

# VS-DSS SERIES

## DISTRIBUTOR STORAGE SYSTEM

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Chart's VS-DSS Series of vertical bulk storage stations are engineered for superior performance, durability and value. Equipped with Super Insulation, a light-weight system offering better thermal performance than Perlite, VS-DSS Models provide reduced product losses and a slower rate of pressure rise during periods of non-use, while backing up this performance with a competitive 2-year warranty.

The modular piping system on our cryogenic tanks was also pioneered by MVE, with user-friendly bronze valve manifolds and separate economizer and pressure building regulators coming standard on our models. All of this means fewer plumbing joints and lower maintenance costs for you.

Now available in the 525, 900, 1500 and 3000 gallon (1987, 3407, 5678 and 11,356 liter) models, these new VS-DSS Models feature an industrystandard thermal performance. The modular plumbing system has been selectively optimized to meet the flow requirements of a complete range of liquid or gas applications. While including a comprehensive set of plumbing features, each circuit has been carefully designed to match the demands placed on these vessel sizes. To improve your flexibility at time of purchase, dual safety-relief devices are now standard, along with tank mounted vaporizers on the 525, 900 and 1500 gallon sizes. Interchangeable gauge systems allowing your choice of analog or digital-telemetry capable gauge systems with flexible stainless steel interconnecting lines are also available. These VS-DSS Models also can be configured to meet your particular needs, which results in a complete design that makes the VS-DSS Series the ideal choice for your small bulk applications.



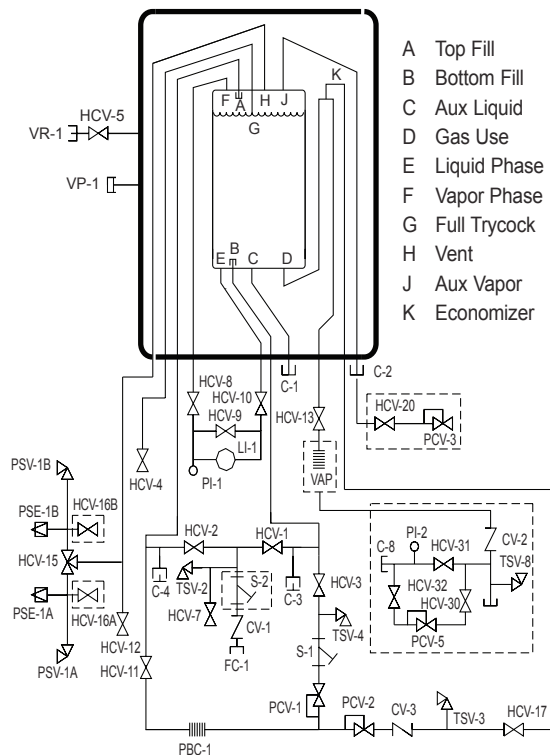
*Innovation. Experience. Performance.™*

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Model	VS-525-DSS	VS-900-DSS	VS-1500-DSS	VS-3000-DSS	VS-6000-DSS
Gross Capacity (gal/Liters)	540/2,044	929/3,517	1,585/5,999	3,158/11,995	6,075/22,997
Nominal Capacity (gal/Liters)	491/1,859	845/3,197	1,509/5,714	3,037/11,495	5,841/22,112
Working Pressure (psig/bar)	250/17.2	250/17.2	250/17.2	250/17.2	250/17.2
Diameter (in/mm)	66/1,676	66/1,676	66/1,676	86/2,184	86/2,184
Height (in/mm)	102/2,591	134/3,404	188/4,763	228/5,791	382/9,703
Weight* (lbs/kg)	4,000/1,814	5,100/2,313	6,900/3,130	13,500/6,123	24,500/11,113
NER (% /day in O <sub>2</sub> )	.55	.45	.35	.25	.15
Flow Capability (SCFH/nm <sup>3</sup> /Hr)	9,000/237	9,000/237	9,000/237	18,000/473	18,000/473

\* Weights are for ASME designs (NER) = Nominal Evaporation Rate  
Flow capability rating down to a 20% contents level with a maximum fall off in tank operating pressure of 15psi (1 bar).



Dashed lines indicate optional equipment.

## Nomenclature

C-1	Connection, Aux Liquid	PSV-1B	Pressure Safety Valve, Inr Ves
C-2	Connection, Aux Vapor	S-1	Strainer, Pressure Building
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 Inlet		
HCV-13	Valve, Vaporizer Inlet		
HCV-15	Safety Relief Selector Valve		
HCV-17	Valve, Economizer		
LI-1	Level Indicator, Inner Vessel		
PBC-1	Pressure Building Coil, Inr Ves		
PCV-1	Pressure Control Valve, Inr Ves		
PCV-2	Pressure Control Valve, Econo		
PCV-3	Pressure Control Valve, House Line		
PCV-5	Pressure Control Valve, House Line		
PI-1	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		
S-1	Strainer, Pressure Building		
TSV-2	Thermal Safety Valve, Fill		
TSV-3	Thermal Safety Valve, Economizer		
TSV-4	Thermal Safety Valve, PB Circuit		
TSV-8	Thermal Safety Valve, House Line		
VAP	Vaporizer, Product Withdrawal		

**NOTE: Optional valves (not shown)**

- HCV-18 Valve, Liquid W/drawal (from C-1)
- HCV-19 Valve, Vapor Return (from C-2)
- HCV-21 Valve, Sec Aux Liquid (fom C-3)
- HCV-22 Valve, Sec Aux Vapor (from C-4)

\* Dashed lines represent optional components

- C-8 Connection, Customer House Line
- CV-2 Check Valve, House Line
- HCV-16A Valve, Relief Line Purge
- HCV-16B Valve, Relief Line Purge
- HCV-20 Valve, Economizer Vent
- HCV-30 Valve, Inlet House Line
- HCV-31 Valve, Bypass House Line
- HCV-32 Valve, Outlet House Line
- PCV-3 Pressure Control Valve, Econo Vent
- PCV-5 Pressure Control Valve, House Line
- PI-2 Pressure Indicator, House Line
- S-2 Strainer, Fill
- TSV-8 Thermal Safety Valve, House Line
- VAP Vaporizer, Product Withdrawal