

Town of Ulster Water Districts

190 Fording Place Road
Lake Katrine, New York 12449

John Rose, Water Superintendent

Telephone: (845) 382-1833
Fax: (845) 382-1854

Dear Water District Customer,

The New York State Department of Health has passed regulations (NYCRR Part 5-1.31) that require the installation and operation of **Backflow Prevention Devices** on non residential water services that are determined to pose a "potential" hazard for backflow contamination. The purpose of these regulations is to prevent the backflow of contaminants into any public water distribution system.

The Town of Ulster Water Districts must comply with these regulations. In order to assist applicable water system users, we have prepared generic Engineering Plans for service lines 2 inches in diameter or less. These are available at no charge. For water service lines greater than 2 inches in diameter, a Professional Engineer (licensed in New York State) must be retained to prepare a detailed plan and application.

The procedure for installing a backflow prevention device is outlined as follows:

SERVICE LINES 2 INCH DIAMETER OR LESS

1. Complete DOH-347 form.
2. Provide three (3) copies of Site Plan Sketch showing utilities, property lines, etc. and DOH-347 form
3. Identify type of RPZ device that is being proposed to be installed by your plumber.
4. Submit above information to the Town of Ulster Water Districts for approval.
5. After approval, install device and provide evidence of satisfactory test results within 45 days of installation. A certified tester must perform test.
6. Provide evidence of yearly test results thereafter.

SERVICE LINES GREATER THAN 2 INCH

1. Retain a licensed professional engineer to prepare a detailed plan of the backflow prevention device in accordance with the regulations. Submit three (3) copies of this plan, along with a DOH-347 form to the Town of Ulster Water Districts.
2. If found satisfactory, the Ulster Water Districts will then forward the application to the Ulster County Health Department.
3. The Ulster County Health Department will review the plan and if acceptable, issue a certificate of approval.
4. After approval, the customer may proceed with the installation.
5. Provide evidence of satisfactory testing of the device, by a certified tester within 45 days of installation.
6. Provide evidence of yearly testing thereafter.

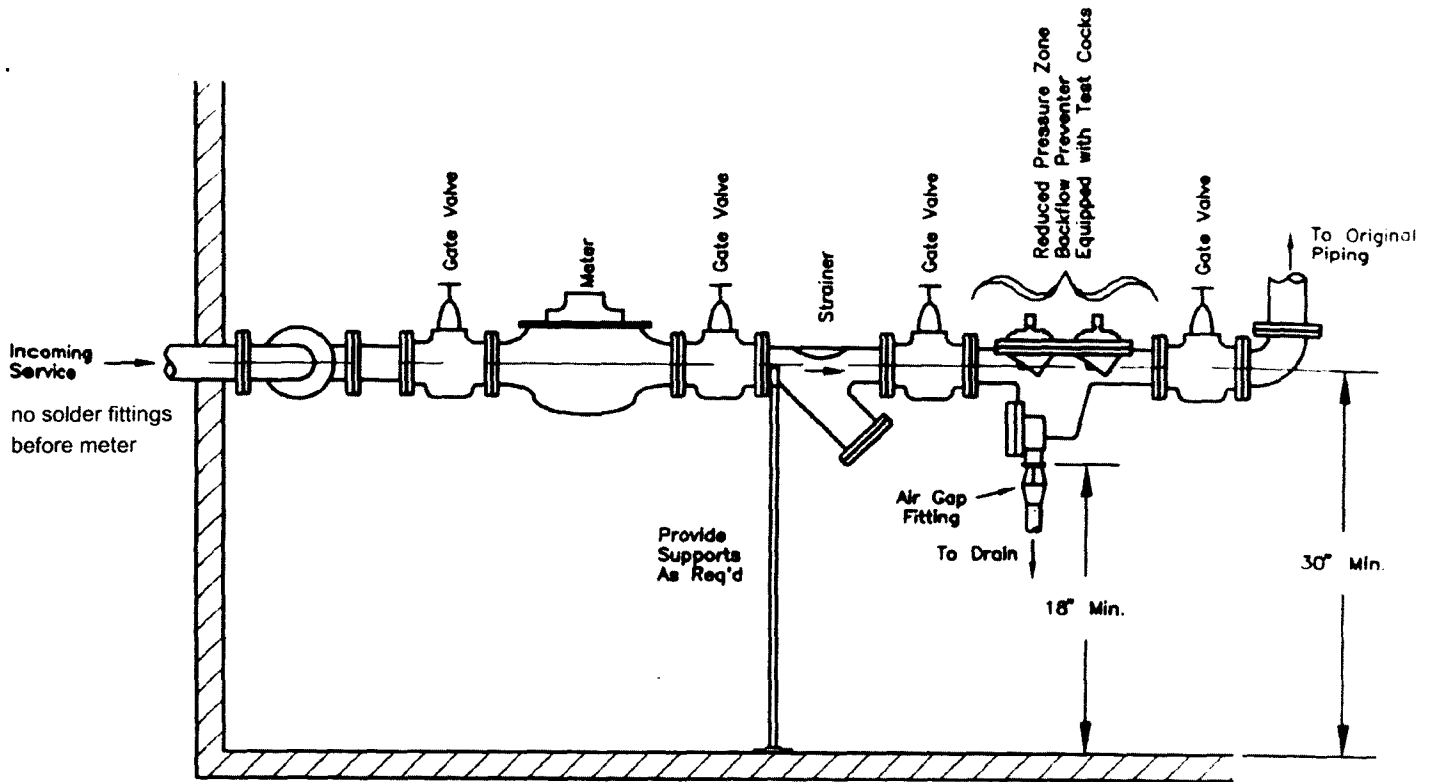
Our department is available to answer any questions you may have concerning the procedures necessary to comply with the State Health Department requirements.

