PRODUCT DESCRIPTION

- Designed to protect instruments and regulators from overpressurization.
- Can be used in hazardous and non-hazardous gas applications where venting to atmosphere is acceptable.
- Designed to ASME standards.
- Has a low set pressure and high flow capacity while allowing no leakage from 70% to 90% of the set pressure.

SPECIFICATIONS

Materials of Construction
316/316L Stainless Steel, FFKM, FKM, NBR (Others Available)

Maximum Allowable Inlet Pressure
300 psig (*20 barg*)

Temperature Range
-65 °F to 400 °F *(-53 °C to 204 °C)*
Temperature Range Might Vary Based on Seal Material Selection

Spring Range Options
15–140 psig (*0–10 barg*)

Flow Rate
Up to 70 scfm

Connections
Inlet: ¼" MNPT
Outlet: Atmospheric

Features
10% or 3 psig Overpressurization Relief Capacity

Industry Standards
CE Compliant*
NACE Compliant

*Applies Only When Used on Welker® CE Equipment

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 Relief Valve, please contact a Welker® representative immediately.

For all product inquiries, please contact our Service Department: 281.207.1879

TESTING AND INSTALLATION MANUAL
WELKER® RV-110A RELIEF VALVE
IOM-260 | REV. 0 | 01/07/2025

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-260 prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.

To accurately test the RV-110A, a safe gas source, regulator, and pressure gauge are needed.

RV-110A: TESTING AND INSTALLATION

Testing the RV-110A

1. Set the regulator to a pressure slightly below the RV-110A crack pressure (*Table 2*). Then slowly increase the pressure of the regulator until it is at the RV-110A crack pressure. A slight hissing sound should be audible.
2. Slowly decrease the pressure of the regulator until it is slightly below the RV-110A crack pressure. The hissing sound should stop as the RV-110A reseats.
3. Slowly increase the pressure of the regulator until it is at the set pressure. A steady, audible simmer should be heard as the RV-100A is opening.
4. Slowly increase the pressure of the regulator until it is at the relieving pressure (*Table 2*). An audible pop should be heard as the RV-110A fully opens and a visible pressure drop should be measured on the pressure gauge. The poppet assembly will rapidly move back and forth as the pressure is relieving.
5. Reset the regulator to a pressure slightly below the crack pressure to verify that the RV-110A will reseat.
6. If the RV-110A is to be used with the regulator it was set with, reset the regulator to the desired point.

Crack pressure occurs when relief valve inlet pressure is equal to 3 psig below set pressure or 10% below set pressure—whichever is greater (*Table 1* and *Table 2*).

Installing the RV-110A

1. First, complete the RV-110A testing.
2. Welker® recommends installing a filter upstream of the RV-110A.
3. Wrap the threads of the RV-110A with PTFE tape or apply pipe dope to the threads.
4. Using a wrench, install the RV-110A to the correct port on the instrument it will be relieving.
5. Installation is complete and the RV-110A is now operational.

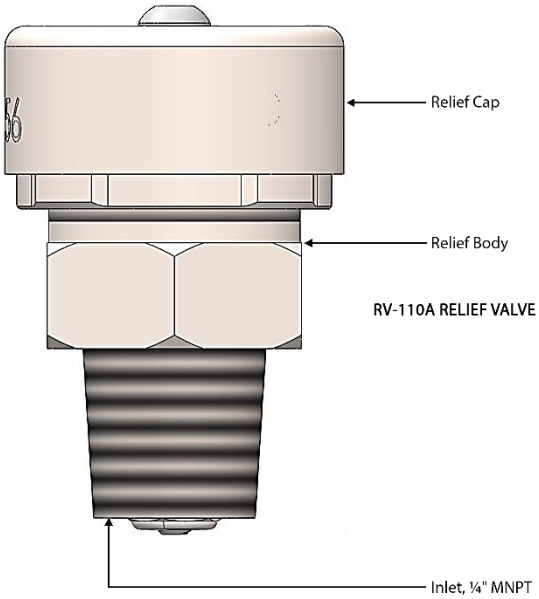

Figure 1: Welker® RV-110A Relief Valve Diagram

Table 1: Pressure Set Point Examples

Examples	Start-to-Leak (Crack) Pressure (3 psig or 10% Below Set Pressure, Whichever Is Greater)	Opening (Set) Pressure	Relieving Pressure (3 psig or 10% Above Set Pressure, Whichever Is Greater)
1	17 psig	20 psig	23 psig
2	135 psig	150 psig	165 psig

Table 2: Terms and Definitions

Term	Definition
Opening (Set) Pressure	The opening or set pressure is the equilibrium point between the crack pressure and the relieving pressure.
Start-to-Leak (Crack) Pressure	Crack pressure occurs when relief valve inlet pressure is equal to 3 psig below set pressure or 10% below set pressure—whichever is greater. A hissing sound might be audible.
Relieving Pressure	Relieving pressure occurs when relief valve inlet pressure is equal to 3 psig above set pressure or 10% above set pressure—whichever is greater.

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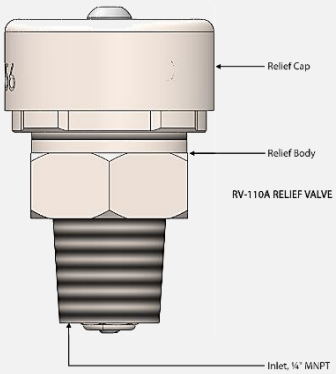
Welker® RV-110A Relief Valve Diagram



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IMPORTANT SAFETY INSTRUCTIONS
WELKER® RV-110A RELIEF VALVE
IOM-260 | REV. 0 | 01/07/2025

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.

STOP

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

The instructions that comprise IOM-260 are intended to be used as basic setup and installation guidelines for the Welker® Relief Valve, Model RV-110A. The information in IOM-260 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-260. Correct setup, installation, and operation, however, are the responsibility of the end user. Welker® reserves the right to make changes to IOM-260 and all products in order to improve performance and reliability.

SAVE INSTRUCTIONS

Save these Safety instructions and the instructions that comprise IOM-260 for local inspectors' use.

OBSERVE

Observe all governing codes and ordinances.

NOTE TO INSTALLER

Leave these Safety instructions and the instructions that comprise IOM-260 with the end user.

NOTE TO END USER

Keep these Safety instructions and the instructions that comprise IOM-260 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.

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