

ECII/RegO Products

Operating Instructions for AA8542 Duo Port Pressure Relief Valve Manifold

Suitable for use on Anhydrous Ammonia

Maximum Allowable Pressure 25 bar

WARNING: Installation, usage and maintenance of this product must be in compliance with all Engineered Controls International, Inc. instructions as well as requirements and provisions of national and local standards, codes, regulations and laws.

Inspection and maintenance on a periodic basis is essential. Installation and maintenance should be performed only by qualified personnel.

Be sure all instructions are read and understood before installation, operation and maintenance. These instructions must be passed along to the end user of the product.

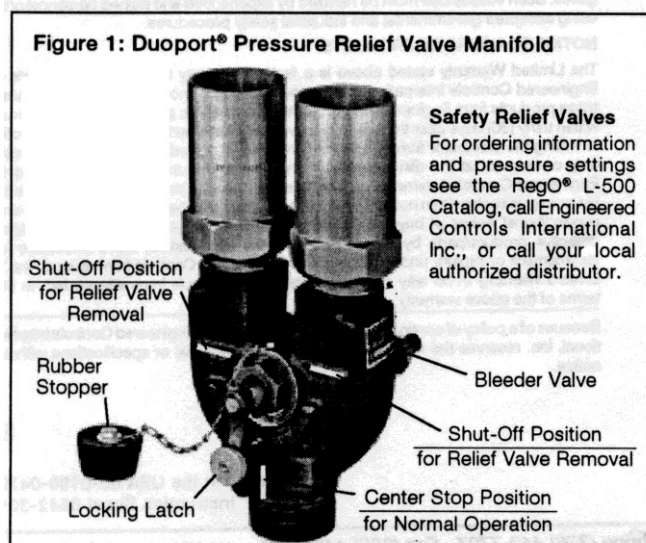
CAUTION: Contact or inhalation of ammonia and their vapors can cause serious injury or death! NH₃ must be released outdoors in air currents that will insure dispersion to prevent exposure to people and livestock. NH₃ must be kept far enough from any open flame or other source of ignition to prevent fire or explosion! NH₃ will not disperse or evaporate rapidly if released in still air.

Installation:

The AA8542 Series is designed especially for use as a primary relief device on smaller stationary storage containers up to 1200 gallons water capacity with 2" NPT threaded couplings. These manifolds allow servicing or replacement of either of the two relief valves without evacuating the container or loss of service. The operating lever selectively closes off the entrance port to the relief valve being removed while the remaining valve provides protection for the container and its contents. The rating of each manifold is based on actual flow through the manifold and a single pressure relief valve, taking friction loss into account. It is not merely the rating of the relief valve alone.

If the Duo Port Manifold may be used with a vent stack, the following installation procedures should be observed:

1. Apply pipe joint compound suitable for NH₃ (such as PTFE tape) to the threads of the manifold fitting.
2. Before connecting to the container coupling, inspect container connection for foreign material if any are found remove it.
3. Inset the male manifold connection into the female container connection, Turn until hand tight.
4. With a suitable wrench turn two to three wrenching turns beyond hand tight to create a seal.
5. Follow all local and national codes and standards for pressure testing and leak checking the installation.
6. Be certain that an ECII AA3135-1 0 pipe-away adapter is threaded into the outlet of each safety relief valve. In addition to providing a 2" NPT female connection for the installation of 2" pipe, this adapter has an externally machined weakness groove to facilitate breakage at this point, leaving the valve itself fully operative in case undue stresses are applied to the vent piping.
7. Limit the height of the vent stack to a minimum. Be sure to include the approximate overall height of the Duo Port (2-11/16)" in determining the overall height of the vent required above the top of the container.
8. Secure the two vent stacks firmly to each other midway or at the top to break the wind velocity between the stacks and to reduce the tendency to vibrate or oscillate. This may be accomplished by inserting a wooden block between the stacks and clamping them together at this point.



Operation:

In normal operation, the handle is kept at the center stop. In this position, both relief valves are open to the container vapor space. This provides extra relief capacity by permitting both valves to function simultaneously if necessary.

To remove a safety relief valve for retesting or replacement:

1. Pull out the locking latch to release the handle. See figure 1.
2. Rotate the handle upward to position beneath the valve to be removed. See Figures 1 and 3.
3. Release the locking latch when the handle clears the ledge marking the off position. The spring loaded latch automatically retains the handle in this position.
4. Do not attempt to remove the safety relief valve until the vapor trapped between the valve seat disc and clapper disc is exhausted.
5. To exhaust the trapped vapor, turn the appropriate bleeder valve clockwise until it is firmly seated in the closed position. The vapor will then vent. If this discharge continues for more than a few seconds, either the handle is not firmly locked in the off position or the bleeder valve is not completely shut-off. See Figure 2.
6. Once the vapor discharge stops, do not attempt to move the handle.
7. The 2-11/16" wrench flats on the safety relief valve facilitate removal after the discharge stops. The tank vapor pressure maintains a leak-tight seal between the clapper disc and seal ring.
8. If an extra safety relief valve is not immediately at hand to replace the one that was removed, the open port must be sealed with the rubber stopper to prevent the entrance of moisture and contaminants. Do not use a pipe plug or otherwise make a pressure-tight seal. This may allow internal pressure to equalize, and permit turning the handle to close off the other safety relief valve, leaving the tank unprotected. Do not attempt to move the handle or bleeder valves while any port is without a safety relief valve.

