

SIPHON 100®

FILL PLANT BULK STORAGE SYSTEM — 100% OF THE PRODUCT 100% OF THE TIME

Chart has engineered the Siphon 100® Bulk Storage Tank to provide an economical, reliable and high-performance storage system for pump filling high-pressure cylinders, liquid cylinders and transports. Current cryogenic tanks have worked for years, but increased efficiencies are now available with the Siphon 100 system allowing you to utilize 100% of the liquid contents.

The Siphon 100 system combines two revolutionary technologies in cryogenic bulk tanks. Its improved "thermal-siphoning" system reduces and efficiently reprocesses the heat from pumping. Additionally, this system's Composite Super Insulation™ is 30% to 70% more efficient than Perlite in reducing the effects of heat transfer from the atmosphere.

PRODUCT ADVANTAGES

- Thermal-siphon design manages heat from pump cool down, keeping storage tank pressure down
- Simple and reliable automatic pump start-up in three minutes
- Pump priming at tank pressure of 10 psi (0.69 bar) or less without the necessity for pressure building*
- Vacuum insulated pod provides colder liquid to pump reducing cavitation
- Extended legs add head pressure to pump without increasing liquid inventory for improved pump performance
- Reduce liquid cylinder & Orca™ MicroBulk Delivery System filling losses
- Longer life of high-wear pump parts
- Capability to operate two pumps at once (liquid and HP pump)
- Adapters available to match all standard pumps
- Inner vessel designed and built to ASME Section VIII Division 1 code

* Pump filling only. Add pressure builder if liquid filling large quantities from Siphon 100 tank.



Cooler By Design.®

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| Model | Gross Capacity | | Net Capacity | | MAWP* | | Diamter | | Height | | Weight** | | NER %/day | NER %/day |
|------------|----------------|--------|--------------|--------|--------|-------|---------|-------|--------|--------|----------|--------|-----------------------|-------------------|
| | Gal | Liters | Gal | Liters | (psig) | (bar) | in | mm | in | mm | (lbs) | (kg) | in O ₂ /AR | in N ₂ |
| VS 1500SC | 1,640 | 6,208 | 1,580 | 5,981 | 250 | 17.2 | 66 | 1,676 | 240 | 6,096 | 6,200 | 2,818 | .35 | .56 |
| VS 3000SC | 3,150 | 11,924 | 3,030 | 11,470 | 175 | 12.1 | 86 | 2,184 | 271 | 6,883 | 12,800 | 5,810 | .25 | .40 |
| VS 6000SC | 6,010 | 22,750 | 5,770 | 21,842 | 175 | 12.1 | 86 | 2,184 | 425 | 10,795 | 21,300 | 9,660 | .15 | .24 |
| VS-9000SC | 9,354 | 35,410 | 8,990 | 34,031 | 175 | 12.1 | 114 | 2,896 | 398 | 10,109 | 32,100 | 14,560 | .10 | .16 |
| VS-11000SC | 11,410 | 43,192 | 10,960 | 41,438 | 175 | 12.1 | 114 | 2,896 | 457 | 11,608 | 37,900 | 17,191 | .10 | .16 |
| VS-13000SC | 13,470 | 50,989 | 13,060 | 49,437 | 175 | 12.1 | 114 | 2,896 | 516 | 13,106 | 44,300 | 20,094 | .10 | .16 |
| VS-15000SC | 15,520 | 58,750 | 15,060 | 57,008 | 175 | 12.1 | 114 | 2,896 | 575 | 14,605 | 50,600 | 22,952 | .10 | .16 |

| NOMENCLATURE | |
|--------------|---------------|
| A | TOP FILL |
| B | BOTTOM FILL |
| C | LIQUID PHASE |
| D | VAPOR PHASE |
| E | FULL TRYCOCK |
| F | VENT |
| G | AUX VAPOR |
| H | SIPHON RETURN |
| J | SIPHON FEED |

| NOMENCLATURE | | | |
|--------------|----------------------------------|---------|---|
| Tag | Description | Tag | Description |
| C-1 | CONNECTION, AUX LIQUID | PSE-1A | PRESSURE SAFETY ELEMENT, INR VESSEL |
| C-2 | CONNECTION, AUX VAPOR | PSE-1B | PRESSURE SAFETY ELEMENT, INR VESSEL |
| C-3 | CONNECTION, SECONDARY AUX LIQUID | PSV-1A | PRESSURE SAFETY VALVE, INR VESSEL |
| C-4 | CONNECTION, SECONDARY AUX VAPOR | PSV-1B | PRESSURE SAFETY VALVE, INR VESSEL |
| CV-1 | CHECK VALVE, FILL LINE | S-2 | STRAINER, FILL LINE |
| FC-1 | CONNECTION FILL | TSV-2 | THERMAL SAFETY VALVE, FILL |
| HCV-1 | VALVE, BOTTOM FILL | TSV-6 | THERMAL SAFETY VALVE, FILL |
| HCV-2 | VALVE, TOP FILL | VP-1 | VACUUM PORT |
| HCV-3 | VALVE, PB INLET | VR-1 | VACUUM READOUT, OUTER VESSEL |
| HCV-4 | VALVE, FULL TRYCOCK | | |
| HCV-5 | VALVE, VACUUM GAUGE TUBE | | |
| HCV-7 | VALVE, FILL LINE DRAIN | | NOTE: OPTIONAL VALVES (DASHED LINES) |
| HCV-8 | VALVE, LI-1 VAPOR PHASE | HCV-3 | VALVE, PB INLET |
| HCV-9 | VALVE, LI-1 EQUALIZATION | HCV-11 | VALVE, PB OUTLET |
| HCV-10 | VALVE, LI-1 LIQUID PHASE | HCV-16A | VALVE, RELIEF LINE PURGE |
| HCV-12 | VALVE, VAPOR VENT | HCV-16B | VALVE, RELIEF LINE PURGE |
| HCV-15 | VALVE, SAFETY RELIEF SELECTOR | PBC-1 | PRESSURE BUILDING COIL, INV VESSEL |
| HVC-19 | VALVE, AUX VAPOR | PCV-1 | PRESSURE CONTROL VALVE, INE VESSEL |
| HCV-25A | VALVE, VS-SIPHON RETURN | PCV-3 | PRESSURE CONTROL VALVE, BACK PRESSURE |
| HCV-25B | VALVE, VS-SIPHON RETURN | S-1 | STRAINER, PRESSURE BUILDER |
| HCV-26A | VALVE, VS-SIPHON FEED | TSV-3 | THERMAL SAFETY VALVE, PB CIRCUIT |
| HCV-26B | VALVE, VS-SIPHON FEED | TSV-4 | THERMAL SAFETY VALVE, PB CIRCUIT |
| LI-1 | LEVEL INDICATOR, INNER VESSEL | HCV-21 | VALVE, SEC AUX LIQUID (INSTALLED AT C-3) |
| PI-1 | PRESSURE INDICATOR, INR VESSEL | HCV-22 | VALVE, SEC AUX VAPOR (INSTALLED AT C-4) |

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