

VS-01 SERIES

PREMIER STORAGE SYSTEMS

Chart's VS-Series Storage Systems, available in liquid nitrogen, oxygen or argon service, are offered in a wide range of sizes for applications requiring Maximum Allowable Working Pressures of 175 and 250 psig (12 and 17 bar) as standard.

Our proprietary composite insulation system gives you the competitive edge with high thermal performance, extended hold times, low life-cycle costs and lightweight to reduce operational and installation costs. Chart leads the industry with an innovative modular piping system designed for performance, durability and low maintenance.



PRODUCT ADVANTAGES

- Sizes, pressures and configurations to meet most applications
- Backed by an industry-leading 5-year warranty
- Leg design provides better access to anchor bolts
- Plumbing built to ASME B31.3 code and leak tested at 1.1 times the MAWP
- Long-life Hentzen urethane paint system

MODULAR PIPING ADVANTAGES

- Chart's innovative modular piping system provides an Industry Standard Piping Configuration.
- Reduces your life-cycle costs by reducing the number of external piping joints, minimizing the risk of external piping leaks and the cost to repair.
 - Simple by design yet robust and able to support a broad range of customer applications.
 - Combination Pressure Building/Economizer Regulator for easy pressure adjustment and extended Bonnet Bronze Control Valves for ease of operation.
 - Piping modules designed for ease-of-access to all operational control valves with stainless steel interconnecting piping for improved durability.

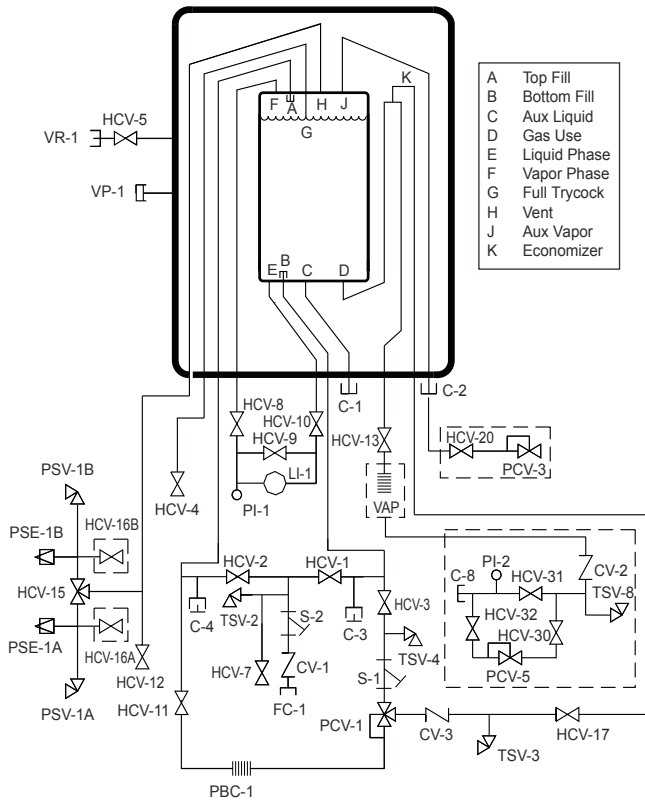
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Model	Gross Capacity		Net Capacity		MAWP*		Diameter		Height		Weight**		NER %/day in O ₂	Flow Capacity***	
	Gal	Liters	Gal	Liters	psig	bar	in	mm	in	mm	lbs.	Kg		SCFH	nm ³ /hr
VS 525SC	570	2,158	510	1,931	250	17.2	66	1,676	105	2,667	3,300	1,500	.55	9,000	237
VS 900SC	940	3,558	850	3,218	250	17.2	66	1,676	136	3,454	4,400	2,000	.45	9,000	237
VS 1500SC	1,640	6,208	1,580	5,981	250	17.2	66	1,676	196	4,978	6,200	2,818	.35	9,000	237
VS 3000SC	3,150	11,924	3,030	11,470	175	12.1	86	2,184	228	5,791	11,100	4,990	.25	18,000	473
VS 6000SC	6,010	22,750	5,770	21,842	250	17.2	86	2,184	383	9,728	19,900	9,026	.15	18,000	473
VS 9000SC	9,360	35,431	8,990	34,031	175	12.1	114	2,896	348	8,840	29,400	13,364	.10	42,000	1,104
VS 11000SC	11,410	43,192	10,960	41,488	250	17.2	114	2,896	407	10,338	35,200	16,000	.10	42,000	1,104
VS 13000SC	13,470	50,989	13,060	49,437	175	12.1	114	2,896	466	11,837	41,700	18,955	.10	42,000	1,104
VS 15000SC	15,520	58,750	15,060	57,008	250	17.2	114	2,896	525	13,335	48,000	21,818	.10	42,000	1,104

* MAWP - Maximum Allowable Working Pressure. 400, 500 psig tanks are available upon request ** Weights are for ASME designs

*** Flow capacity rating down to a 20% contents level with a maximum fall of in tank operating pressure of 15 psig (bar). (NER) = Nominal Evaporation Rate



Nomenclature

C-1	Connection, Aux Liquid	S-1	Strainer, Pressure Building
C-2	Connection, Aux Vapor	S-2	Strainer, Fill
C-3	Connection, Secondary Aux Liq.	TSV-2	Thermal Safety Valve, Fill
C-4	Connection, Secondary Aux Vapor	TSV-3	Thermal Safety Valve, Economizer
CV-1	Check Valve, Fill	TSV-4	Thermal Safety Valve, PB Circuit
CV-3	Check Valve, Economizer	VP-1	Vacuum Port
FC-1	Connection Fill	VR-1	Vacuum Readout, Outer Vessel
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-11	Valve, PB Outlet		
HCV-12	Valve, Vapor Vent		
HCV-13	Valve, Product Supply		
HCV-15	Valve, Safety Relief Selector		
HCV-17	Valve, Economizer		
HCV-20	Valve, Economizer Vent		
HCV-30	Valve, Inlet Housetline		
HCV-31	Valve, Bypass Housetline		
HCV-32	Valve, Outlet Housetline		
PCV-1	Pressure Control Valve		
PCV-3	Pressure Control Valve, Econo Vent		
PI-1	Pressure Indicator, Inner Vessel		
PI-2	Pressure Indicator, Inner Vessel		
PSE-1A	Pressure Safety Element, Inr Ves		
PSE-1B	Pressure Safety Element, Inr Ves		
PSV-1A	Pressure Safety Valve, Inr Ves		
PSV-1B	Pressure Safety Valve, Inr Ves		
TSV-3	Thermal Safety Valve, Houseline		
TSV-4	Thermal Safety Valve, Houseline		
VAP	Vaporizer, Product Withdrawal		

NOTE: Optional valves (not shown)

HCV-18	Valve, Liquid Withdrawal (From C-1)
HCV-19	Valve, Vapor Return (From C-2)
HCV-21	Valve, Sec Aux Liquid (From C-3)
HCV-22	Valve, Sec Aux Vapor (From C-4)

**Dashed lines represent optional components*

C-8	Connection, Customer Housetline
CV-2	Check Valve, Housetline
HCV-16A	Valve, Relief Line Purge
HCV-16B	Valve, Relief Line Purge
HCV-20	Valve, Economizer Vent
HCV-30	Valve, Inlet Housetline
HCV-31	Valve, Bypass Housetline
HCV-32	Valve, Outlet Housetline
PCV-5	Pressure Control Valve, Housetline
PI-2	Pressure Indicator, Housetline
TSV-8	Thermal Safety Valve, Housetline
VAP	Vaporizer, Product Withdrawal