Gravity-Feed Phase Separator

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 and modular in design.

GFPS 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.

GFPS 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.

GFPS 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 **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 **Adder:** Modbus® RTU
DRY WEIGHT **FULL WEIGHT**	145 lbs (66 kg) – 245 lbs (111 kg) 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.

Controller

Touchscreen User Interface

 PN CDBMAR-00306

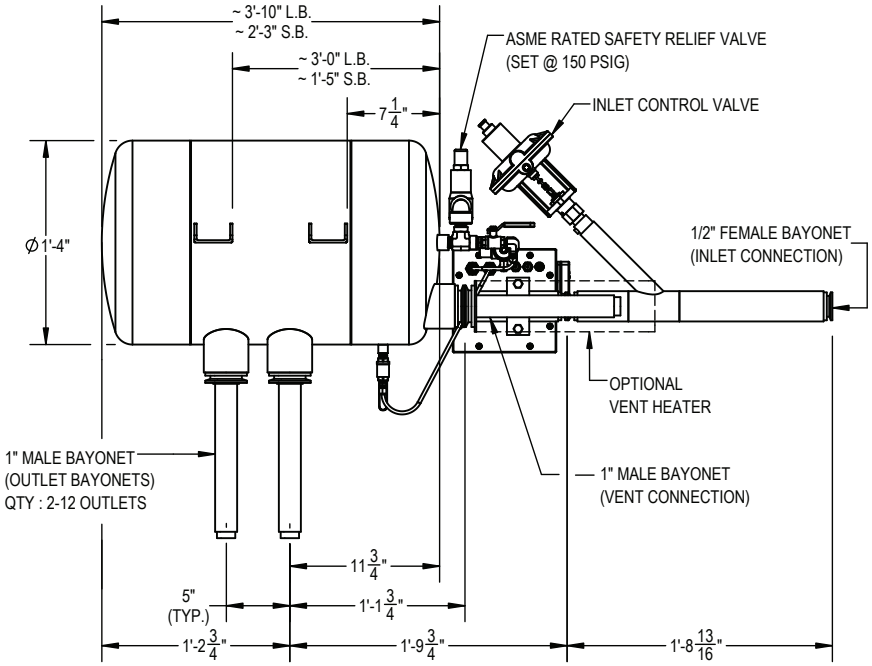
Key GFPS Benefits:

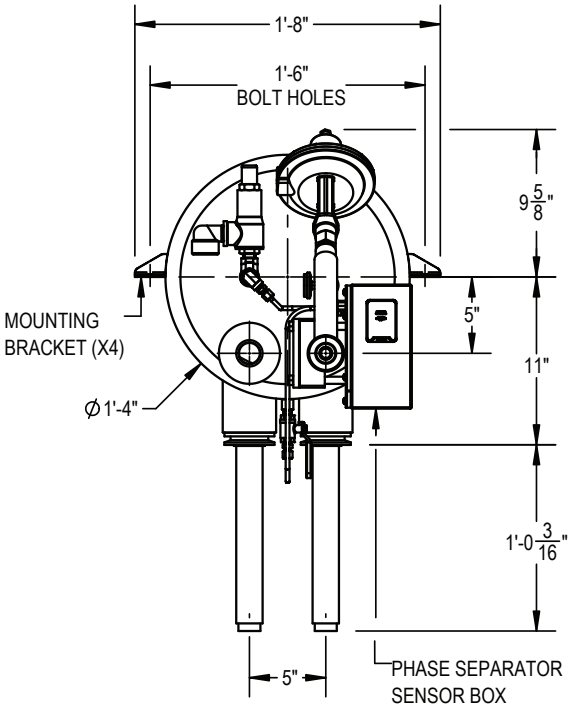
- Atmospheric Pressure
- Low Temp/Gravity-Fed LN2
- Pure Saturated LN2
- Liquid on Demand Delivery
- Closed Loop Systems
- Triax Pipe Compatible
- Max Ceiling Height Design

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

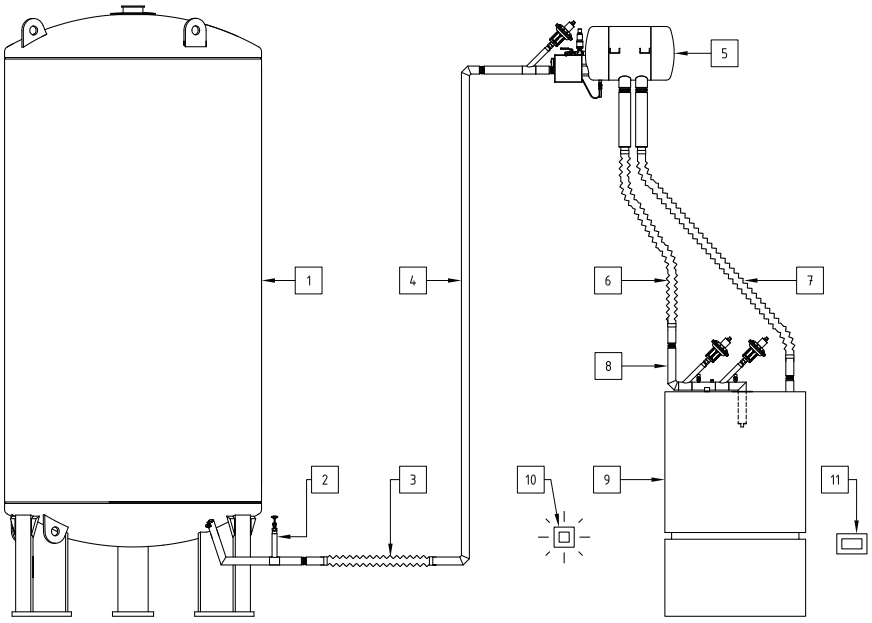
Diagram:





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	V.J. SUPPLY LINE
7	OPTIONAL V.J. RETURN
8	LN2 CONTROL MANIFOLD
9	CUSTOMER EQUIPMENT
10	02 MONITOR
11	PHASE SEPARATOR LIQUID LEVEL CONTROLLER

 PN CDBMAR-00306