



# CVI Valve Line

- Exceeds the industry's highest standards for reliability and performance
- Available in the most standard models with the shortest lead times in the industry
- Exceptional quality – every CVI valve is individually tested prior to shipment





The CVI Cryogenic Valve delivers precise performance, long life, and exceptional reliability ensuring your process or facility's operation and safety, while minimizing downtime.

For over 50 years, CVI Cryogenic Valves have provided unparalleled service and reliability for customers throughout the cryogenic industry. With higher Cv values than standard valves and minimum wall thicknesses for reduced heat leak and cool down times, the bubble tight design of the CVI valve is perfectly suited for the most demanding applications.

#### **VERSATILE PERFORMANCE**

The CVI Cryogenic Valve is available in manual and actuated versions. Check valves, extended length helium valves, tube size valves, and GN2 vent valves are also available.

Common options include non-insulated or vacuum jacketed super-insulated valves in pipe sizes from 1/2" to 4" as well as quick-open, linear, and equal percentage valve trim styles.

Acme Cryogenics can customize the ends of any valve to add extended stubs or pipe flanges if requested and additional options create hundreds of possible configurations. Acme's skilled team of designers and technicians coupled with our extensive inventory ensures the industry's fastest delivery of standard and custom products.

#### **PROVEN PERFORMANCE**

The investment cast CVI Valves has been proven over decades of reliable use in the most challenging applications. It remains the preferred choice for demanding cryogenic applications including vacuum insulated pipe installations, cryogenic trailers and tanks, cold boxes, as well as pumping systems.

CVI Valves are designed for liquid nitrogen, argon, oxygen, hydrogen, helium and natural gas service.

Each CVI Valve is pressure tested, helium leak checked and must pass an across the seat leak test before leaving our Allentown, PA facility.



## V-SERIES VALVES

The CVI V-Series valves incorporate a close tolerance design with extremely low heat leak characteristics to produce a valve that is both incredibly efficient and versatile. Using a very small amount of ambient heat, the close fitting internal parts produce a vapor barrier that prevents liquid from being able to reach the valve bonnet allowing the V-Series to be mounted in any orientation, even upside-down, providing you maximum flexibility in design.



Model V-1070 shown with  
Optional Limit Switches

### Model V-1060

The manually operated V-1060 is the perfect choice wherever a manual valve is required. The large, ergonomic hand wheel makes the valve easy to open and close. The quick open flow plug allows the valve to reach near-full flow by the time the valve is half open.



### Model V-1070

When remote on/off control is required, exchanging a few components allows the V-1060 to be mounted with a pneumatic actuator. Our piston style actuators, available in normally open or normally closed configurations, require approximately 80 PSI to fully open or close. If only low pressure air is available, diaphragm actuators, requiring 30 PSI, can be supplied. Standard actuator options include manual hand wheel overrides and limit switches.



### Model V-1080

When flow control is required, the V-1080 valve with accurate throttling capability is supplied. The digital positioner modulates the valve based on a 4-20 mA input signal. Either a linear or equal percent flow control strategy can be employed.



### Model V-1090

The same specially-machined flow-control body used in the V-1080 can be supplied with a threaded stem/bonnet assembly and handwheel for manual throttling operation.



# *Leading the Way with the Most Trusted Valves in North America*



## **C-SERIES VALVES**

When mounting a valve with the stem in a near-vertical orientation, the C-series valves provide a more cost effective alternative to the close tolerance design of the V-series valves. Available in ½" through 2" pipe sizes and manufactured from the same pressure boundary components, the C-1060/1070/1080/1090 valves provide all of the other features and accessories available in the V-series valves but without the close tolerance internal components

---

## **Q-SERIES VALVES**

Designed to fit in tight spaces, the Q-Series ½" valve is available in manual (Q-1060) and Actuated (Q-1070) versions and can be supplied in a Y-pattern or T-pattern (straight) valve body. Supplied with the vacuum jacket installed, the Q-series valves offer the option of a threaded purge port in the lower flange. The Q-series valves must be mounted within a 45 degree vertical orientation and have a maximum working pressure of 350 PSIG.



