



# 57V SERIES

## Cryogenic Headers and Hoses

The CONCOA 57V cryogenic headers and hoses are designed to work with the CONCOA 577 CryoWiz cryogenic switchover system to provide a complete cryogenic solution for continuous liquid nitrogen supply. The 57V cryogenic headers are constructed from vacuum-insulated rigid pipe. Multi-layer insulation and getter materials are employed to maintain a high thermal efficiency for low heat leak. The annular space is evacuated at a pressure of  $1 \times 10^{-6}$  mm Hg under 250°F (121°C) heat and is tested with a helium mass spectrometer with  $1 \times 10^{-9}$  cc/sec sensitivity. The headers come as simplex for one side or duplex for both sides in either standard 18" (458mm) or compact 10" (254mm) on center spacing. Custom designs and custom downstream vacuum-jacketed pipelines are also available. The 57V series uses vacuum-jacketed flexible hoses with CGA 295 swivel end connections for easy installation and leak tight seals.



Cross section of vacuum-jacketed hose shown

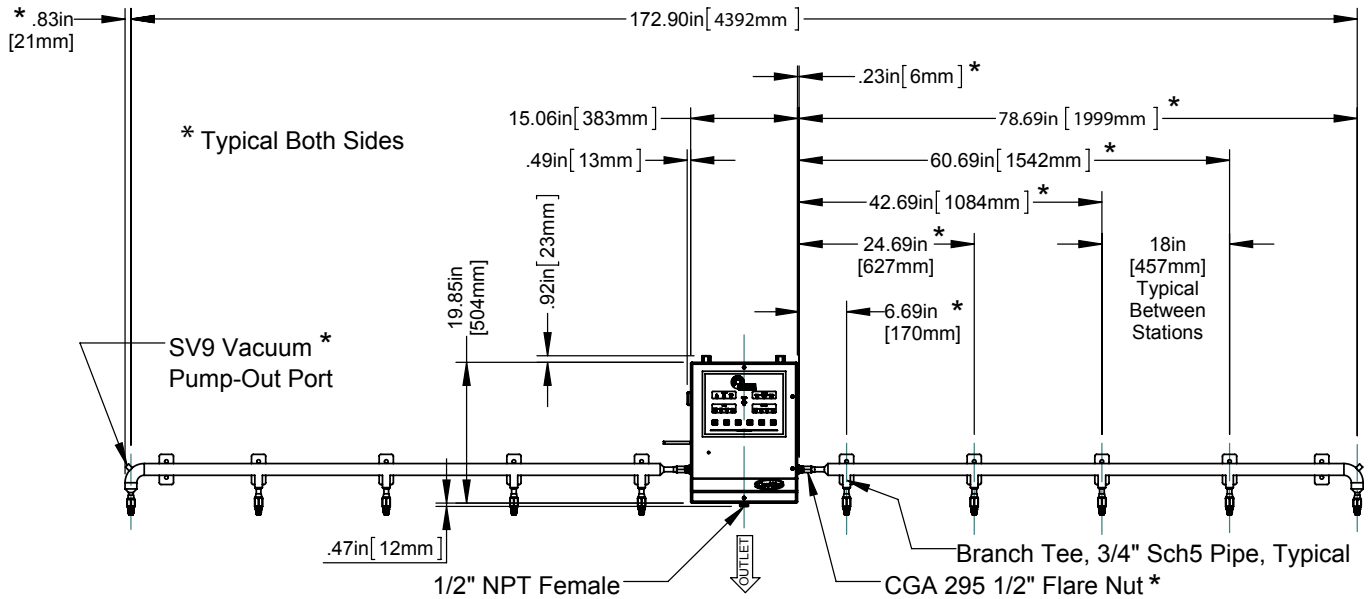
| Features   | Materials  | Specifications  |
|--|--|---|
| <b>1x10<sup>-6</sup>mm Hg Annular Vacuum</b><br>Low heat transfer              | <b>Header</b><br><b>Outer Pipe</b><br>2" (51mm) 304 stainless steel<br><br><b>Inner Tubing</b><br>1/2" (13mm)<br>.035 wall<br>304 stainless steel          | <b>Maximum Pressure (Header)</b><br>150 PSIG (10 BAR)<br><br><b>Maximum Pressure (Hoses)</b><br>115 PSIG (7.9 BAR) standard |
| <b>Multi-layer Insulation</b><br>Prevents radiant and convective heat transfer | <b>Fittings</b><br>316L stainless steel barstock   | <b>Heat Leak</b><br>0.89 BTU per hour per foot (3.1 J per hour per mm)  |
| <b>1x10<sup>-9</sup> scc/sec Helium Leak Tested</b><br>Guaranteed performance  | <b>Hose</b><br><b>Outer Braid</b><br>304 stainless steel<br><br><b>Inner Braid</b><br>316L stainless steel<br><br><b>Inner Core</b><br>304 stainless steel |   |
| <b>Rigid 304 Stainless Steel Pipe</b><br>Rugged construction                   |  |   |
| <b>Active Getters</b><br>Extended service life                                 |  |   |
| <b>SV-9 Pump Out Port</b><br>Continued serviceability                          |  |   |

