

PERMA-MAX™

FAST FILL MICROBULK STORAGE FOR CO₂ SERVICE

The Perma-Max™ 2200, 3300, 4400, 6000 HP and 12,000 VHP MicroBulk Storage Systems are specifically designed for CO₂ service. One notable performance improvement is the fast fill feature – at least three times the fill rate over our standard Perma-Cyl® MicroBulk Storage Series from a typical beverage delivery truck. The upsizing and redesign of the top fill eductor circuit reduces the overall fill time, and it also reduces the amount of vent gas during delivery for a more efficient fill. Other new design features include all stainless steel ball valves, and larger internal pressure builder and vaporizer coils, allowing for faster pressure recovery and increased gas flow rates. Dedicated pressure builder and economizer regulators also contribute to this improved performance.

The Perma-Max tank comes with many of the standard features found on the Perma-Cyl Series for easy installation and fast start-up. The Perma-Cyl series is well known for holding its liquefied gas contents for long periods of time without venting, limiting product loss during periods of little or no gas use.

PRODUCT HIGHLIGHTS

The better alternative to full-for-empty cylinders

- Replaces HP cylinders
- Extended hold time over liquid cylinders
- Easy low-cost installation – indoors or outdoors (local codes permitting)
- Safety devices pipe-away required for indoor installation

Fast, efficient fills

- Efficient fill circuit reduces fill times and vent losses
- Fill rates up to 170 lbs/min*

High-performance vaporizer

- Up to 51 lbs/hr**
- Available in 125 psig and 300 psig operating pressures
- Dedicated Pressure Builder (½") and economizer regulators

Cyl-Tel® Liquid Level Gauge (Optional)

- Digital and accurate
- Built-in user selectable scales
- Telemetry ready

Ergonomic instruments and controls

- Located at user height
- Isolation valves for regulators and level gauge

Long life, low maintenance

- Stainless Steel bottle and welded piping
- Heavy-duty galvanized pallet base

* Pressure transfer performance from 33% full at 125 psig to 90% full in 12 minutes with delivery vessel at 295 psig starting pressure without Perma-Cyl storage tank venting.