## SPECIALIZED DESIGNS

In addition to our standard designs, CVI Valves are available for specialized applications including lift check, extended length helium valves and GN2 vent valves.

### Lift Check Valves

Based on many of the same major components as our popular line of CVI manual and actuated cryogenic valves, the CVI Cryogenic Check Valve is available in 1/2", 3/4", 1", 1 1/2", 2", 3" and 4" pipe sizes.

### Tube Size Valves

The V-1100, V-1185 and V-1300 Series of tube size valves are perfectly suited for smaller applications. The 1/4", 3/8" and 1/2" valves are for on/off applications. Manual and pneumatic versions are available with or without a vacuum jacket in T-pattern and angle pattern versions.

### Helium Length Valves

The V-2060/2070/2080 and 2090 helium length valves are designed for processes using liquid helium or cold dense helium gas. 1/2", 3/4", 1", 1 1/2", and 2" pipe sizes are available.



Lift Check Valve



Tube Size Valve



Helium Length Valve

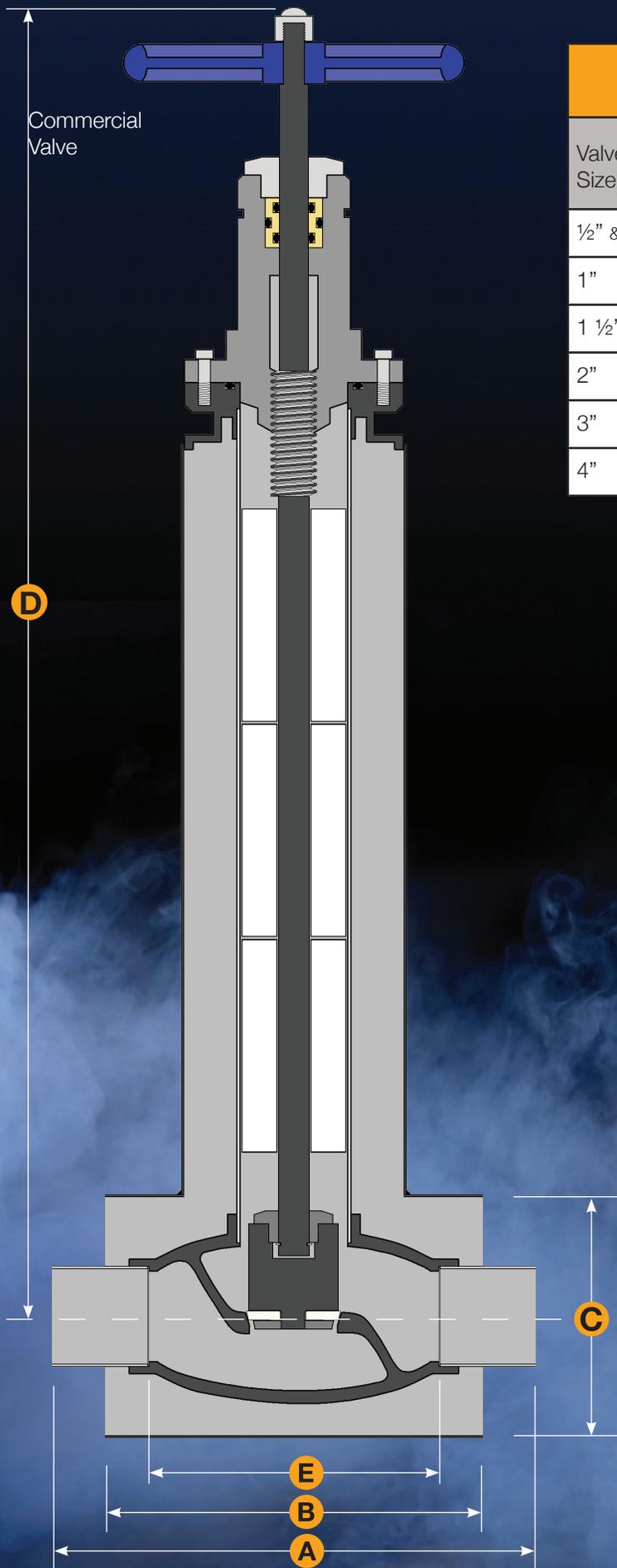
## Vacuum Seal-Off Valves

Vacuum seal-off valves, part of the complete line of CVI Valves, have been designed to fulfill system design requirements for a safe, reliable method of vacuum closure.

