

VSCO₂ & N₂O

VERTICAL BULK STORAGE SYSTEMS

Our VSCO₂ & N₂O Series of Bulk Carbon Dioxide and Nitrous Oxide Storage Tanks are engineered for the efficient storage supply of carbon dioxide and nitrous oxide. For maximum lifetime thermal efficiency, the VSCO₂ and N₂O systems are manufactured with an all-welded outer container to contain our proprietary Composite Super Insulation™ system and superior vacuum technology.

VACUUM-JACKETED COMPOSITE vs. FOAM INSULATION

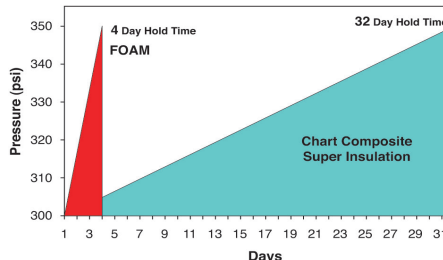
- An ultra-low heat leak – eliminating the need for a costly refrigeration system in most applications.
- No costly down time to refurbish water-soaked or deteriorated foam insulation.
- Lowest lifecycle costs for bulk CO₂ & N₂O storage
- Hold time is 8 times longer than new foam designs

PRODUCT HIGHLIGHTS

- Stainless steel inner vessel and piping eliminates dry ice safety concerns & complies with food grade standards
- Inner vessel designed and built to ASME Section VIII, Div. 1 pressure vessel code
- Oxygen cleaned inner vessel and piping per CGA S4.1
- Internal top head cleaning baffle for internal cleaning with external system eliminates need for manway
- CGA fill and return fittings with drain valves standard on all models
- Analog & digital (telemetry ready) liquid level gauges available with flexible stainless steel connecting lines
- Pressure builder and vaporizer systems available – see applications brochure P/N 2111520 for details
- Backed by a five-year vacuum warranty
- Optional internal vapor condensing coil available – see applications brochure P/N 2111520 for details
- Optional refrigeration system for condensing coil available
- Long-life urethane paint system



