Chart's VS-DSS (Distributor Storage System) Series of vertical bulk storage stations are engineered for superior performance, durability and value. Equipped with our proprietary Composite Super Insulation™ (a light-weight system offering better thermal performance than Perlite), the VS-DSS series provides reduced product losses and a slower rate of pressure rise during periods of non-use. Backing up this performance is a competitive 2-year vacuum warranty.

Available in the 525, 900, 1500, 3000, and 6000 gallon (2000, 3400, 5700, 11,400, and 23,000 liter) models, the VS-DSS series features the industry standard thermal performance. The modular plumbing system has been selectively optimized to meet the flow requirements of a complete range of liquid or gas applications. With a comprehensive set of plumbing features, each circuit has been carefully designed to match the demands placed on these vessel sizes. Dual safety relief devices are standard, and tank mounted vaporizers are optional on the 525, 900, and 1500 gallon sizes.

**PRODUCT ADVANTAGES**

- Sizes, pressures and configurations to meet most applications
- Backed by our standard 2-year vacuum warranty
- Leg design provides better access to anchor bolts for quicker installation
- Lower tare weight reduces freight and pad costs
- Long-life urethane paint system
- Plumbing built in accordance with ASME B31.3 code and leak tested at 1.1 times the MAWP
- Inner vessel designed and built to ASME Section VIII Division 1 code
**VS-DSS SERIES**

**VERTICAL DISTRIBUTOR STORAGE SYSTEM**

<table>
<thead>
<tr>
<th>Model</th>
<th>Gross Capacity</th>
<th>Net Capacity</th>
<th>MAWP*</th>
<th>Flow Capacity**</th>
<th>Diameter</th>
<th>Height</th>
<th>Weight***</th>
<th>NER % /day O₂ / Ar</th>
<th>NER % /day N₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS 525SC-DSS</td>
<td>570 Gal, 2,158 Ltr</td>
<td>510 Gal, 1,931 Ltr</td>
<td>250 psig, 17.2 bar</td>
<td>9,000 SCFH, 237 Nm³/hr</td>
<td>66 in, 1,676 mm</td>
<td>105 in, 2,667 mm</td>
<td>3,300 lbs, 1,500 Kg</td>
<td>0.55</td>
<td>0.89</td>
</tr>
<tr>
<td>VS 900SC-DSS</td>
<td>940 Gal, 3,558 Ltr</td>
<td>850 Gal, 3,218 Ltr</td>
<td>250 psig, 17.2 bar</td>
<td>9,000 SCFH, 237 Nm³/hr</td>
<td>66 in, 1,676 mm</td>
<td>136 in, 3,404 mm</td>
<td>4,400 lbs, 2,000 Kg</td>
<td>0.45</td>
<td>0.73</td>
</tr>
<tr>
<td>VS 1500SC-DSS</td>
<td>1,640 Gal, 6,208 Ltr</td>
<td>1,580 Gal, 5,981 Ltr</td>
<td>250 psig, 17.2 bar</td>
<td>9,000 SCFH, 237 Nm³/hr</td>
<td>66 in, 1,676 mm</td>
<td>196 in, 4,978 mm</td>
<td>6,200 lbs, 2,818 Kg</td>
<td>0.35</td>
<td>0.56</td>
</tr>
<tr>
<td>VS 3000SC-DSS</td>
<td>3,150 Gal, 11,924 Ltr</td>
<td>3,030 Gal, 11,470 Ltr</td>
<td>250 psig, 17.2 bar</td>
<td>18,000 SCFH, 473 Nm³/hr</td>
<td>86 in, 2,184 mm</td>
<td>228 in, 5,791 mm</td>
<td>12,800 lbs, 5,806 Kg</td>
<td>0.25</td>
<td>0.40</td>
</tr>
<tr>
<td>VS 6000SC-DSS</td>
<td>6,010 Gal, 22,750 Ltr</td>
<td>5,770 Gal, 21,842 Ltr</td>
<td>250 psig, 17.2 bar</td>
<td>18,000 SCFH, 473 Nm³/hr</td>
<td>86 in, 2,184 mm</td>
<td>383 in, 9,728 mm</td>
<td>21,500 lbs, 9,752 Kg</td>
<td>0.15</td>
<td>0.24</td>
</tr>
</tbody>
</table>

* MAWP - Maximum Allowable Working Pressure  ** Flow capacity rating down to a 20% contents level with a maximum fall off in tank operating pressure of 15 psi (1 bar)  *** Weights are for ASME designs  (NER) = Normal Evaporation Rate

**Nomenclature**

- A: Top Fill
- B: Bottom Fill
- C: Aux Liquid
- D: Gas Use
- E: Liquid Phase
- F: Vapor Phase
- G: Full Trycock
- H: Vent
- J: Aux Vapor
- K: Economizer
- VP-1: Vacuum Port
- VR-1: Vacuum Readout, Outer Vessel
- S-1: Strainer, Pressure Building
- TSV-2: Thermal Safety Valve, Fill
- TSV-3: Thermal Safety Valve, Economizer
- PSV-1B: Pressure Safety Valve, Inner Vessel
- PCV-1: Pressure Control Valve, Inner Vessel
- PCV-3: Pressure Control Valve, Inner Vessel
- PI-1: Pressure Indicator, Inner Vessel
- HCV-16A: Valve, Relief Line Purge
- HCV-16B: Valve, Relief Line Purge
- HCV-17: Valve, Economizer
- LI-1: Level Indicator, Inner 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, Vaporizer Inlet
- HCV-15: Safety Relief Selector Valve
- HCV-17: Valve, Economizer
- LI-1: Level Indicator, Inner Vessel
- PBC-1: Pressure Building Coil, Inner Vessel
- PCV-1: Pressure Control Valve, Inner Vessel
- PCV-3: Pressure Control Valve, Inner Vessel
- PI-1: Pressure Indicator, Inner Vessel
- PSE-1A: Pressure Safety Element, Inner Vessel
- PSE-1B: Pressure Safety Element, Inner Vessel
- PSV-1A: Pressure Safety Valve, Inner Vessel
- PSV-1B: Pressure Safety Valve, Inner Vessel
- S-1: Strainer, Pressure Building
- TSV-8: Thermal Safety Valve, Houseline
- VAP: Vaporizer, Product Withdrawal
- VS-DSS SERIES
- VERTICAL DISTRIBUTOR STORAGE SYSTEM

**Model Details**

- **Model**: VS-DSS Series
- **Gross Capacity**: 2,158 to 22,750 gallons
- **Net Capacity**: 1,931 to 21,842 liters
- **MAWP**: 17.2 to 31.4 pounds per square inch (psig)
- **Flow Capacity**: 237 to 473 cubic feet per hour (SCFH)
- **Diameter**: 2,667 to 9,728 millimeters
- **Height**: 2,667 to 9,728 millimeters
- **Weight**: 1,500 to 9,752 kilograms
- **NER % /day O₂ / Ar**: 0.55 to 0.89
- **NER % /day N₂**: 0.15 to 0.24

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

- HCV-18: Valve, Liquid Withdrawal (from C-1)
- HCV-19: Valve, Vapor Return (from C-2)
- HCV-21: Valve, Secondary Aux Liquid
- HCV-22: Valve, Secondary Aux Vapor

**Dashed lines** indicate optional equipment.

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