



Series ACV Adjustable Check Valve User Instructions

Scope:

These user instructions are applicable for Generant Series ACV, Adjustable Check Valves sizes ¼" and ½" (Connection Type NPT).

Intended Use:

The intended use of these valves is to allow forward flow at a pressure drop across the valve and disallow reverse flow in a given system. The pressure drop at which forward flow occurs is adjustable in ACV Series Valves. These products can be used with the following media, Inert gases, Oxygen and potential oxidizer gases > 21% and Hydrogen. When intended use is for Oxygen and oxidizer gases >21%, valves must be specified to be "Cleaned for Oxygen service" and will be supplied heat-sealed in poly bags. Proper seal material selection is important to insure compatibility with intended media.

Technical Data:

ACV Series Check Valves are 100% factory tested for leakage in the backflow direction, crack pressure, and reseal performance. Series ACV Valves are marked with Manufacturer, Direction of Free Flow, Seal Material and Nominal Cracking Pressure. Operating parameters are listed below:

Maximum Operating Pressure: 600 Psig (41.3 Bar)
Leakage in Check Direction: Zero @ >0.5 Psi backpressure drop
Temperature Range: -80° F to 375° F Fahrenheit (elastomer dependent)
Nominal Cracking Pressures: 3 to 600 Psig (0.01 to 41.3 Bar)



WARNING

Valves that are supplied "Cleaned for Oxygen Service" from the factory are supplied 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 system.

Valve Piping:

To make a proper connection:

1. 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.
2. For use with NPT threads, Teflon tape should be used to seal the connection between the check valve and the piping system.
3. Beginning with the first thread, wrap tape in the direction of the male tapered thread spiral, and join with a slight overlap.
4. Make sure tape does not overhang the first thread, as the tape could shred and get into the system.
5. 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.
6. Be sure to install the check valve with the free flow direction in line with the arrow. Thread the valve into the connection port hand tight. Using an open-end wrench, tighten the valve an additional ¾ to 1 full turn. Over tightening the valve may result in the valve failing to function properly.
7. The check valve connection should be tested for leaks using an oxygen-approved leak detector.



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Crack Pressure Adjustment:

The valves are factory preset to either a standard crack pressure or customer specified crack pressure. The initial set pressure will be engraved on the valve body.

To adjust the valve crack pressure:

1. Remove valve from piping configuration
2. Locate the adjustable end of the valve which is the shorter end from the body hex.
3. Insert the appropriate allen wrench (5/32 wrench for 1/8" NPT, 5/16 wrench for 1/4" NPT), a short distance into the "locking nut." Be careful not to turn the "adjusting nut" which is located directly behind the locking nut.
4. Remove the "locking nut."
5. Carefully insert the allen wrench into the "adjusting nut" to adjust the crack pressure.
 - a. To increase crack pressure (valve takes larger pressure differential to open), turn the "adjusting nut" clockwise.
 - b. To decrease crack pressure (valve takes smaller pressure differential to open), turn the "adjusting nut" counterclockwise.
6. When necessary adjustment has been made, thread the "locking nut" back into the valve body. The unthreaded portion of the "locking nut" should be directed into the valve.
7. Carefully tighten the "locking nut" firmly against the "adjusting nut."
8. Re-install the valve in the system and verify optimum crack pressure performance.

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.