

A CryoWorks Phase Separator splits the incoming two-phase flow into separate liquid and vapor streams. The vapor stream is vented to the atmosphere while the single-phase liquid is dispensed to your equipment. Regardless of your application, single-phase liquid is a more effective working fluid, and a CryoWorks Phase Separator will supply high-quality liquid on demand. CryoWorks Phase Separators are versatile in design.

Design Specifics:

A CryoWorks Gravity-Feed Phase Separator (GFPS) is designed to maintain high-quality liquid for on-demand withdrawal at atmospheric pressure. The headspace of the GFPS is open to the atmosphere to ensure no pressure build-up inside the phase separator.



Features:

Low Pressure Saturated Liquid — Gravity-feed from the GFPS to your use points.

Proportionally Controlled Inlet Fill Valve — Controls incoming flow from the higher-pressure liquid nitrogen source to maintain the set liquid level.

Differential Pressure Controller — Dependable liquid nitrogen levels.

Related Components — CryoWorks Rigid VIP and Flexible VIP (Coaxial and Triaxial), Vacuum Insulated Valves & TAL Bayonet.

Technical Specifications:

Short Body Liquid Capacity — 5.8 Gallons (22 Liters): 2 & 4 Outlets

Long Body Liquid Capacity — 12.8 Gallons (49 Liters): 2, 4, 6, 8, 10 & 12 Outlets

Service/MAWP — Liquid Nitrogen (LN2): 150 PSIG Max

Utilities Required — Gaseous Nitrogen (GN2): 50 - 400 PSIG Sensor Box
Power Cable: NEMA 5-15, 12' Standard Length
Controller Electricity: 100 - 240 VAC (50 - 60 Hz)

Optional Vent Heater — Standard: 100 - 120 VAC (50 - 60 Hz)
Optional: 220 - 240 VAC (50 - 60 Hz)

Communication Protocol — Standard: Ethernet Modbus TCP, USB 2 Standard Bus, SCPI
Communication Cable: 32', Low Voltage, Sheathed, Quick Disconnect Ends
Adder: Modbus® RTU

Weight — Dry: 145 lbs (66 kg) - 245 lbs (111 kg)
Full: 185 lbs (84 kg) - 330 lbs (150 kg)

Vacuum Insulation — Standard: Static Vacuum Design
Optional: Dynamic Vacuum Design

Materials — 304/304L Stainless Steel

Codes and Certs — Assembly: Built to ASME B31.3 Process Piping
Controller: NEMA 4X Electrical Enclosures

Options — Customization, Overflow Protection, Vertical Orientation, System Redundancy, Oxygen and Facility Monitor Integration. For Adjustable Pressure or Line Pressure Phase Separator designs - see CryoWorks APPS & LPPS literature. APPS & LPPS literature.



Controller



Touchscreen User Interface

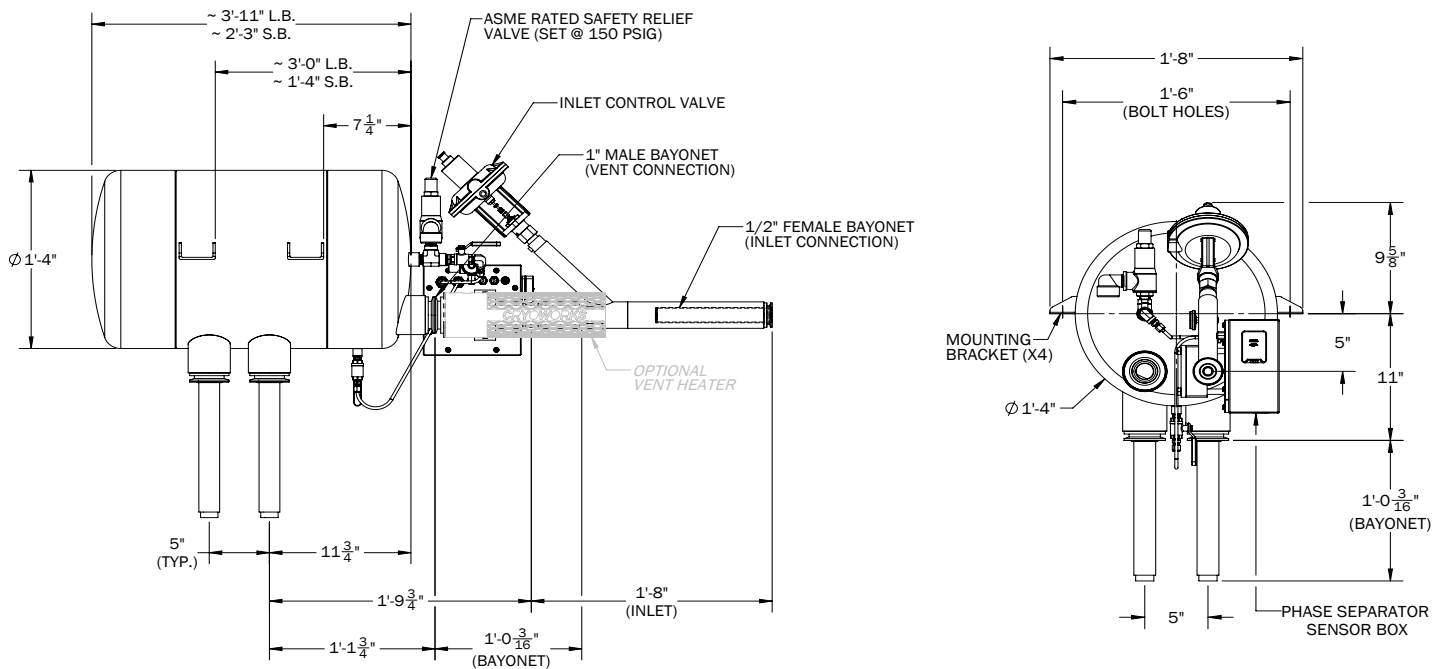
Benefits:

- Atmospheric Pressure
- Low Temp/Gravity-Fed LN2
- Pure Saturated LN2
- Liquid on Demand Delivery
- Closed Loop Systems
- Triax Pipe Compatible
- Versatile Compact Design

Versatile Controller:

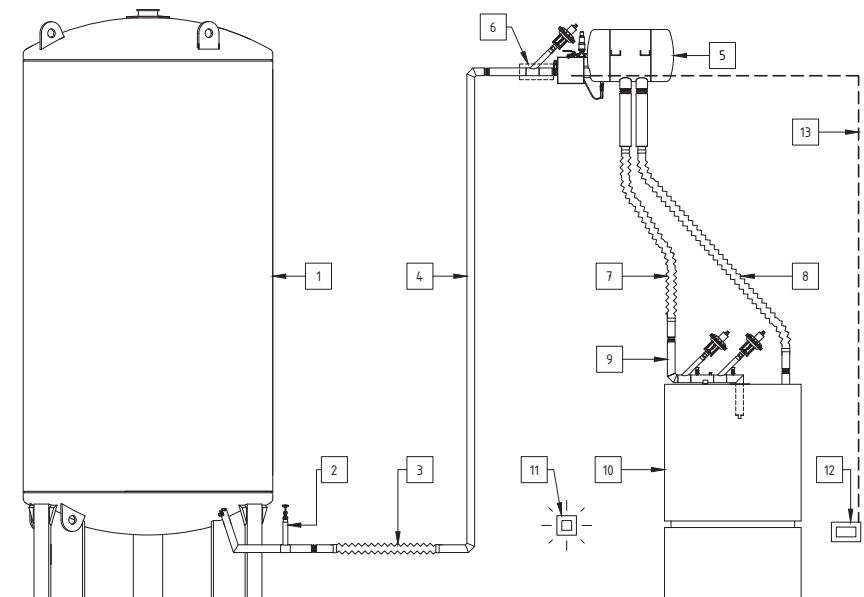
- Compatible with most BMS systems
- Easy to read liquid level
- User Friendly Interface
- User defined alarm, liquid level set points
- 4.3 inch color and graphical touch panel
- Modular and scalable
- Various levels of Password Protections

Diagram:



Applications:

A CryoWorks GFPS can be used with closed loop systems utilizing supply and return lines. Ideal for applications requiring gravity-fed liquid such as Molecular Beam Epitaxy (MBE), Thermal Vacuum Chambers (TVAC), and Food and Beverage (Ice Cream / Bottle Dosing & Inerting).



ITEM #	DESCRIPTION
1	LN2 Bulk Tank
2	V.J. Withdrawal Valve and Bayonet
3	V.J. Flex Section
4	V.J. Rigid Pipe
5	Phase Separator
6	Optional Vent Heater Or Extended VJ Vent Line
7	V.J. Supply Line
8	Optional V.J. Return
9	LN2 Control Manifold
10	Customer Equipment
11	O2 Monitor
12	Phase Separator Liquid Level Controller
13	32' Communication Cable