

41-00717

ROBERTS CREEK WATER DISTRICT

4336 Old Highway 99 South

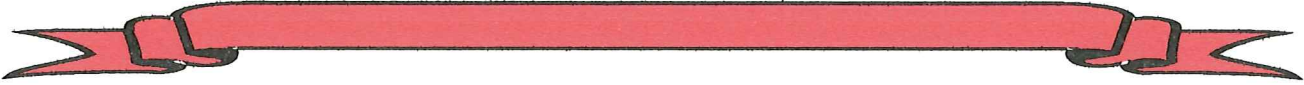
Roseburg, Oregon



CROSS CONNECTION AND BACKFLOW PREVENTION

MANUAL

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ROBERTS CREEK WATER DISTRICT
ADOPTED POLICY
BACKFLOW PREVENTION

Pursuant to Oregon Administrative Rules, Chapter 333, Section 061-0070, it is the responsibility of the Roberts Creek Water District to protect its drinking water by instituting and enforcing a cross connection program.

1.1 PURPOSE

- 1.1.1 To protect the potable water supply of Roberts Creek Water District from the possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the consumer's private water system(s) such contaminants or pollutants which could backflow into the public water systems; and,
- 1.1.2 To promote the elimination or control of existing cross-connections, actual or potential, between the consumer's in-plant potable water system(s) and non-potable water system(s), plumbing fixtures and industrial piping systems; and,
- 1.1.3 To provide for the maintenance of a continuing Program of Cross-Connection Control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

2.1 DEFINITIONS:

AIR GAP SEPARATION shall mean a vertical physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air-gap separation shall be at least double the diameter of the supply pipe measured vertically above the overflow rim of the vessel in no case less than 1 inch (2.54 cm).

AUXILIARY WATER SUPPLY shall mean any water supply on or available to the premises other than the purveyor's approved public water supply will be considered as an auxiliary water supply.

BACKFLOW shall mean the undesirable reversal of the flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources caused by back-pressure or backsiphonage.

BACKFLOW PREVENTION ASSEMBLY shall mean any effective assembly used to prevent backflow into a potable water system. The type of assembly used should be based on the degree of hazard either existing or potential. The types are:

- a. Double Check Valve Assembly (DCVA) An approved assembly consisting of two independently operating check valves, loaded to the closed position by springs or weights, and installed as a unit with, and between, two resilient seated shut-off valves and having suitable connections for testing.

CROSS-CONNECTION shall mean any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable systems any used water, industrial fluid, gas, or substance other than the intended potable water which the system is supplied. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because which "backflow" can or may occur are considered to be cross-connections.

DEGREE OF HARZARD shall be derived from the evaluation of condition within a system which can be classified as either a "pollutional" (non-health) or a "contamination (health) hazard.

DISTRICT shall refer to the ROBERTS CREEK WATER DISTRICT

HEALTH HARZARD shall mean any condition, device, or practice which could create, or in the judgment of the Roberts Creek Water District Inspector, may create a danger to the health and well-being of the water consumer.

POINT OF USE ISOLATION shall mean the appropriate backflow prevention within the consumer's water system at the point at which the actual or potential cross connection exists.

PREMISES ISOLATION shall mean the practice of protecting the public potable water supply by installing backflow prevention assemblies at or near the point where water enters the premises. This type of protection does not provide protection to personnel on the premises.

POLLUTION shall mean an impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.

THERMAL EXPANSION shall mean the pressure created by heated water or fluid that is not given the room to expand.

VACUUM shall mean pressure below atmospheric pressure. the term vacuum includes all degrees of partial vacuums.

WATER-POTABLE shall mean water from any source which has been investigated by the Health Agency having jurisdiction, and which has been approved for human consumption.

WATER-NONPOTABLE shall mean water which is not safe for human consumption or which is of questionable potability.

WATER PURVEYOR shall mean the public or private owner or operator of the potable water system supply to the public.

