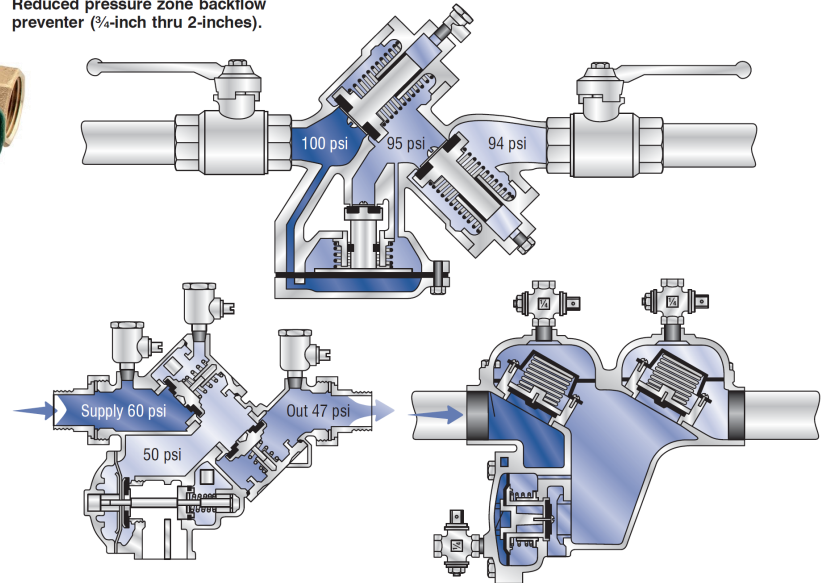


## RP: Reduced Pressure Assembly



*Example for illustrative purposes only.  
Assemblies differ by model and manufacturer.*

Reduced pressure zone backflow  
preventer (1/4-inch thru 2-inches).



### Mechanical Description:

An assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly.

### Applications:

Irrigation systems, boilers, hydrants, industrial systems, agricultural systems, containment, and isolation protection.

### Limitations:

Not to be used for backflow protection of sewage or reclaimed water. A normally functioning reduced pressure assembly may discharge intermittently from the relief valve and the relief valve port should be air gapped to a drain if installed indoors. Assembly must never be installed underground or in a pit.

### Installation Guidelines:

A reduced pressure assembly must be installed so that the relief valve port is at least twelve inches above finished grade. The critical level (C/L) of the valve shall be the bottom of the valve body unless otherwise indicated and must allow test equipment clearance. Must be installed where access for testing is feasible, safe and while in service. Supplied valves are part of the approved assembly.

### Protection:

A reduced pressure assembly is designed to protect against a non-health hazard (i.e., pollutant) or a health hazard (i.e., contaminant).

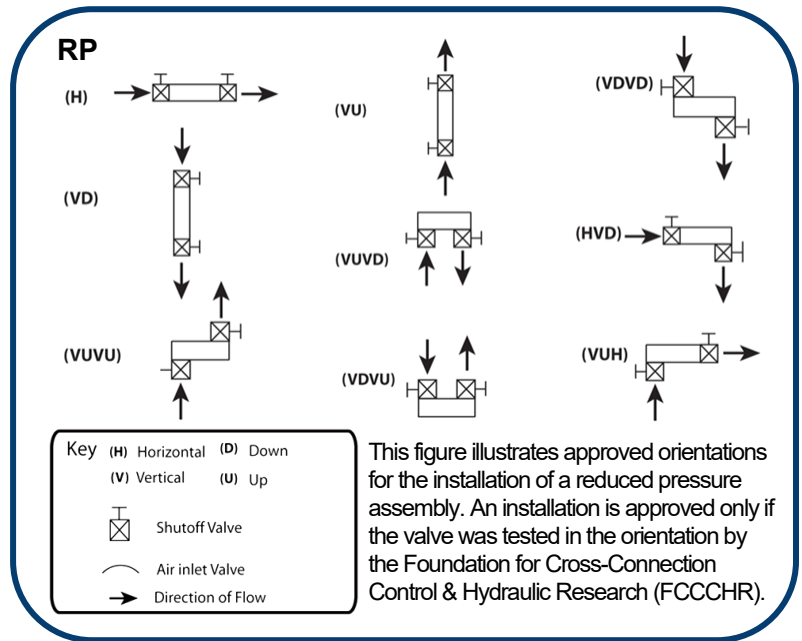
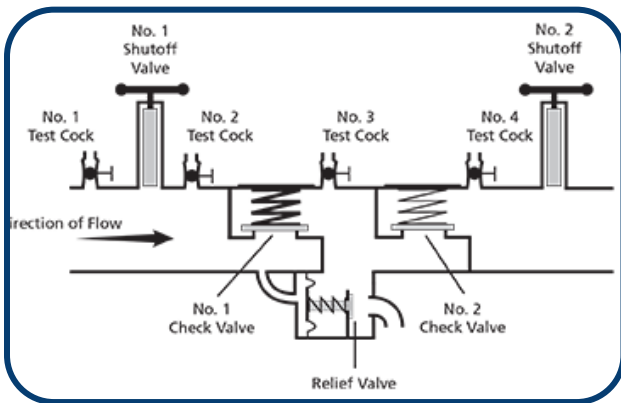
### Hazard Rating:

Health hazards and non-health hazards.

### Pressure Condition:

Assembly may be subjected to continuous pressure.

# Hydraulics, Orientation and Rule Requirements



## Requirements for Public Water Supplies:

As mandated by the federal Safe Drinking Water Act, water suppliers are responsible for ensuring that the water they supply meets federal primary drinking water regulations and is delivered to consumers without compromising water quality due to its distribution system. Water utilities may want to implement a cross connection program to stave off any problems that could occur.

Mechanical backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, mechanical backflow preventers and air gaps can be bypassed. Therefore, all backflow preventers have to be tested periodically to ensure that they are functioning properly. A visual check of air gaps is sufficient, but mechanical backflow preventers have to be tested with properly calibrated gauge equipment by a certified individual.

## Administrative Rules of Montana:

### 17.38.305 CROSS-CONNECTIONS: REGULATORY REQUIREMENTS

(1) A cross-connection on a public water supply system must be eliminated by the disconnection of the cross-connection whenever reasonably practicable. Whenever elimination of a cross-connection is not reasonably practicable and the cross-connection creates a health or non-health hazard, the hazard must be eliminated by the insertion into the piping of an approved backflow prevention assembly or device.

## Additional Resources:

Administrative Rules of Montana: Cross-Connections in Drinking Water 17.38.301—312 <http://www.mtrules.org>

American Backflow Prevention Association <https://abpa.site-ym.com/>

Environmental Protection Agency Cross Connection Control Manual (2003) <http://nepis.epa.gov>

Foundation for Cross-Connection Control and Hydraulic Research <https://fccchr.usc.edu/introduction.html>

## Montana Department of Environmental Quality

### Public Water Supply Bureau

Telephone: (406) 444-4400

Website: <http://deq.mt.gov/water/drinkingwater>

DEQ Contacts: <https://directory.mt.gov/govt/state-dir/agency/deq>