# Cryogenic Systems



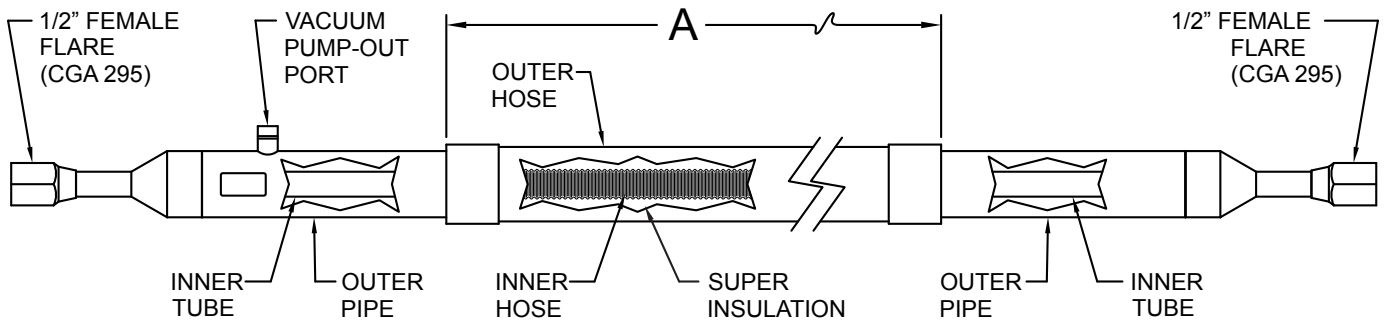
## Installation Dimensions

### CryoWiz with 57V Header System



DISTRIBUTION SYSTEMS

### 57V Cryogenic Hose



## Ordering Information

| 57V        | A   | B             | C  | D                 |
|------------|---|---------------|--|-------------------|
| Series 57V | Orientation   | Stations      | Hose Style                               | Outlet Connection |
|            | 1: Standard Left side 18" (457 mm) spacing            | 2: 2 Stations | 1: No hose (1/2" FPT port on header)     | 1: CGA 295 female |
|            | 2: Standard Duplex Left and Right 18" (457mm) spacing | 3: 3 Stations | 2: No hose (CGA 295 male port on header) |                   |
|            | 3: Compact Left side 10" (254 mm) spacing             | 4: 4 Stations | 3: 36" (900mm) vacuum jacket             |                   |
|            | 4: Compact Duplex Left and Right 10" (254mm) spacing  | 5: 5 Stations | 4: 48" (1200mm) vacuum jacket            |                   |
|            | 5: Standard Right side 18" (457 mm) spacing           |               | 5: 72" (1800mm) vacuum jacket            |                   |
|            | 6: Compact Right side 10" (254 mm) spacing            |               |  |                   |

## Options and Hoses

| Option                | Order Number | Description  |
|-----------------------|--------------|--|
| Vent Manifold Kit     | 52L series   | Wall-mounted manifold designed to equalize liquid cylinder head pressure |
| Vacuum-Jacketed Hoses | 551 2000     | 36" (900mm) Vacuum-jacketed cryogenic hose                               |
|                       | 551 2001     | 48" (1200mm) Vacuum-jacketed cryogenic hose                              |
|                       | 551 2002     | 75" (1900mm) Vacuum-jacketed cryogenic hose                              |