All device assemblies required under this Policy shall be of a type and model approved by Roberts Creek Water District and the State of Oregon.

SEE ATTACHMENT (A) FOR ILLUSTRATIONS AND INSTALLATION INSTRUCTIONS

7.0 General Installation Requirements All device assemblies shall be installed in accordance with Section 10, Manual of Cross-Connection Control, 9th Edition, December 1993. Published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California and AWWA Standards C510-92 and C511-92.

7.1 The property owner shall be responsible for all maintenance of assemblies.

7.2 No backflow prevention device shall be submerged in water or installed in a location subject to flooding. If installed in a vault or basement, adequate drainage shall be provided.

7.3 The device must be protected from freezing.

7.4 All devices shall be installed according to manufacturer's installation instructions and applicable State and Federal regulations. Only double check valve devices specifically approved by the manufacturer for vertical installation may be installed vertically. For no reason will an RP device be approved for vertical installation.

7.5 The device shall be readily accessible with adequate room for maintenance and testing.

7.6 No device shall be installed more than 5 (five) feet in height above floor level without providing an adequately supported platform to access the device.

7.7 All devices shall be supported with proper material to prevent excess stress on the connection flanges.

7.8 Upon completion of installation, Roberts Creek Water District shall be notified and all device installations shall be inspected by Roberts Creek Water District personnel. Each backflow device shall be registered with Roberts Creek Water District. Registration shall consist of date of installation, location, make, model, size and serial number of the device and initial test report.

8.0 **ACCESS TO PREMISES**

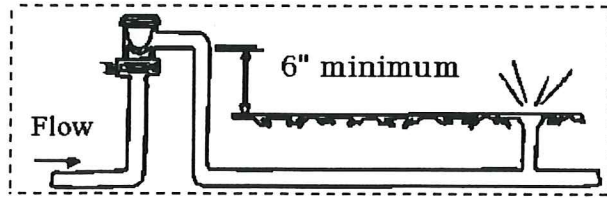
8.1 Upon making proper notification, Roberts Creek Water District Personnel shall be allowed to enter the premises to conduct an inspection.

8.2 If entry is unduly restricted so that inspections for cross connections cannot be made with sufficient frequency or with sufficient notice to assure that cross connections do not exist the District may require the property owner to install a backflow device.

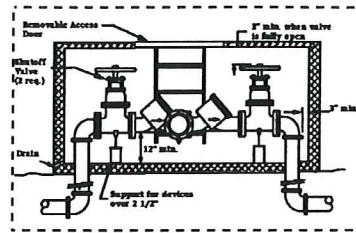
9.0 **TESTING OF ASSEMBLIES**

9.1 The water user or owner of the premises where one or more backflow prevention devices

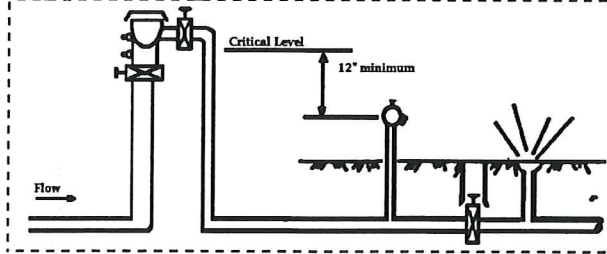
Diagrams for 333-61-099: Backflow Device Installation Standards



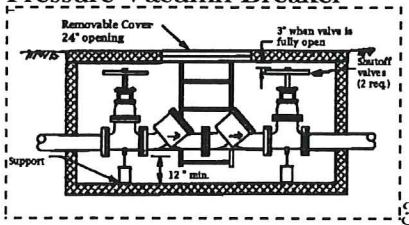
1
Typical Atmospheric Vacuum Breaker



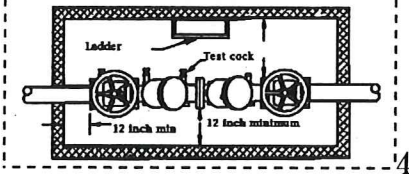
6
Reduced Pressure Device (side view)



