

PRODUCT DESCRIPTION

- Designed for use in place of a rupture disc to protect Welker® Constant Pressure Cylinders from overpressurization.
- Unlike a rupture disc, only relieves enough pressure needed for it to reseal, thus limiting the amount of product discharged.
- Can be vented to a safe location.
- Specifically designed to relieve low-capacity cylinders in the 0–2000 psig range.

For inquiries regarding relief valve calculations, please contact our Service Department:
281.207.1887

SPECIFICATIONS

Materials of Construction

316/316L Stainless Steel, PTFE, FKM (Others Available)

Maximum Allowable Inlet Pressure

5000 psig (344.7 barg)

Temperature Range

-20 °F to 120 °F (-28.8 °C to 48.8 °C)

Temperature Range Might Vary Based on Seal Material Selection

Spring Range Options

100 psig up to 2000 psig (6.8–137.8 barg)

Flow Rates

$C_v = .038$

Full Flow Accomplished at 150% Over Set Pressure

Connections

Inlet: ½" – 20 UNF THD*

Outlet: ¼" FNPT

Approximate Dimensions

2¼" x ¾" x ¾" (L x W x H)

Approximate Weight

¼ lb

Maintenance Schedule

Every 12 Months

Severe Service, Dirty Conditions,
Excessive Usage: More Frequently

Options

Pre-Set Relief

NACE Compliance

*Designed to mate up with Welker® Constant Pressure Cylinders.

The following procedures have been written for use with standard Welker® parts and equipment. Assemblies that have been modified might have additional requirements and specifications that are not listed in this document.

If you received a damaged RV-2CP Relief Valve, please contact a Welker® representative immediately.

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281.207.1887



INSTALLATION, SETTING, TESTING, AND MAINTENANCE MANUAL

WELKER® RV-2CP RELIEF VALVE

IOM-265 | REV. 0 | 02/11/2025



The installation, operation, and maintenance liability for this equipment becomes that of the purchaser at the time of receipt. Reading the instructions that comprise IOM-265 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.



- Prior to being set, the RV-2CP must be installed to the cylinder it will be relieving.
- To accurately set the relief, a safe gas source, regulator, and pressure gauge are needed.

RV-2CP: INSTALLING, SETTING, AND TESTING

Installing the RV-2CP Relief Valve

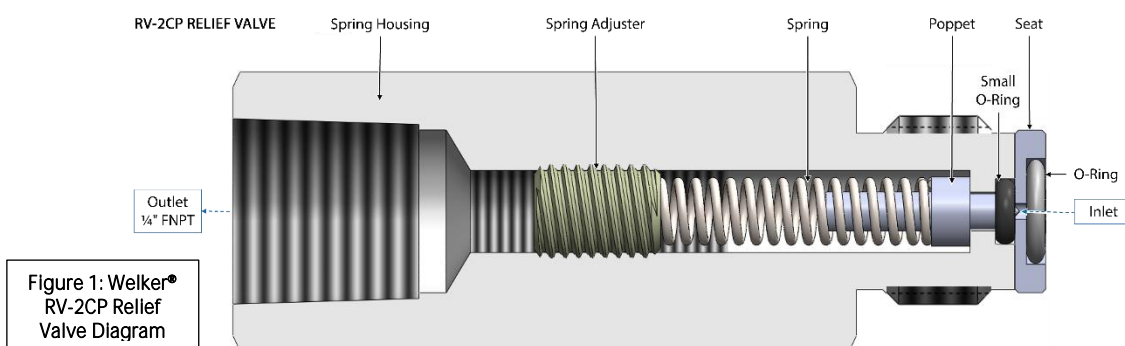
1. Install the RV-2CP's **seat to the cylinder it will be relieving**. The O-ring side of the seat must face away from the RV-2CP.
2. Either wrap the threads of the relief valve with PTFE tape or apply pipe dope to the threads.
3. Install the RV-2CP on top of the seat.
4. Using a torque wrench, tighten the RV-2CP to 30 ft-lbs. The RV-2CP may now be set.

