

Series CRV, Cryogenic Relief Valve User Instructions

Scope and Intended Use:

These user instructions are applicable for all Series CRV Cryogenic Relief Valves.

The intended use of these products is to protect against over pressure in a given system. These products can be used with the following media, Inert Gas, Oxygen and potential Oxidizer gases > 21%, Hydrogen, Carbon Dioxide and Liquefied natural Gas

Technical Data:

CRV Series valves are supplied preset, 100% factory tested and permanently staked to prevent any adjustment of the pressure setting. Every CE and UKCA marked CRV or CRB is engraved with the full part number, set pressure, material lot code and date of manufacture.

Operating Parameters:

Temperature Range: -320° to 350° Fahrenheit

Nominal Set Pressure Range: 10 - 750 psi (.69 - 51.71 bar)

Orifice: 0.250" Diameter

Nominal Set Pressure	Tolerance
0.50-28.90 psig	± 5%
29.00-48.30 psig	± 1.45 psi
48.40 + psig	± 3%

Full rated flow by 110% of Set Pressure

Maintenance:

These valves are factory preset and are NOT to be tampered with in the field. These products do not require maintenance. If valve becomes visibly damaged or corroded, or if the inlet orifice becomes contaminated with particulate, the valves should be discarded and replaced.

Operating Temperature Per Seal Material
<u>Seal Material</u>
K – PCTFE above 50 Psig (-320° to 165° F (-196° to 74° C))
FS - Fluorosilicone (-85° to 350° F (-65° to 176° C))

Per CGA PS-28, Generant recommends a minimum 5-year visual inspection on all thermal expansion relief valves installed in the field. This inspection should ensure that a) the outlet is open and free to discharge, b) there are no signs of corrosion, cracks, or mechanical damage, c) the marked set pressure is suitable for the service and the components being protected, d) no leaks are found, and e) the adjacent piping is not damaged or deformed.

CRB Option Operating Instructions (Bleed Valve):

The bleed valve adjustment screw is located within the valve hex body. It is fully retained to prevent removal and should be operated using a 5/64" allen wrench. The vent hole for the bleed valve is located on the adjoining hex 90° from the adjustment screw. **USE CAUTION TO ENSURE THAT ALL PERSONS AND EQUIPMENT ARE CLEAR OF THE VENT HOLE PRIOR TO VENTING THE SYSTEM.** To open bleed valve, turn adjustment screw 1 full turn counterclockwise. Close bleed valve by turning screw clockwise. Do not over-torque.

WARNING

Generant Cryogenic Relief Valves are supplied Cleaned for Oxygen Service and are shipped from the factory individually heat-sealed in poly bags. Once removed from the bag, integrity of this cleaning has been compromised. Proper handling should be used to ensure the integrity and cleanliness of the entire system.

To make a proper connection:

1. All Series CRV relief valves are 100% factory tested for leakage before crack, full flow and reseal performance.
2. The piping system should be complete before installation of the relief valve.
3. All upstream piping and connection ports must be free from particulate contamination that is naturally generated during the assembly of the piping system. This should be accomplished by purging the system with clean, dry nitrogen gas. Visually inspect the port for cleanliness.
4. Teflon tape should be used to seal the connection between the relief valve and the piping system.
5. Beginning with the first thread, wrap tape in the direction of the male tapered thread spiral, and join with a slight overlap.
6. Make sure tape does not overhang the first thread, as the tape could shred and get into the system.
7. Cut off excess tape. Draw the free end of the tape around the thread tautly so that it conforms to the threads. Press in firmly at the overlap point. The connection is now ready for makeup. (If any additional pipe sealant is being used (i.e.: pipe dope or Swak). **Do not** apply it to the first thread of the valve.
8. Thread the valve into the connection port hand tight. Using a 7/8" open-end wrench, tighten the valve an additional ¾ to 1 full turn.
9. The relief connection should be tested for leaks using an oxygen-approved leak detector.

Safe Component Selection

When selecting a component, the total system design must be considered to ensure safe, trouble free performance. Component function, materials compatibility, adequate ratings, proper installation, operation, cleanliness and maintenance are the responsibility of the system designer and user.