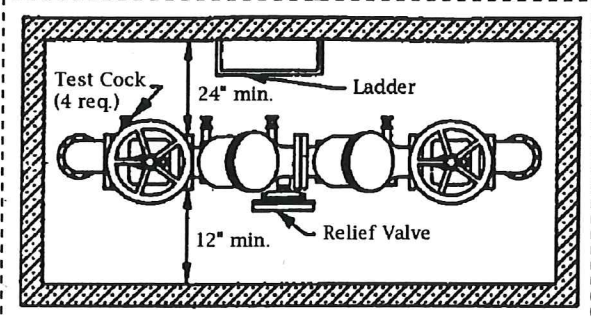
2
Pressure Vacuum Breaker



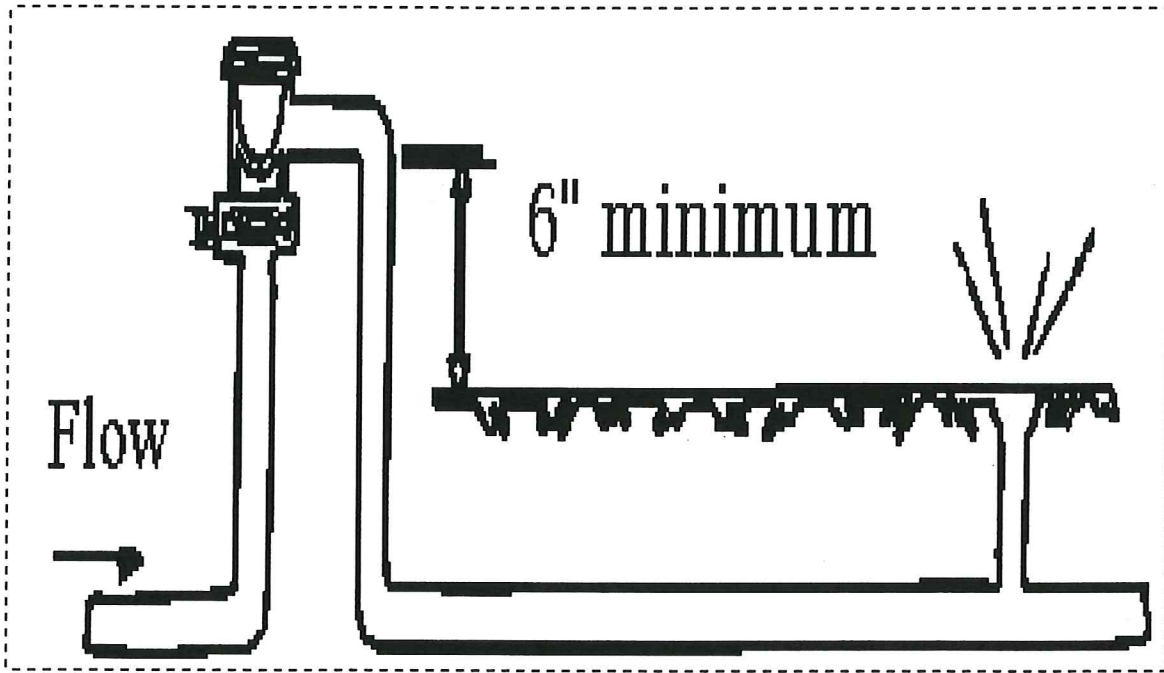
3
Double Check Valve (side view)