Available in two sizes - 1/2" and 1" - the V-1044 and V-1046 respectively, serve as pump-out and isolation valves, as well as safety release devices. They offer added reliability when used with vacuum vessels, vacuum insulated cryogenic storage and transport containers, and vacuum insulated transfer lines where permanent or semi-permanent vacuum is required.

All valves offer the option of a 1/8" FNPT connection in the side of the body to allow the connection of an isolation valve and the connection of a thermocouple tube.





### PERFORMANCE CHARACTERISTICS VACUUM JACKETED VALVE

| Valve Size  | Flow Coefficient (Cv) |             | Heat Leak to 20K (BTU/HR) | Cool Down Weight (LBS) |
|-------------|-----------------------|-------------|---------------------------|------------------------|
|             | V-1060/1070           | V-1080/1090 |                           |                        |
| 1/2" & 3/4" | 6                     | 5.6         | 15.7                      | 3.25                   |
| 1"          | 14                    | 9           | 15.9                      | 3.75                   |
| 1 1/2"      | 34                    | 24.5        | 21.2                      | 7.5                    |
| 2"          | 60                    | 37.4        | 27.6                      | 11.0                   |
| 3"          | 139                   | 105         | 69.8                      | 32.5                   |
| 4"          | 250                   | 150         | 86.2                      | 46.5                   |

### MODEL CVI DIMENSION TABLE

| Size        | Pipe Ends A | B      | C      | (Open) D | E     |
|-------------|-------------|--------|--------|----------|-------|
| 1/2" & 3/4" | 8           | 6.75"  | 2.38"  | 18.2"    | 3.25" |
| 1"          | 8.75        | 7.5"   | 2.88"  | 18.2"    | 3.75" |
| 1 1/2"      | 10.25       | 9"     | 3.5"   | 21.1"    | 5"    |
| 2"          | 11.75       | 10.5"  | 4.5"   | 21.1"    | 6"    |
| 3"          | 15.5        | 13.25" | 5.563" | 25.25"   | NA    |
| 4"          | 15.5        | 13.25" | 6.625" | 25.25"   | NA    |

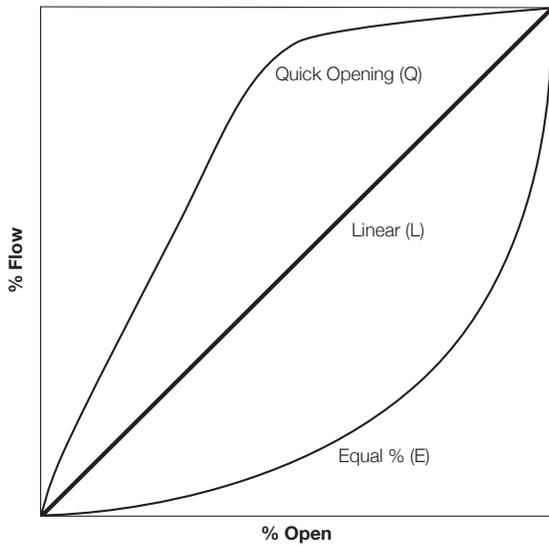
### WORKING PRESSURE & TEMPERATURE

|             |                |   |
|-------------|----------------|---|
| Temperature | -425° to 150°F |   |
| Pressure    | V & C Series   | 585 PSI MAWP Jacketed<br>600 PSI Non-Jacketed |
|             | Q-Series       | 350 PSI Jacketed                              |

### Canadian Registration Number

CVI V & C Series Valves are designed to ASME B16.34 and are CSA B51 compliant. CRN numbers available throughout Canada Alberta CRN Pending.