We ask that you complete the application and return it to us as soon as possible. Should you have any questions regarding the application, please feel free to contact me at 382-1833.

Sincerely,



John Rose,
Water Superintendent



SECTION

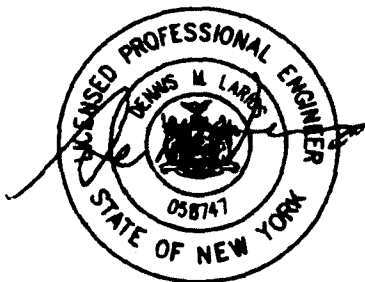
Notes: For 2" ϕ Service Or Less Only.

No By-Pass around RPZ Permitted.

Drain must be by gravity, no sump pits allowed (i.e.; install necessary piping to allow gravity drainage).

Drain shall not be subject to Flooding, and shall be screened at its discharge.

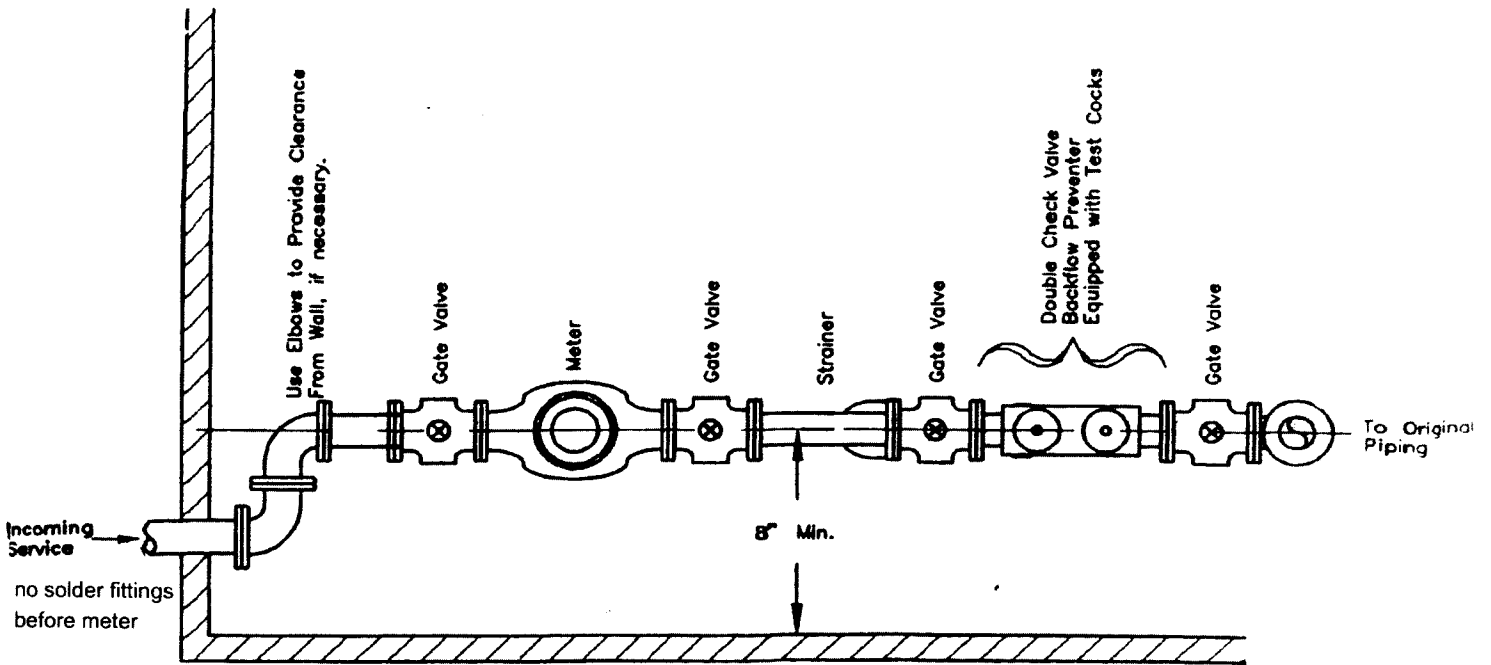
Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.