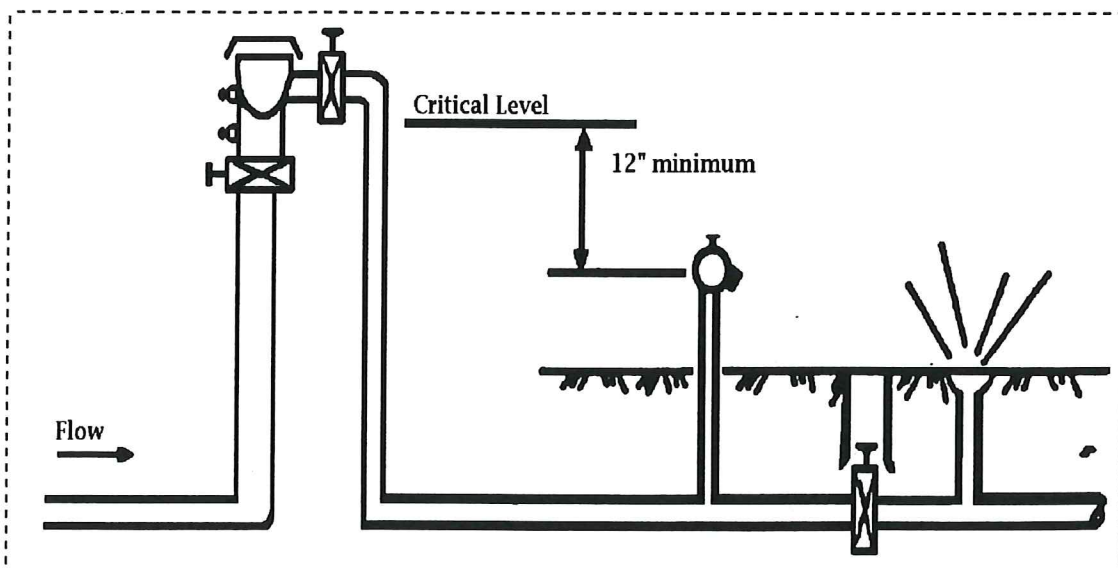
4
Double Check Valve (top view)



5
Reduced Pressure Device (top view)



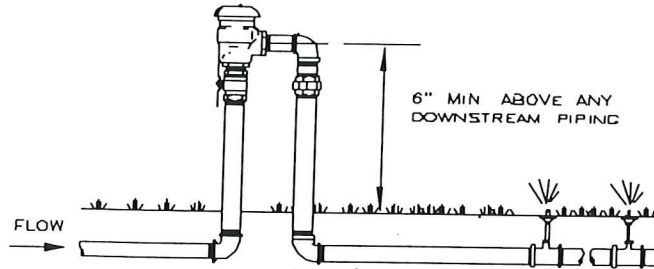
Typical Atmospheric Vacuum Breaker



Pressure Vacuum Breaker

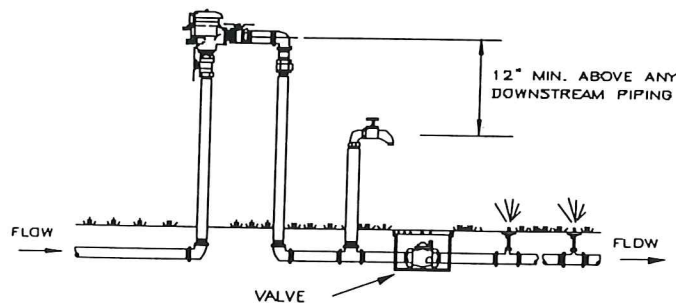
333-061-0071 BACKFLOW ASSEMBLY INSTALLATION AND OPERATION STANDARDS

(1) An Atmospheric Vacuum Breaker(AVB) shall:

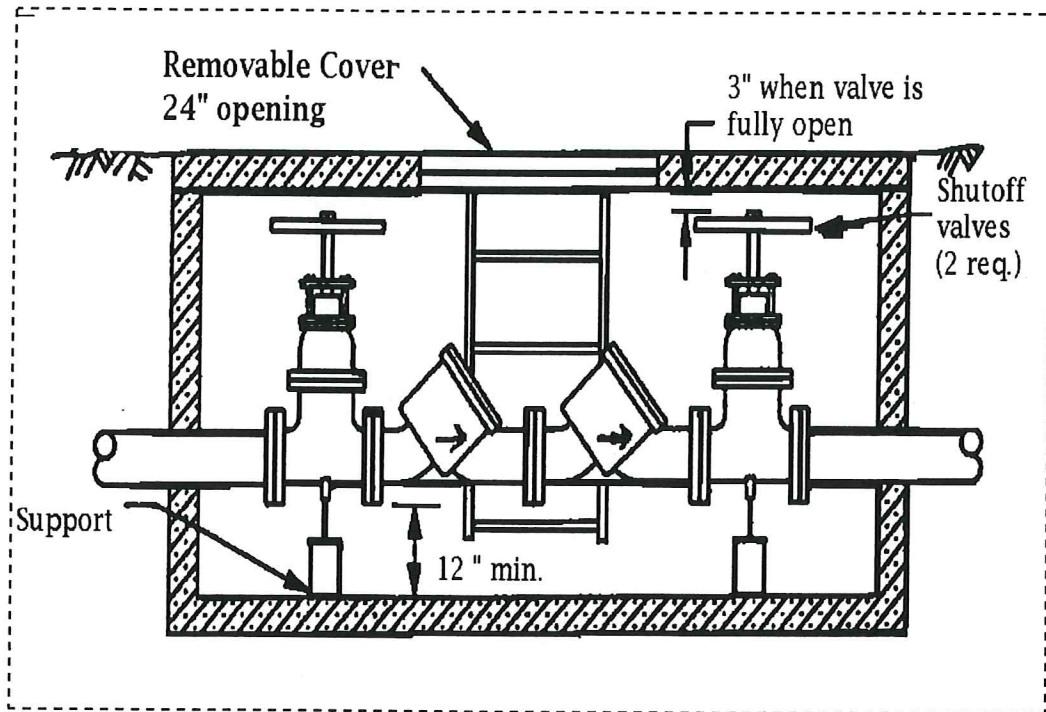


- (a) Have absolutely no means of shut-off on the downstream or discharge side of the atmospheric vacuum breaker;
- (b) Not be installed in dusty or corrosive atmospheres;
- (c) Not be installed where subject to flooding;
- (d) Be installed a minimum of six inches above the highest downstream piping and/or outlets;
- (e) Be used intermittently;
- (f) Not be pressurized for more than 12 hours in any 24 hour period; and
- (g) Not be subject to any backpressure.

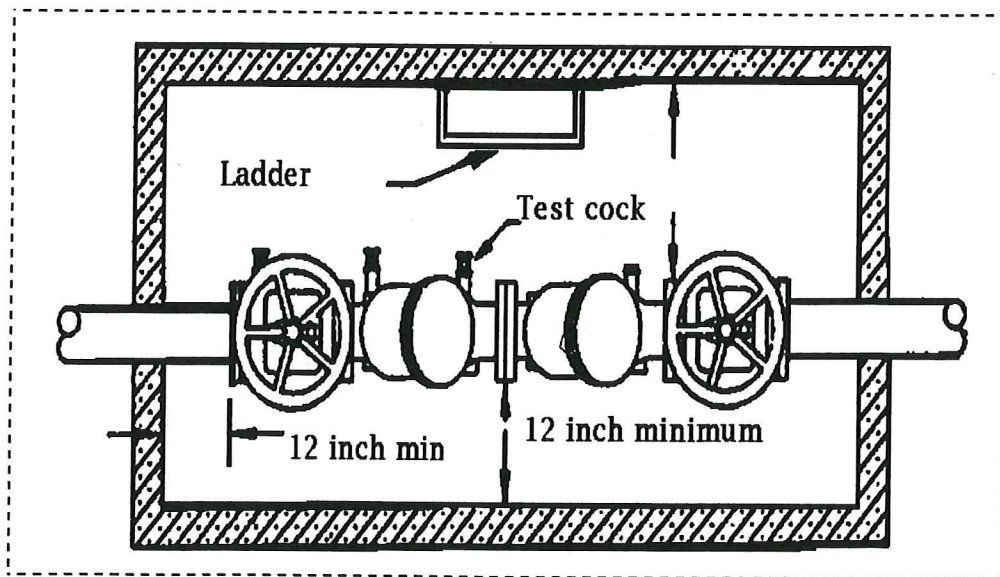
(2) A Pressure Vacuum Breaker Assembly (PVBA) or Spill-Resistant Vacuum Breaker Assembly (SVBA) shall:



- (a) Be installed where occasional water discharge from the assembly caused by pressure fluctuations will not be objectionable;
- (b) Have adequate spacing available for maintenance and testing;
- (c) Not be subject to flooding;
- (d) Be installed a minimum of twelve inches above the highest downstream piping and/or outlets;
- (e) Have absolutely no means of imposing backpressure by pump or other means. The downstream side of the PVBA or SVBA may be maintained under pressure by a valve; and
- (f) Be used to protect against back siphonage only, not backpressure.



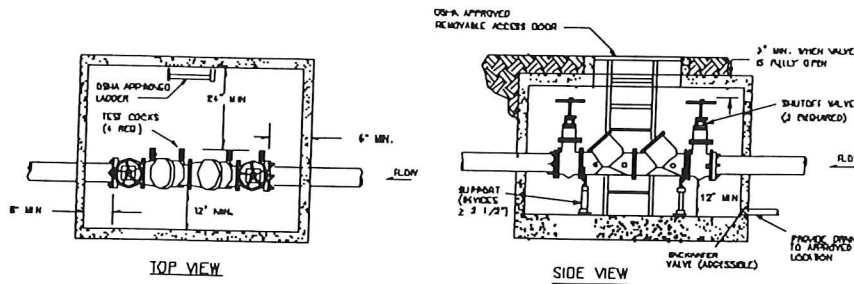
Double Check Valve (side view)



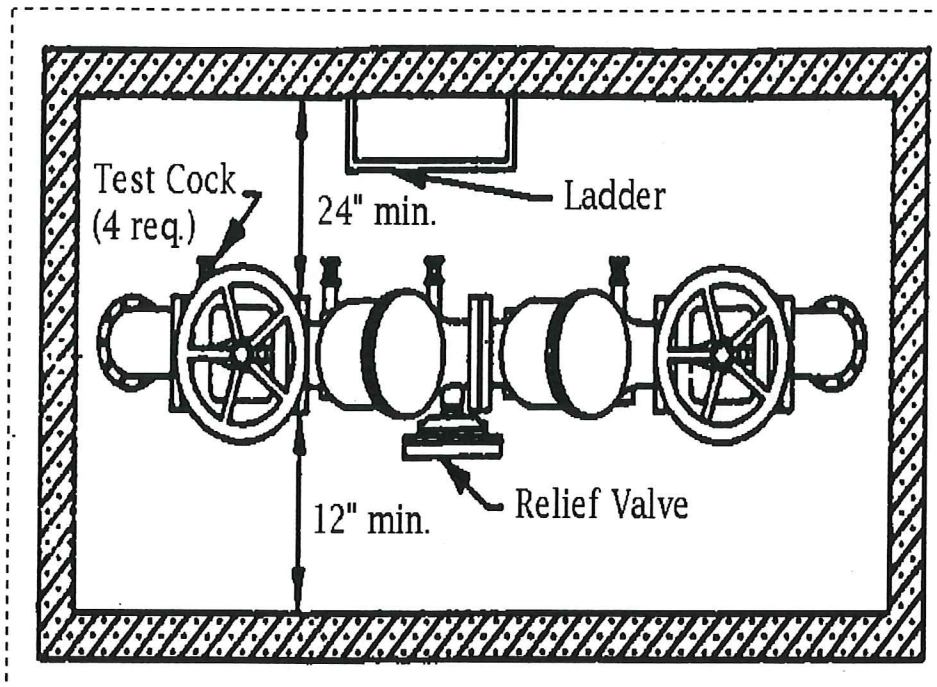
Double Check Valve (top view)

