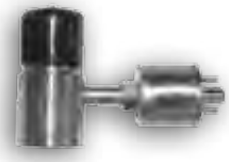
Vacuum/Evacuation Components

Cryocomp offers cryogenic vacuum components for applications where a user requires a vacuum entry which is simple, reliable and tamper resistant. Components available include seal-off valves, valve operators and pressure-relieving valves.

V1000 Series Simple Seal-off Valves & Operators

V1000 Seal-off Valves



V1000 Seal-off Valve with Side Port

V1000 Valve Operators

The V1000 series is simple, inexpensive and reliable. Valve sizes range from 1/4" through 3" with matching operators. The V1000 vacuum seal-off valve provides an extra dimension to the vacuum system designer because it is compact, vacuum tight, has excellent capacitance and offers positive pressure relief. The basic weld on installation and simple operation will reduce installation and evacuation time, improving vacuum reliability and reducing product cost. An optional integrated port on the side of the 1/2" and 1" standard seal-off valves allows installation of vacuum sensor, eliminating the need for drilling and welding on the system. Designed for use with vacuum-insulated piping systems, manifolds, flex lines, dewars, tanks, chambers, furnaces and any fabrication that requires a vacuum jacket.

V2000 Series Seal-off Valves & Operators for Large Systems

V2000 Seal-off Valve

V2000 Valve Operator

The V2000 vacuum valve series is designed for evacuation of a large 2.0" vacuum system such as cryogenic tanks, dewars, vacuum-insulated piping and MRI magnet vacuum containers. This unique seal-off valve has a high conductance, compact design that is vacuum-tight during normal evacuation with an spring-loaded poppet for relief. The operator connects to a vacuum pump and is specially engineered to engage the poppet on the seal-off valve.

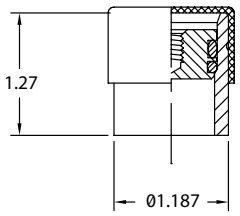
V3000 Pressure Relief Disc

The V3241-10-(set) is a positive pressure relieving valve that is cryogenic-compatible, spring-loaded, and vacuum-tight. The poppet will lift if the pressure in a vacuum enclosure reaches the “pre set” relieving pressure. It seats against a Viton o-ring seal. The valve body is designed with a flange connection allowing for installation into any standard ISO flange.

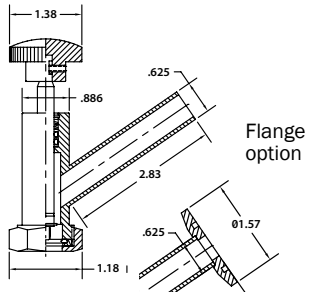
Technical Data & Part Numbering

V1000 Series

- SERVICE: High Vacuum.
- PRESSURE: 1 X 10^{-8} TORR Vacuum up to 15 PSIG Positive.
- TEMPERATURE: +150° F TO -60° F.
- LEAK RATE: 1 X 10^{-8} STD CC GHe/SEC. (Seal Permeability).
- CONNECTION: Weld junction is standard. Thread and flange junctions available on request.



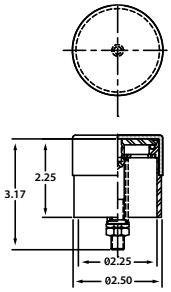
V1085-1



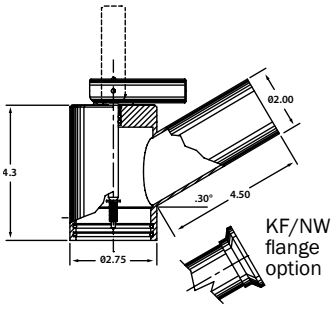
*V1045-2, V1045-3-XX**

V2000 Series

- Vacuum Leak Tested @ 1 X 10^{-5} TORR, Leak Rate Less Than 1 X 10^{-9} SCC GHe/SEC.
- Relief Pressure 2–6 PSIG.
- TC Vacuum Tube Port Available — P/N V2165-11.
- CONNECTION: Standard weld jacket. Threaded and KF/NW flange connections on request.



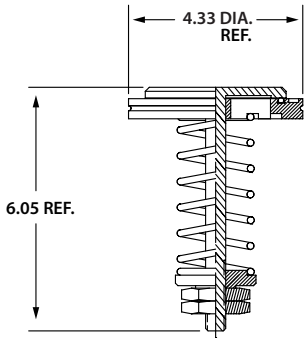
V2165-10



*V2165-20, V2165-30-XX**

V3000 Series

- SERVICE: High Vacuum.
- PRESSURE: 1 X 10^{-8} TORR vacuum to 10 PSIG positive.
- TEMPERATURE: +150°F to -60°F.
- LEAK RATE: 1 X 10^{-8} SCC GHe/SEC
- CONNECTION: Standard ISO flange face.
- CONNECTION: Standard weld jacket. Thread and ISO flange connections available on request.

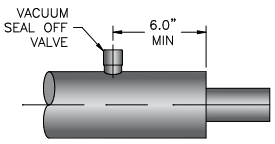


V3241-10-(set)

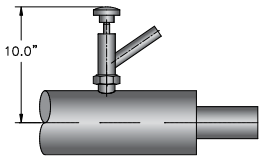
Installation Notes

Seal-off valves must be installed no closer than 6" to 8" from a jacket termination or other cold location. (FIG. 1) Excessively low temperatures will cause the O-ring seals to shrink and allow leakage into the vacuum space. It is good practice to install the vacuum seal-off valve near the center of the vacuum mass.

Orientation on the pipe is not critical. To assure future servicing of the vacuum, the seal-off valve should be in a location that will allow a valve operator to be installed after the pipe is in service. (FIG. 2)



(FIG.1)



(FIG.2)

Seal-off Valve Part Numbering System

Select the features you require and build the part number using the option codes provided. See examples (right).

V 0 0 0 0 - 0 - 0

Product Number Example:
V1085-1 = Series 1000, 1.0", Stainless, Vacuum Seal-off Valve

DESIGN SERIES
- V1000 Series = V1
- V2000 Series = V2
- V3000 Series Relief Disc = V3

SIZE (1/8")
- 1/4" (2/8) = 02
- 1/2" (4/8) = 04
- 3/4" (6/8) = 06
- 1" (8/8) = 08
- 2" (16/8) = 16
- 3" (24/8) = 24

BODY MATERIAL
- Aluminum = 1†
- Stainless Steel = 5

†Limited Availability

SEAL-OFF VALVE OR OPERATOR
- Seal-Off Valve = 1
- Valve Operator with Tube End = 2
- Valve Operator with KF/NW = 3 (add size as Special Detail)

SPECIAL DETAIL
- No Side Port = 0
- 1/8" FPT/TC Port = 5
- Non-Relieving/Snap Ring Groove or Plug Arrestor Accessory = 3
- *KF/NW Size = 10, 16, 25, 40, 50 or 80