safe gas levels and moisture control. Additionally, an advanced security system safeguards equipment from unauthorized access, ensuring seamless and reliable operation.

Applications

- Semiconductor wafer fabrication
- Semiconductor chips assembly and test
- Material research
- Superconducting magnet
- Synchrotron
- Biomedical
- Cryopreservation

Cryotron V comes with CSM renowned customer service, from conceptual design to implementation, and are backed by a 5-years Vacuum Warranty, & 1-year Defect Warranty.

Operation

Cryotron V ensures a stable, subcooled single phase LN_2 supply with automated venting control based on preset settings. An integrated purge function enhances system warm up and dry down, while built-in monitoring functions and alarms provide real-time alerts for safe, efficient, and trouble free operation.

Key Features and Benefits

- **Advanced Venting Control** – Efficiently vents vapor to maintain LN_2 purity
- **Tailored to Your Needs** – Offers storage capacity up to 2.7 gal (10 L) and venting capacity up to 300 Nm^3/hr that suit any operational requirements
- **Self-Regulating Mechanism** – Operates without manual adjustments, ensuring smooth performance
- **Advanced Control** – Allows only gas/vapor to vent
- **Corrosion Resistance and Eco-Friendliness** – Epoxy
- powder-coated cabinet with 300-series stainless steel
- components for enhanced durability and protection
- **Compact & Easy Integration** – Fits seamlessly into existing LN_2 systems
- **Application Flexibility** – Interchangeable outlet
- connections types
- **Prevents Gas Buildup** – Ensures single-phase LN_2 delivery for consistent process performance
- **Dynamic Real-Time Information** – Provides real-time pressure, level, and alarm data

Safety Enhancements

- **Safety and Leak Containment** - Prevents exposure to cryogenic media leaks for operation safety
- **Leak Detection** - Integrated O_2 sensors with safety alarm and ventilation system prevents asphyxiations
- **Pressure Safety Relief** – Equipped with a safety valve and continuous pressure monitoring
- **Humidity & Condensation Detection** – Integration with moisture sensor provides early warning of vacuum insulation deterioration, triggering for preventive maintenance
- **Audible & Visual Alerts** – Alarms and indicator lights for quick hazard response
- **Emergency Shutdown** – Single-switch operation for immediate system halt
- **Physical Security** – Lockable swing door prevents unauthorized tampering with the equipment
- **Operational Protection** – HMI with multi-level password security

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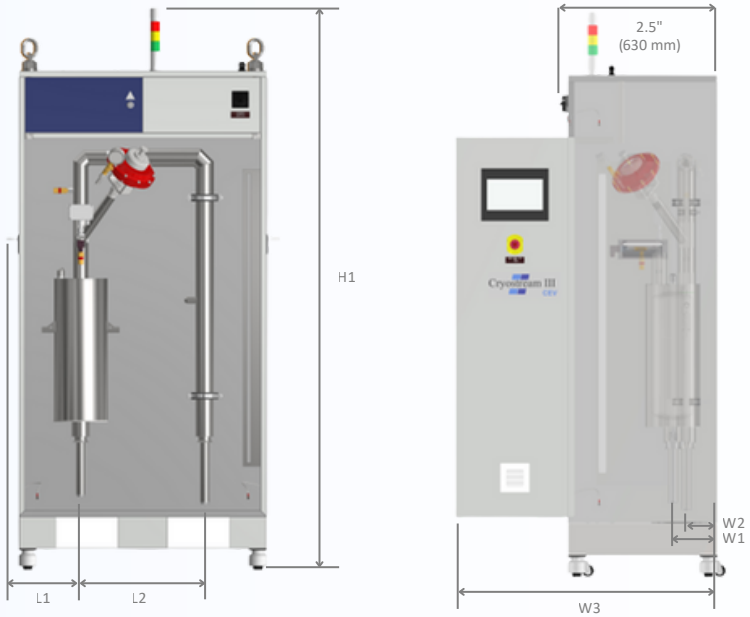
Cryotron V Specifications

Model	CTV.4	CTV.10
Capacity	1.1 gal (4L)	2.7 gal (10 L)
Max. Venting Capacity	150 Nm^3/hr	300 Nm^3/hr
Vessel MAWP	200 psi (13.8 bar)	
Control Principle	Electronic / Liquid Level	
Orifice Size	Variable Orifice	
Vacuum Insulation	Dynamic (DV6R-Gauged)	
Level Control	Cryo-Stic Level Sensor	
System Utilities	Electricity: 100-240 VAC; GN2: 116 psi (8 bar)	
Materials - Body - Cabinet	Stainless Steel 300 Series Galvanized Sheet (Epoxy Powder-Coated)	
Cleanliness Level	Cleaned, oil and grease-free	
Accessories	Oxygen sensor, Moisture sensor, Door open alarm, Castor wheel with stopper, and Ventilated roof	
Standard Testing	Dimensional Check He Leak Checked @ 1 x 10^{-9} cc/s	
Standard Certification	NEMA 4X, CE	
Optional	Test: Pneumatic Pressure, Vacuum Retention, LN2 Cold Shock Cert.: Pre-material cert. Services/Inspections: CFOS Cleaning for O2 Application, X-ray, ASME-coded (B31.3)	

Cryotron V Dimensions

Model	H1	L1	L2	L3	W1	W2	W3
CTV.4	90.6" (2300 mm)	11.8" (300 mm)	19.7" (500 mm)	63.0" (2300 mm)	7.1" (180 mm)	4.7" (120 mm)	47.2" (1200 mm)
CTV.10							



All dimensions provided are for indication purposes only and may not accurately represent the actual product dimensions. Please contact us for updated and actual measurements.

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