- (3) A Double Check Valve Assembly (DCVA) or Double Check Detector Assembly (DCDA):

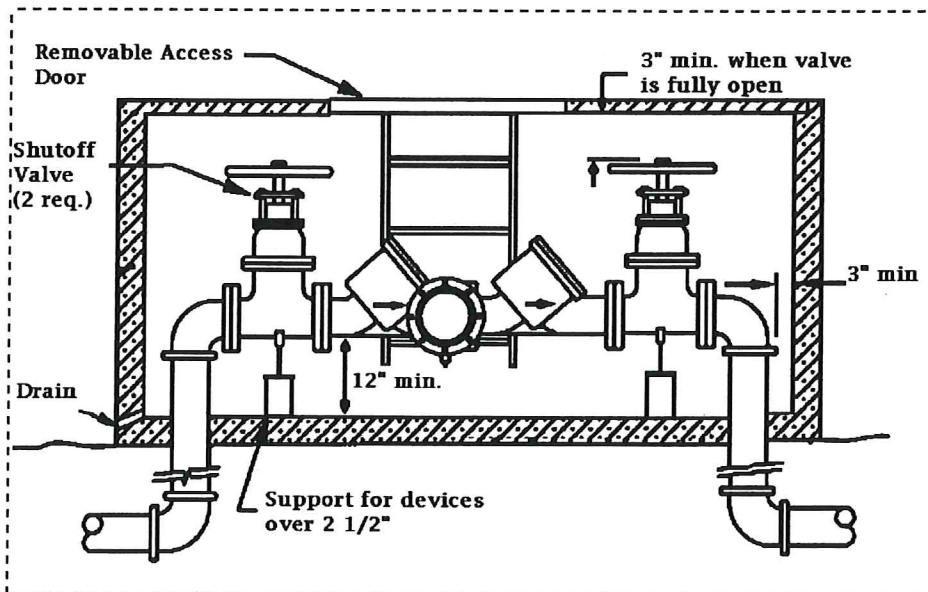
MINIMUM CLEARANCES FOR DCVA INSTALLATION



- (a) Shall conform to bottom and side clearances when the assembly is installed inside of a building;
- (b) May be installed vertically as well as horizontally provided that the assembly:
 - (A) Is internally spring loaded -- not weighted checks;
 - (B) Is 4 inches or smaller, or is specifically listed in the Division's Approved Backflow Prevention Assembly List;
 - (C) Is recommended by the manufacturer for vertical installation; and
 - (D) Has the normal flow upward.
- (c) May be installed below grade in a vault provided water tight, fitted plugs are installed in the test cocks, but the assembly shall not be subject to continuous immersion;
- (d) Shall not be installed at a height greater than 5 feet unless there is a permanently installed platform meeting **Occupational Safety and Health (OSHA)** standards to facilitate servicing the assembly;
- (e) May be installed with reduced clearances if they are 2 inches or smaller, provided that they are accessible for testing and repairing and approved by the water purveyor;
- (f) Shall have adequate drainage provided except that the drain shall not be connected to a sanitary or storm water drain. Installers shall check with local utilities for additional requirements; and
- (g) Shall be protected from freezing when necessary.