REDUCED PRESSURE ZONE

**UNIVERSAL DIAGRAM
BACKFLOW PREVENTION DEVICE
ULSTER WATER DISTRICT**

TOWN OF ULSTER		ULSTER COUNTY		NEW YORK
DATE	REVISION RECORD	BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 87 MAIDEN LANE KINGSTON, N.Y.		
SCALE		DATE	SHEET NO.	
Not To Scale		MAY 1985	2 OF 2	
		DRG	CHK	
		WFP	JDD	



PLAN VIEW

FACILITY NAME: _____

Received and Approved on _____
for the Ulster County Commissioner of Health

By: _____
Director of Environmental Sanitation

Recommended for Approval

By: _____

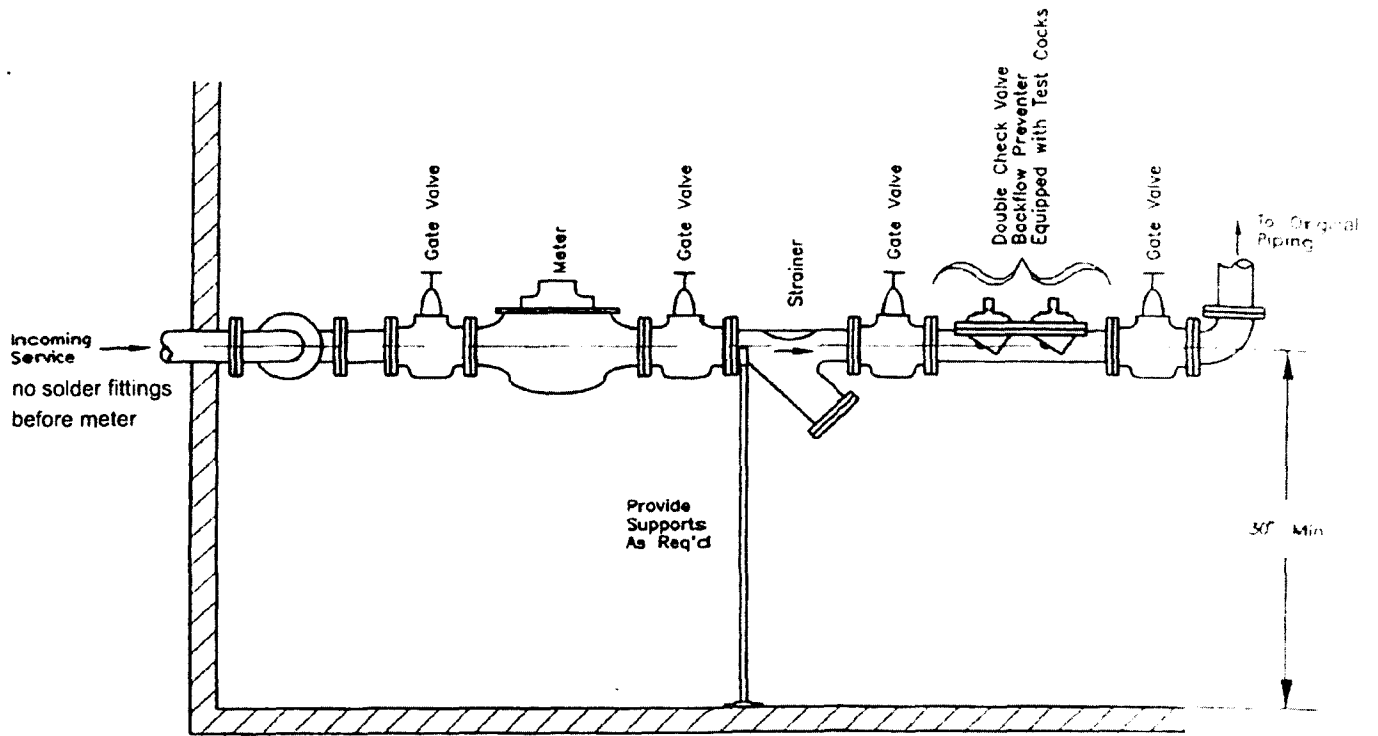
Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.