** Based on 12 hours per day of continuous duty at 68°F and 50% RH ambient conditions with internal vaporizer.



Perma-Max 4400 HP



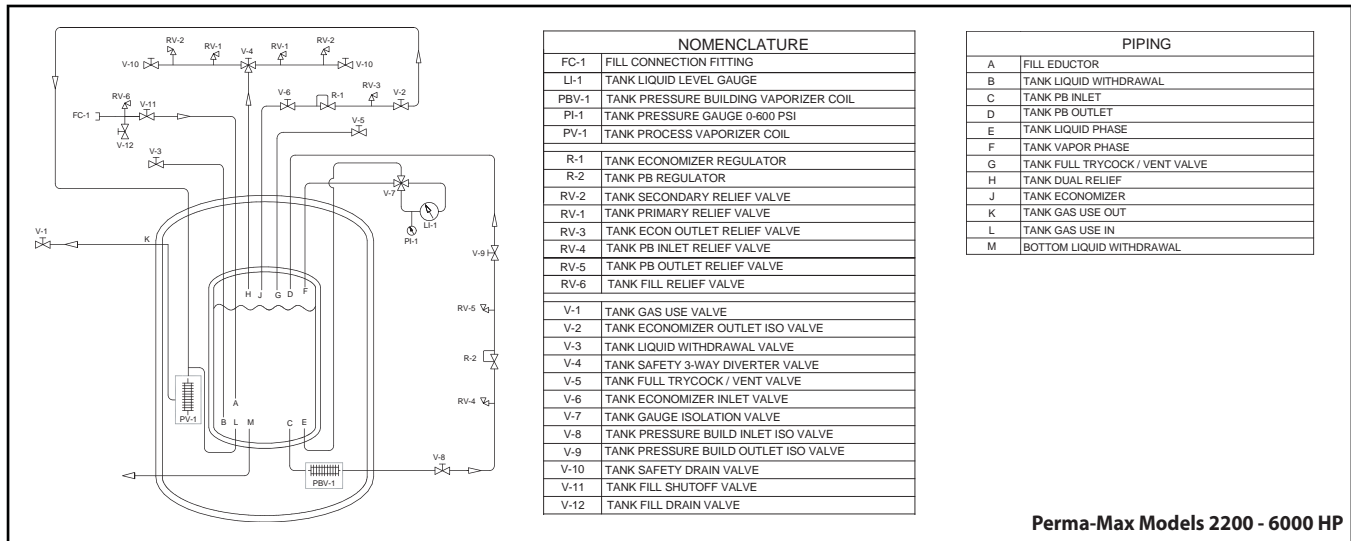
Innovation. Experience. Performance.™

PERMA-MAX™

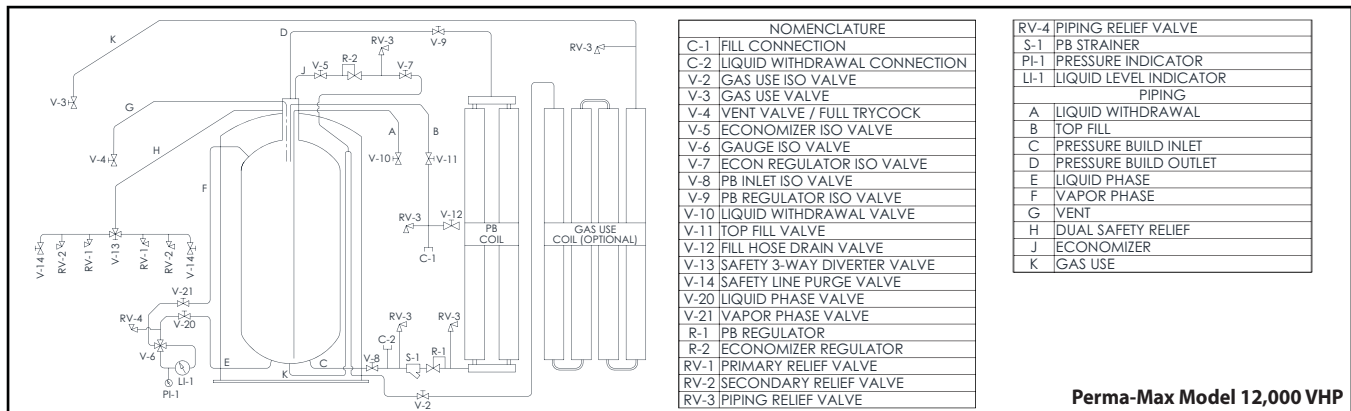
FAST FILL MICROBULK STORAGE FOR CO₂ SERVICE

GENERAL SPECIFICATIONS	2200 HP	3300 HP	4400 HP	6000 HP	12,000 VHP
Relief Valve Setting / MAWP (psig/barg)	350 / 24.1	350 / 24.1	350 / 24.1	350 / 24.1	350 / 24.1 ⁽⁴⁾
Overall Height (in/mm)	82 / 2083	92 / 2337	116 / 2946	122 / 3099	119 / 3020
Width with Pallet Base (in/mm)	46.6 / 1184	53 / 1346	53 / 1346	60.5 / 1537	86 / 2180
Length with Pallet Base (in/mm)	50.6 / 1285	67 / 1702	67 / 1702	75.5 / 1918	102 / 2590
Tank Diameter (in/mm)	42 / 1067	48 / 1219	48 / 1219	58 / 1473	80 / 2030
Tare Weight ⁽¹⁾ (lbs/kg)	1500 / 680	2200 / 998	2600 / 1179	3300 / 1497	9100 / 4128
CAPACITIES					
Gross Volume (gal/liters)	279 / 1056	409 / 1550	539.5 / 2042	769 / 2911	1435 / 5434
Net Volume (gal/liters)	251 / 950	384 / 1455	513.9 / 1945	715 / 2707	1350 / 5110
Gas Storage Capacity ⁽²⁾ (scf/Nm ³)	19,960 / 564	29,340 / 830	38,048 / 1000	52,954 / 1390	99,954 / 2627
Liquid Storage Capacity ⁽²⁾ (lbs/kg)	2283 / 1035	3256 / 1477	4352 / 1974	6058 / 2747	11,427 / 5183
PERFORMANCE					
Normal Evaporation Rate (% per day) ⁽³⁾	.3%				
Gas Supply Rate @ 150 psig (scfh/Nm ³ H)	320 / 9.0	450 / 12.7	500 / 14.2	500 / 14.2	1167 / 33
(lbs/hr) / (kg/hr) ⁽⁶⁾	36 / 16.3	51 / 23	51 / 23	51 / 23	130 / 59
CONSTRUCTION					
Design & Manufacturing Code	ASME Sec. VIII Div. 1				
Outer Vessel	Type 304 SS				Paint ⁽⁵⁾
Pallet Base	Galvanized Carbon Steel				

Footnotes: Specifications subject to change without prior notice. For specifications on the Perma-Max 1400 XHP Model, see P/N 21176920. (1) Weights include lab base. (Does not come standard on the Model 2200.) (2) Gas measured at 1 atm and 70°F. Liquid measured at 1.7°F and 300 psig / 20.7 barg saturated pressure. (3) Values are based on gross volume. (4) Can be upgraded to 500 psig / 34.5 barg. (5) Model 12,000 is built with stainless steel outer top and bottom heads. (6) For 12 consecutive hours at room temperature.



Perma-Max Models 2200 - 6000 HP



Perma-Max Model 12,000 VHP