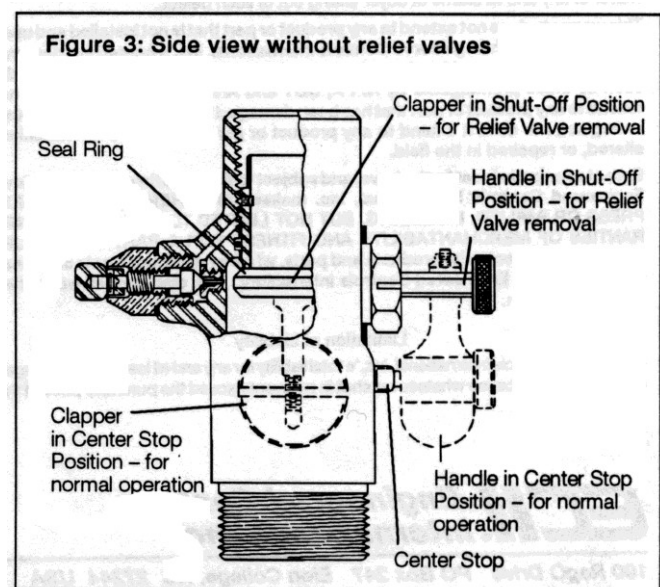
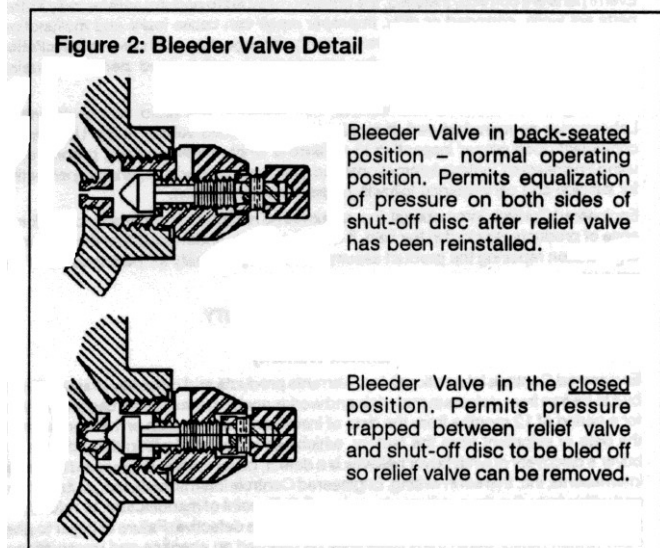
Valve Replacement:

NOTE: Use only ECII AA3135 Safety Relief Valves in ECII AA8542 Duo Port Manifolds. These valves have been specially machined for this service.

Repair must be performed in a clean area. Hands, clothing, tools and work area must be completely free of oil, grease and foreign matter to prevent contamination of component parts and valves.

1. Apply a small amount of a suitable pipe joint compound to the male threads of safety relief valve. Do not apply compound to Duo Port threads.
2. Screw in the replacement safety relief valve, using sufficient torque to produce a leak-tight seal.
3. Turn the bleeder valve counterclockwise until it back-seats firmly. This permits pressure equalization between the tank and the space below the safety relief valve.
4. Use a high quality leak detection solution to check the seal on the replaced safety relief valve to assure a leak tight seal.

5. The handle should now be returned to the center stop and locked in place so that the clapper is not under either safety relief valve.



Maintenance and Inspection:

Periodically check for:

1. Any signs of corrosion due to water, salt, industrial pollutants, chemicals, and roadway contaminants.
2. Any physical damage which would prevent proper sealing and usage or that may cause product failure under pressure.
3. Inspect, clean operating controls. Check controls to see that they open fully. See that they work freely to close the valve. Worn parts should be replaced.
4. Leaks in the end connections of the valve.
5. Correct operation, as performance may be affected by the presence of foreign matter.

Hazards:

- Do not remove a relief valve from the manifold until the operating lever is rotated to the proper position and the bleeder valve is fully turned (clockwise) until seats.
- Install only ECII pressure relief valves suitable for use in the Duo Port.
- Never uncouple the valve connections until all pressure is bled from the lines.

General Warning:

All ECII products are mechanical devices that will eventually become inoperative due to wear contaminants, corrosion, and aging components. Periodic inspection and maintenance are essential. The safe useful life of this product can vary greatly depending on the environment it is exposed to, and the inspection/maintenance program that is used. For more information refer to RegO Products L-500 catalog or www.regoproducts.com.

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