Thermal Performance - VSCO₂
Vacuum Jacketed vs. Foam CO₂ Tanks

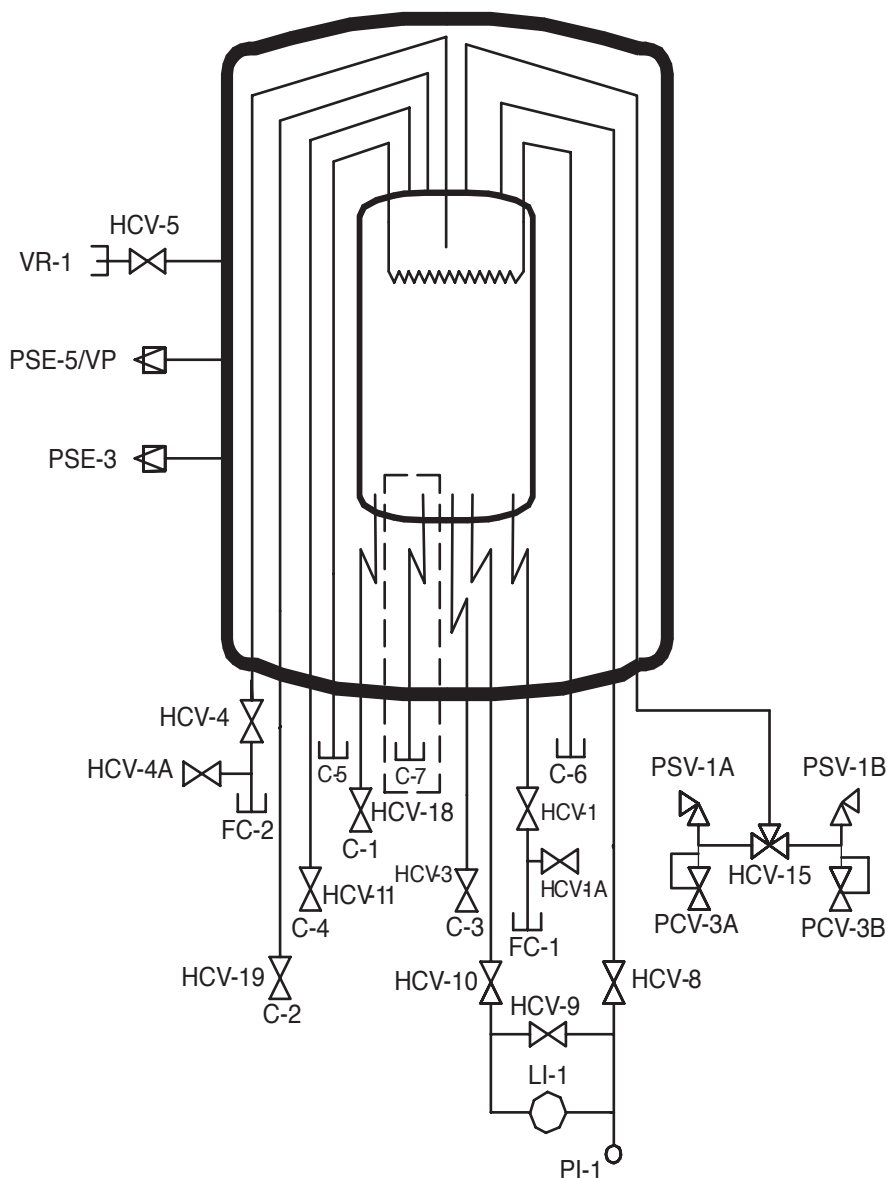


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Model	CO ₂				NO ₂				MAWP*		Diameter		Height		Weight**		NER %/day in CO ₂ /NO ₂
	Gross Capacity Ton	Gross Capacity Tonne	Net Capacity Ton	Net Capacity Tonne	Gross Capacity Ton	Gross Capacity Tonne	Net Capacity Ton	Net Capacity Tonne	(psig)	(bar)	in	mm	in	mm	(lbs)	(kg)	
6 Ton	6.9	6.3	6.6	6.0	6.6	6.0	6.3	5.7	350	24.1	66	1,727	196	4969	7,400	3,357	.15
14 Ton	13.2	12.0	12.6	11.4	12.9	11.7	12.3	11.2	350	24.1	86	2,184	228	5791	13,700	6,214	.08
30 Ton	30.7	27.8	29.1	26.4	29.3	26.6	27.9	25.3	350	24.1	114	2,900	291	7391	31,700	14,379	.05
50 Ton	47.7	43.3	45.4	41.1	45.6	41.4	43.4	39.3	350	24.1	114	2,900	406	10,312	44,300	20,094	.04

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



NOMENCLATURE	
Tag	Description
C-1	CONNECTION, AUXILIARY LIQUID
C-2	CONNECTION, AUXILIARY VAPOR
C-3	CONNECTION, PB LIQUID
C-4	CONNECTION, PB VAPOR
FC-1	CONNECTION, FILL
FC-2	CONNECTION, VAPOR RETURN/FULL TRYCOCK
HCV-1	VALVE, BOTTOM FILL
HCV-1A	VALVE, DRAIN
HCV-3	VALVE, PB LIQUID
HCV-4	VALVE, VAPOR RETURN/FILL TRYCOCK
HCV-4A	VALVE, DRAIN
HCV-5	VALVE, VACUUM GAUGE TUBE
HCV-8	VALVE, LI-1 VAPOR PHASE
HCV-9	VALVE, LI-1 EQUALIZATION
HCV-10	VALVE, LI-LIQUID PHASE
HCV-11	VALVE, PB VAPOR
HCV-15	VALVE, SAFETY RELIEF SELECTOR
HCV-18	VALVE, AUXILIARY LIQUID
HCV-19	VALVE, AUXILIARY VAPOR
LI-1	LEVEL INDICATOR, INNER VESSEL
PI-1	PRESSURE INDICATOR, INNER VESSEL
PCV-3A	PRESSURE CONTROL VALVE, ECON VENT
PCV-3B	PRESSURE CONTROL VALVE, ECON VENT
PSE-3	PRESSURE SAFETY ELEMENT, OUTER VESSEL
PSE-5/VP	PRESSURE SAFETY ELEMENT, OTR VES., VAC PORT
PSV-1A	PRESSURE SAFETY VALVE, INNER VESSEL
PSV-1B	PRESSURE SAFETY VALVE, INNER VESSEL
VR-1	VACUUM READOUT, OUTER VESSEL
REFRIGERATION OPTION	
C-5	CONNECTION, AUXILIARY REFRIGERATION
C-6	CONNECTION, AUXILIARY REFRIGERATION
DASHED LINE REPRESENTS ADDITIONAL LINE (STANDARD ON 30/50 TON ONLY)	
C-7	CONNECTION, SECONDARY AUXILIARY LIQUID

Auxiliary refrigeration valves on HCV-1A and HCV-4A not included in C-5 and C-6 optional N₂O service.

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