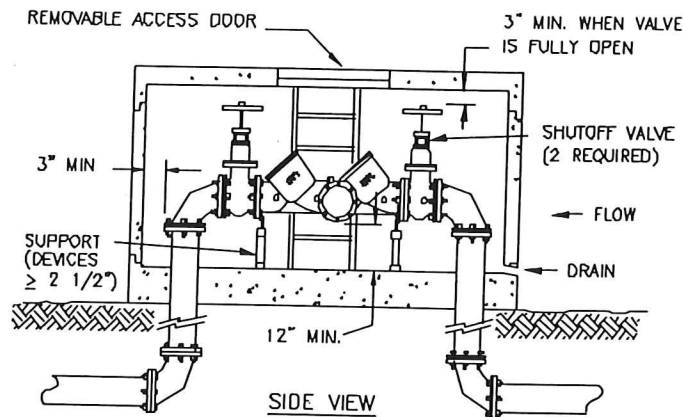
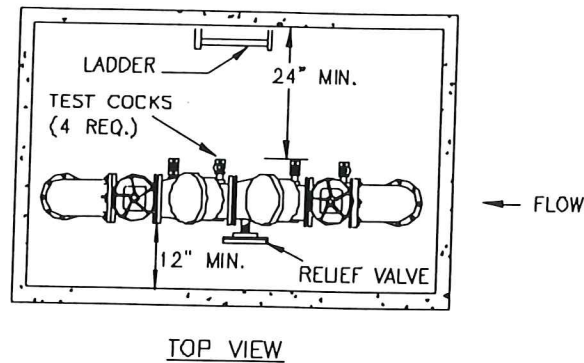


Reduced Pressure Device (top view)



Reduced Pressure Device (side view)

- (4) A Reduced Pressure Principle Backflow Assembly (RPBA) or Reduced Pressure Principle Detector Assembly (RPDA):



- (a) Shall conform to bottom and side clearances when the assembly is installed inside of a building. Access doors may be provided on the side of an above-ground vault;
- (b) Shall always be installed horizontally, never vertically unless they are specifically approved for vertical installation;
- (c) Shall always be installed above the 100 year (1%) flood level unless approved by the local authority;
- (d) Shall never have extended or plugged relief valves ;
- (e) Shall be protected from freezing when necessary;
- (f) Shall be provided with an air gapped drain;
- (g) Shall not be installed in an enclosed vault or box unless a bore-sighted drain to daylight is provided;
- (h) May be installed with reduced clearances if they are 2 inches or smaller and are accessible for testing and repairing and approved by the water purveyor; and
- (i) Shall not be installed at a height greater than 5 feet unless there is a permanently installed platform meeting Occupational Safety and Health (OSHA) standards to facilitate servicing the assembly.

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Backflow Assembly Testers for the State of Oregon Certified through June 30, 2001

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Backflow Assembly Testers are required to obtain licensing through the Construction Contractors Board or the Landscape Contractors Board. CCB and LCB licenses have not been verified for individuals on this list. Call (503)378-4621 ext. 4900 to verify licensing.

Public List For DOUGLAS County

MACK D CLARK (541)672-2429	373 NW SWEETBRIER RD; ROSEBURG, OR 97470
GREGORY LEON (503)496-3787	LEONS BACKFLOW TESTING PO BOX 774; GLIDE, OR 97443
MIKE ROKUS (541)873-0333	ROKUS PLUMBING PO BOX 476; ROSEBURG, OR 97470
PAT ROKUS (541)673-0333	ROKUS PLUMBING PO BOX 476; ROSEBURG, OR 97470
MICHAEL J STRODE (541)584-2148	524 AZALEA DR; ELKTON, OR 97436
GEORGE TRENT (541)673-0601	DOUGLAS COUNTY FARMERS COOP PO BOX 820; ROSEBURG, OR 97470
DARREN F TRIMNELL (541)879-4632	2031 SW BEL-AIR CT; ROSEBURG, OR 97470

Post-It® Fax Note	Date	Pages	To	From	Co/Dept	Phone #	Fax #
	2/2	1	Don	Address	Roller W. Land Co. CHD/BWP	(503)378-4621	(541)679-0354