DOUBLE CHECK VALVES

**UNIVERSAL DIAGRAM
BACKFLOW PREVENTION DEVICE
ULSTER WATER DISTRICT**

TOWN OF ULSTER		ULSTER COUNTY		NEW YORK
DATE	REVISION RECORD			BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y.
SCALE		DATE	SHEET NO.	
Not To Scale		MAY 1995	1 OF 2	
		DWG WFP	CHK JDD	



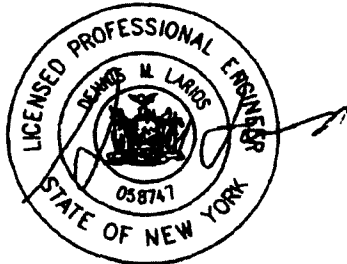
SECTION

Notes: For 2" ϕ Service Or Less Only

No By-Pass around Double Check Valve Permitted.

Installation shall not be subject to Flooding.

Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.



DOUBLE CHECK VALVES

**UNIVERSAL DIAGRAM
BACKFLOW PREVENTION DEVICE
ULSTER WATER DISTRICT**

TOWN OF ULSTER		ULSTER COUNTY	NEW YORK
DATE	REVISION RECORD		BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 87 MAIDEN LANE KINGSTON, N.Y.
SCALE		DATE	SHEET NO.
Not To Scale		MAY 1985	2 OF 2
DWG	WFP	CHK	SEC

GENERAL NOTES

Reduced-Pressure Principle Backflow-Prevention Assembly (RPBA): The approved RPBA shall consist of two independently acting, approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and below the first check valve. This unit shall be located between two tightly closing resilient-seated shutoff valves and shall be equipped with properly located resilient-seated test cocks.

RPBA shall provide high capacity relief valve discharge performance during the emergency conditions of combined back-siphonage and back pressure with both checks fouled. Shall be able to protect supply pressures up to 175 psi and water temperatures to 140 degrees F.

Sizes 3/4" to 2" shall have bronze body construction in modular design with replaceable bronze seats and stainless steel internal parts.

RPBA shall be furnished with an air gap on the drain pipe of the relief valve. Air gap shall be easily mounted to body and shall be epoxy coated. Air gap shall be specifically designed for this purpose. Approved Air-Gap shall be a vertical distance through free atmosphere from relief valve outlet to flood level of at least 2 times the diameter of the water supply, but never less than 1".

Following is a list of devices that may be installed. Any device installed must be on the list (see Environmental Health Manual List). The RPBA shall be installed with adequate space to facilitate maintenance and testing. Ideally, the installation should not require platforms, ladders, or lifts for access.

Adequate clearance from the floor, ceiling, and walls must be provided to facilitate the removal of the relief valve and/or check valves.

Before selection and installation, refer to the manufacturer's literature for temperature ranges. An RPBA must be protected from freezing temperatures and if installed where temperatures will reach 110° F (43°C) or above, the hot water type of assembly must be used. Consult manufacturer's specifications for recommendations.

An RPBA shall not be installed in a pit below ground level. Semi-buried pits are acceptable if the RPBA is installed above the ground or the maximum flood level with an approved air gap between the relief valve port and the daylight drain.

The daylight drain from above ground to semi-buried vaults must provide:

(1) Adequate drainage for the discharge from the reduced-pressure principle assembly relief valve port. Minimum RPBA relief valve flow rates and minimum diameter of relief valve porting area as set forth in AWWA Standard C511 or the Manual of Cross-Connection Control.

(2) Access for maintenance and periodic testing.

Before installing an RPBA, ensure that the relief valves on any heating vessels are in good working condition. If the relief valves are not functioning properly, pressure buildup could occur possibly resulting in explosion or escape of hot liquid under pressure.

If the RPBA is located inside a building, it is required that a drain be provided to receive spillage from the relief valve port. The relief valve port must always have an approved air gap between it and the drain or maximum flood level, whichever is highest.

