The ChillZilla® bulk LN₂ Liquid Supply System is engineered to provide consistent liquid nitrogen for optimum equipment performance. Ideally suited for Individually Quick Frozen (IQF), LN₂ immersion freezers and cryobiological storage freezers, the ChillZilla LN₂ system features a Dynamic Pressure Builder™ for precise saturated liquid supply to the freezer regardless of the LN₂ liquid level. The ChillZilla system incorporates an insulation baffle to inhibit the mixing of fresh liquid from a trailer load delivery with the liquid supply to the freezer for better liquid supply stability during the refill.

With the aid of a patented high performance two-stage ambient pressure building coil, the heat management of this circuit is optimized for fast pressure recovery and reduced heat transfer to the contents. Coupling these unique features with the temperature monitoring of the liquid supply, a Programmable Logic Controller (PLC), VJ feed valve with an extended VJ pod and extended legs, the ChillZilla LN₂ system automatically provides the optimum liquid nitrogen supply to any liquid application.

Ideally suited for other LN₂ applications with the same demand, like cryogenic rubber and tire deflashing. Optional gas use conversion assembly available.

**PRODUCT HIGHLIGHTS**

- Dynamic Pressure Builder™ System for precise saturated LN₂ supply regardless of liquid level
- Insulation Baffle with dedicated upper fill port for uninterrupted LN₂ supply during transport refill
- High performance two-stage ambient pressure builder vaporizer for maximum efficiency (20 gpm (4 tph) standard)
- PLC controlled with actual LN₂ storage temperature, pressure and level monitoring for precise tank pressure control (PB and Vent) with automatic desaturation capability
- High flow automatic pressure building valve improves response time and performance after a fill along with a tighter operating pressure dead-band
- Extended legs and vacuum insulated pod for increased head pressure aids in dampening LN₂ saturation pressure fluctuations
- Large 1½" vacuum insulated inner supply line provides 20 gpm flow*
- Large 1½" vacuum insulated isolation valve with mating female bayonet for plug-n-play to Chart VIP and ice-ball free operation
- Dual 125 PSI main tank relief valves standard to protect downstream VIP system (175 psig tank MAWP)**
- Reduced deliveries and improved inventory turn-over with 95% bulk tank capacity utilization
- High-performance Composite Super Insulation™ (CSI) for ultra-low heat leak

* 1½" VIP system of 300" VIP + 5 elbows + 2 valves = 2 psig pressure drop
** Maximum Allowable Operating Pressure (MAOP) = 75 psig
Tank Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Gross Capacity</th>
<th>Nominal Capacity</th>
<th>MAWP*</th>
<th>Diameter</th>
<th>Height</th>
<th>Weight**</th>
<th>NER %/day</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Gal</td>
<td>Liters</td>
<td>psig</td>
<td>in</td>
<td>mm</td>
<td>lbs.</td>
<td>Kg</td>
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</tbody>
</table>

*MAWP* - Maximum Allowable Working Pressure. **Weights are for ASME design. (NER) = Nominal Evaporation Rate

System Requirements

- PLC: 120 VAC/1Ph/60Hz
- 15 Amp

Options

- 2" VIP supply line and valve for 40 gpm (8 tph) flow (300’ VIP + 5 elbows + 2 valves = 2 psi pressure drop)
- 40 gpm (8 tph) PB coil
- Vent muffler
- Gas use conversion assembly
- Redundant fill valves

Nomenclature

PLC Programmable Logic Controller
PBC-1 Pressure Build Coil
PS-1 Pressure Sensor, Temp Bulb
PS-2 Pressure Sensor, Inr Vessel
PSE-1A Pressure Safety Element, Inner Vessel
PSV-1B Pressure Safety Valve, Inner Vessel

C-7 Liquid Feed FBayo VJ
C-8 Telemetry Tap GPL
C-9 Telemetry Tap LPH
CV-1 Check Valve, Fill Line
CV-2 Check Valve, PB Coil Feed
EOV-1 Electric Actuated Valve PBC-1
EOV-2 Electric Actuated Valve Vent
FC-1 Connection Fill
HCV-1 Valve, Bottom Fill
HCV-2 Valve, Top Fill
HCV-3 Valve, PB Inlet
HCV-4 Valve, Full Trycock
HCV-5 Valve, Vacuum Gauge Tube
HCV-7 Valve, Fill Line Drain
HCV-8 Valve, Li-1 Vapor Phase
HCV-9 Valve, Li-1 Equalization
HCV-10 Valve, Li-1 Liquid Phase
HCV-12 Valve, Vapor Vent
HCV-15 Valve, Safety Relief Selector
HCV-19 Valve, Aux Vapor
HCV-26 Valve, Liquid Feed, VJ
HCV-27 Valve, Temperature Bulb
HCV-28 Feed Valve PBC-1
HCV-29 Feed By-Pass Valve PBC-1
LI-1 Level Indicator, Inr Vessel
M-1 Muffler (optional)
PI-1 Pressure Indicator Gauge (Gas)
PI-2 Pressure Indicator Gauge (Liquid)

GAS USE OPTION

C-3 Gas Use
C-6 Gas Use MBayo VJ
EOV-3 Electric Actuated Valve Gas Use Option
TSV-4 Thermal Relief Gas Use Option