



Cryotron P comes with CSM renowned customer service, from conceptual design to implementation, and are backed by a 5-year warranty

# Cryotron P

## Phase Separator - Adjustable

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

### Operation

Cryotron P delivers a stable, subcooled single phase LN<sub>2</sub> supply with automated level and pressure 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 Control** – Maintains precise LN<sub>2</sub> pressure and level control at +/- 5%, proportionately regulated
- **Subcooled LN<sub>2</sub> Supply** – Superior vacuum insulation technology delivers vapor free single phase LN<sub>2</sub>
- **Automated Process** – Reduces manual intervention for streamlined workflow efficiency
- **Compact & Ergonomic Design** – Space-efficient and convenient for human access
- **Reliable LN<sub>2</sub> Supply** – Eliminate pressure fluctuations at POU to ensure process stability
- **Seamless Integration** – Pre-engineered modular connections for the ease of assembly and maintenance
- **Easy Mobility** – Equipped with low-profile, heavy-duty castor wheels
- **Application Flexibility** – Interchangeable outlet connections type
- **Corrosion Resistance and Eco-Friendliness** – Epoxy powder-coated cabinet with 300-series stainless steel components for enhanced durability and protection
- **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<sub>2</sub> 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

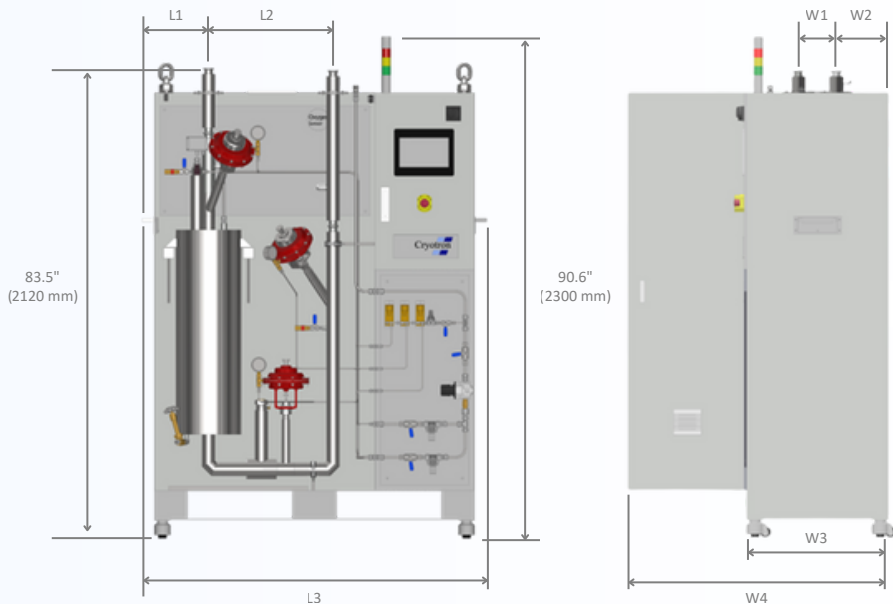
# Cryotron P Specifications

Model	CTP.22	CTP.48
Operational Capacity* / Full Capacity	6 gal (22 L) 10 gal (36 L)	12.6 gal (48 L) 20 gal (76 L)
Max. Inlet Pressure Max. Back Pressure	150 psi (10.3 bar) 125 psi (8.6 bar)	
Vessel MAWP	150 psi (10.3 bar)	
Max. Withdrawal Rate	5 GPM / 19 LPM	28 GPM / 106 LPM
Weight - Empty - Full	772 lbs (350 kg) 838 lbs (380 kg)	1102 lbs (500 kg) 1212 lbs (550 kg)
Vacuum Insulation	Static (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 @ $1 \times 10^{-9}$ 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 (BPVC Section VIII Pressure Vessel)	

\* Factory preset operational capacity, field adjustable by user depending on liquid flow output requirement, and in-coming liquid saturation characteristics

# Cryotron P Dimensions

Model	L1	L2	L3	W1	W2	W3	W4
CTP.22	10.2" (260 mm)	23.6" (600 mm)	63.0" (1600 mm)	7.9" (200 mm)	10.0" (250 mm)	2.5" (630 mm)	47.2" (1200 mm)
CTP.48	13.2" (335 mm)	27.0" (686 mm)	68" (1727 mm)	11" (280 mm)	13.0" (330 mm)	27.8" (705 mm)	50.2" (1275 mm)



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.