

RegO® Products Cryogenics-Gas Pressure Relief Valves **RegO® Cryo-Flow Products Instructions for use and Safety** **Warning**

Purpose

This bulletin applies to pressure relief valves installed on stationary, portable and transportable containers and piping systems utilized with these containers. This bulletin is not intended to be an exhaustive treatment of this subject and does not cover all safety practices that should be followed in the installation and maintenance of Cryogenics-Gas systems. Each Cryogenics-Gas employee should be provided with proper training on the subject.

A simple warning is:

Inspect pressure relief valves regularly. Replace unsafe or suspect valves immediately. Use common sense.

Install Properly

Consult any applicable regulations governing the application and use of pressure relief valves. Make sure you are thoroughly trained before you attempt any valve installation, inspection or maintenance.

Proper installation is essential to the safe operation of pressure relief valves

Tightening torques

Torques to be used for installing RegO® pressure relief valves are given below. These figures are based on the use of PTFE tape as a pipe lute and assuming that the coupling into which the valve is installed is within +/- 1 turn from basic.

NPT	Valve Type Numbers	Torque (min / max)		Torque (min / max)	
		Nm		ft.lb	
1/4"	PRV9432 and SS9432 Series	25	30	18	22
3/8"	PRV9433 and SS9433 Series	60	66	44	48
1/2"	PRV9434 and SS9434 Series	95	102	70	75

Pipeaways and deflectors may be required by local codes, laws and regulations depending on the installation. Use only RegO® adapters for RegO® relief valves. Adapters not designed specifically for piping away RegO® relief valves, such as those with 90° turns or reduced internal diameters, will decrease flow dramatically. These should never be used as they can cause the relief valve to chatter and eventually destroy itself.

The addition of deflectors, pipeaway adapters and piping will restrict the flow. To properly protect any container, the total system flow must be sufficient to relieve pressure at the pressure setting of the relief valve in accordance with all applicable codes.

Container Pressure Relief Valves

Cryogenic-gas relief valves are intended to open only under the excessive pressure conditions indicated below. The container pressure will get high enough to open relief valves under the following conditions:

1. Filling containers not purged of air
2. Overfilled container exposed to heat, which includes radiated heat (sun)
3. Use of an incorrect product such as oxygen in a container with relief valve set for carbon dioxide pressures (Low set pressure for service)
4. All containers if exposed to extreme heat (fire)

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5. Excessive pressures created during filling

CAUTION: Never plug the outlet of a pressure relief valve. Any device used to stop the flow of a properly operating pressure relief valve that is venting an overfilled or overpressurized container - raises serious safety concerns!

Note When replacing pressure relief valves, make sure that the setting and capacity are correct for the container or system. Check the stamping or nameplate on the container and then determine the proper pressure relief valve from RegO® products Cryogenic-gas catalogue. Copies are available from RegO GmbH, Germany, Rego Cryo-Flow Products or your Authorized *RegO® Products* Distributor.

Inspect Regularly

A pressure relief valve discharges when some extraordinary circumstance causes an over pressure condition in the container. If a pressure relief valve is known to have discharged, the relief valve, as well as the entire system, should be immediately and thoroughly inspected to determine the reason for the discharge. In the case of discharge due to fire, the valve should be removed from service and replaced.

Relief valves should be inspected each time the container is filled but no less than once a year. If there is any doubt about the condition of the valve, it must be replaced.

To Properly Inspect Pressure Relief Valves refer to RegO® Cryo-Flow Products Gas Plant and Cryogenic Equipment catalogue.

WARNING: Under normal conditions, the useful safe service life of a pressure relief valve is 10 years from the original date of manufacture. However, the safe useful life of the valve may be shortened and replacement required in less than 10 years depending on the environment in which the valve lives. Inspection and maintenance of pressure relief valves is very important. Failure to properly inspect and maintain pressure relief valves could result in personal injuries or property damage. For more information refer to RegO® Cryo-Flow Products Gas Plant and Cryogenic Equipment catalogue.

Repair

RegO® pressure relief valves are not designed to be repaired or reconditioned. Spare components for pressure relief valves are not available for sale.

However, some companies in Europe are authorized to recondition or remanufacture some types of RegO pressure relief valves. For details of companies providing this service, contact RegO GmbH, Germany or your Authorized *RegO® Products* Distributor.