Setting the RV-2CP Relief Valve

5. Connect the regulator to a safe gas source.
6. Using a hex key, screw the RV-2CP's **spring adjuster clockwise to fully close the RV-2CP**.
7. Connect from the regulator to the cylinder end cap to which the RV-2CP is installed.
8. Set the regulator to the desired pressure. Then apply auxiliary gas through the regulator to the RV-2CP.
9. Using a hex key, screw the RV-2CP's spring adjuster counterclockwise until pressure starts to relieve. A hissing sound will be audible.
10. Screw the RV-2CP's **spring adjuster clockwise** until the hissing sound stops and the RV-2CP obtains a positive shutoff.

Testing the RV-2CP Relief Valve

11. Set the regulator to a pressure slightly below the RV-2CP set point. Then slowly increase the outlet pressure of the regulator until it is slightly higher than the RV-2CP set point. A hissing sound should be audible.
12. Slowly decrease the outlet pressure of the regulator until it is slightly below the RV-2CP set point. The hissing sound should stop as the RV-2CP reseats.
13. If the RV-2CP does not begin to relieve pressure or does not reseal, it might be necessary to repeat steps 8–10 to reset the RV-2CP.
14. Disconnect the regulator from the cylinder end cap.
15. The RV-2CP is now operational.



RV-2CP: MAINTENANCE



New seals supplied in spare parts kits should be lightly lubricated before being installed to ease the installation of the seals and reduce the risk of damage when positioning them on parts. Wipe excess lubricant from the seals, because it might adversely affect analytical results.



- The small O-ring may be picked out with a seal pick, or a small burst of air may be blown through the opposite end of the spring housing to release the seal.
- Ensure that the poppet is returned to the spring housing in the correct orientation.



For sample-exposed seals, Welker® recommends non-hydrocarbon-based lubricants such as Krytox®. For non-sample-exposed seals, Welker® recommends lubricants such as Molykote® 111.

1. Isolate, depressurize, then remove the RV-2CP from the supply source.
2. Using a hex key, remove the spring adjuster, spring, and poppet.
3. Inspect the spring. If the spring is in good condition, it can be reused.
4. Inspect the poppet for nicks and scratches. Replace as necessary.
5. Remove and replace the O-ring on the seat. Then set aside the seat.
6. Remove and replace the small O-ring (see *Caution Note* above).
7. Return the poppet and the spring to the spring housing.
8. Screw the spring adjuster into the spring housing.
9. Screw the seat assembly into the spring housing.
10. The RV-2CP is now ready to be reinstalled and reset.

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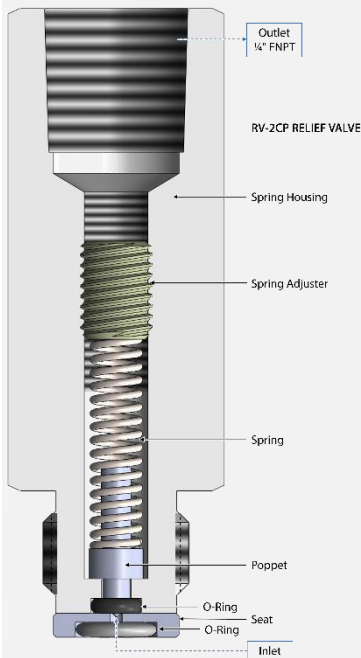
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Welker® RV-2CP
Relief Valve Diagram



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IMPORTANT SAFETY INSTRUCTIONS

WELKER® RV-2CP RELIEF VALVE

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BEFORE YOU BEGIN

Read These Instructions Completely and Carefully



NOTES emphasize information and/or provide additional information to assist the user.



CAUTION messages appear before procedures that could result in damage to equipment if not observed.



WARNING messages appear before procedures that could result in personal injury if not observed.

The instructions that comprise IOM-265 are intended to be used as basic setup and installation guidelines for the Welker® Relief Valve, Model RV-2CP. The information in IOM-265 has been carefully checked for accuracy and is intended to be used as guidelines for the setup and installation of the Welker® equipment described in IOM-265. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-265 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-265 for local inspectors' use.

OBSERVE

Observe all governing codes and ordinances.

NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-265 with the end user.

NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-265 for future reference.

NATURE OF INSTALLATION

Installation of this relief valve is of a mechanical nature.

INSTALLATION RESPONSIBILITY

Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under the warranty.