## REPRESENTATIVE FLOW CHARACTERISTICS



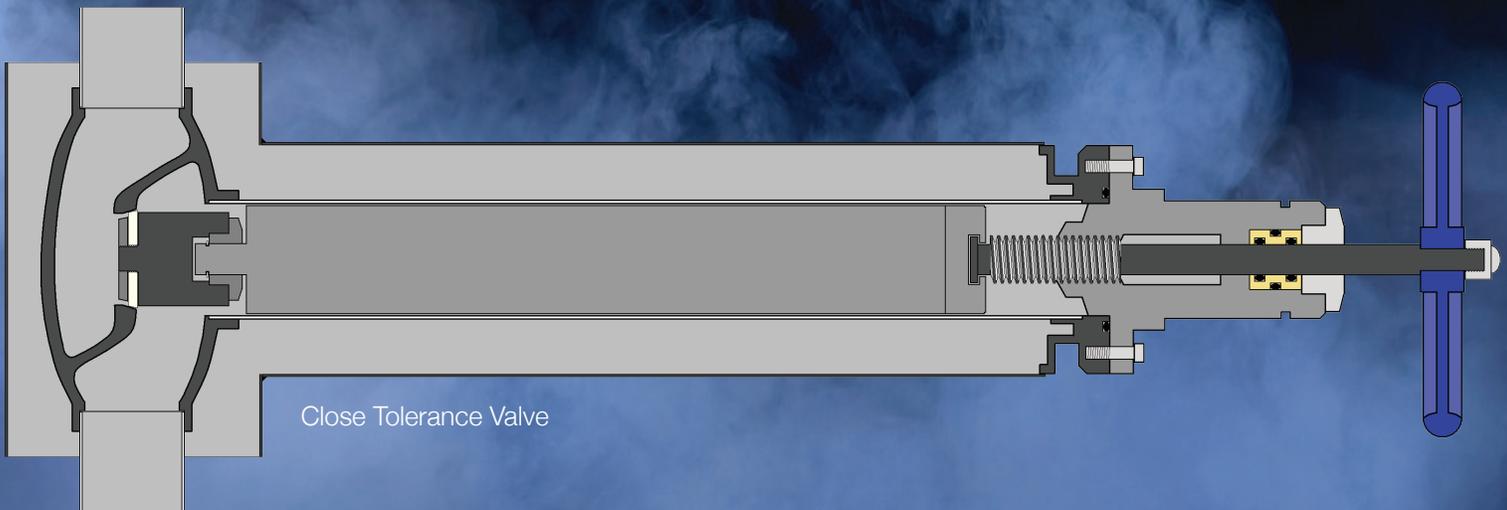
## OPTIONS

|                                 |  |
|---------------------------------|--|
| Valve Trims                     | Quick Opening (Q), Linear (L), Equal Percentage (E)  |
| Actuators                       | CVI Piston Style Actuators are Standard for Valves up to 2"<br><br>Larger Piston Actuators and Diaphragm Actuators are Available as well as Electric Actuators<br><br>Positioners, Hand Wheels, Limit Switches, Solenoids, and other accessories are available |
| Valve End Connections           | Pipe Socket Weld Connections - Unjacketed Vales<br><br>Schedule 10 Pipe Stubs - Jacketed Valves<br><br>Other Schedules Available   |
| Vacuum Jacketed Super Insulated | Multilayer insulation with welded 304 Stainless Steel Jacket   |

## SPARE PARTS\*

|                         |                                     |
|-------------------------|-------------------------------------|
| Soft Goods Kits         | Vacuum Seal Off Valve Rebuild Kits  |
| Complete Top Works Kits | Manual to Pneumatic Conversion Kits |

\*Contact factory for part numbers and specifications.



## ORDERING INFORMATION

For more information or to place an order please visit  
[www.acmecryo.com](http://www.acmecryo.com) or call 1.800.422.2790.