The assembly should be sized hydraulically, taking into account both the volume requirements of the service and the head loss of the assembly. The head loss of the assembly is not necessarily directly proportional to flow (refer to the manufacturer's head loss pressure curves).

A strainer is required ahead of the assembly. A strainer is considered to be part of an approved backflow-prevention assembly. The additional head loss of the strainer must be taken into account. No strainer is to be used in a fire line without the approval of the insurance underwriters or the authority having jurisdiction. It is important to note that strainers require frequent cleaning and inspection to ensure against fouling and deterioration of the mesh.

Thoroughly flush and sterilize pipes when installing the RPBA.

The RPBA shall not be installed in an area where corrosive fumes or gases could render the assembly inoperable. The RPBA shall be installed "in line."

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 1 of 11

PURPOSE

The purpose of this Technical Reference is to provide a list of approved backflow prevention assemblies for containing potential contamination as required by Section 5-1.31 of the State Sanitary Code. This list is made available to regulatory agencies, water purveyors, consulting engineers, manufacturers, certified testers, contractors and the general public.

POLICY

1. The New York State Department of Health, Bureau of Water Supply Protection (BWSP) will approve only those backflow prevention assemblies that have been evaluated in accordance with **either** of the following evaluation procedures:

a. Laboratory and Field Evaluation

Each make, model and size of assembly shall successfully complete the Laboratory and Field Evaluation phases of the Foundation for Cross Connection Control and Hydraulic Research (FCCC&HR) approval program. Upon completion of the evaluation, the manufacturer shall submit a copy of the Certificate of Approval issued by the FCCC&HR.

b. Laboratory Evaluation Only

Each make, model and size of assembly shall undergo a laboratory evaluation by a qualified independent testing laboratory and shall comply with the latest editions of **each** of the following standards, as applicable:

- FCCC&HR Manual of Cross-Connection Control, Section 10 - Specifications of Backflow Prevention Assemblies.
- American Society of Sanitary Engineering (ASSE) Standards:
 - i. 1013 - Reduced Pressure Principle Backflow Preventer
 - ii. 1015 - Double Check Backflow Prevention Assembly
 - iii. 1047 - Reduced Pressure Detector Assembly Backflow Preventer
 - iv. 1048 - Double Check Detector Assembly Backflow Preventer
- American Water Works Association (AWWA) Standards:
 - i. C510 - Double Check Valve Backflow Prevention Assembly
 - ii. C511 - Reduced Pressure Principle Backflow Prevention Assembly

Upon completion of the evaluation, the manufacturer shall submit copies of the Laboratory Evaluation Report, ASSE Certificate of Authorization and AWWA Certificate of Compliance.

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 2 of 11

In addition to the requirements of 1a or 1b above, the manufacturer shall submit copies of the sales literature and installation/maintenance literature for each model and size assembly. Sample or cutaway units may also be requested for small diameter assemblies.

All information shall be submitted to the following address:

New York State Department of Health
Bureau of Water Supply Protection - Design Section
Flanigan Square
547 River Street, 4th Floor
Troy, NY 12180-2216
(518) 402-7676

2. All approved assemblies must include resilient seated, full-flow shut off valves integral to the assembly. Unless otherwise approved by the BWSP, these shut off valves shall be mounted directly to the assembly and shall be supplied by the assembly manufacturer.
3. All approved assemblies are designed for horizontal installation. Certain assemblies on this list are also specifically designed with provisions for vertical inlet/outlet piping in accordance with the manufacturers recommendations.

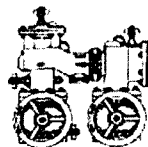
To be approved for vertical installation, where vertical refers to the device orientation, the assembly must undergo testing in a vertical position in accordance with the requirements of 1a or 1b above. Those assemblies that are approved for vertical installation are appropriately designated on the attached list.
4. The BWSP maintains and periodically updates the list of Approved Backflow Prevention Assemblies. Pages 4-11 reflect currently approved assemblies as of the date of printing. This list supersedes all previous approvals.
5. Previously approved assemblies that are out of production or for which only spare parts are available may not appear on this list. Where such assemblies are currently installed, however, they may remain in service provided that they are appropriate for the degree of hazard. When these assemblies demonstrate repeated test failures, require frequent maintenance or if spare parts cannot be readily obtained, they must be replaced by a currently approved assembly.
6. The BWSP reserves the right to remove from the list any assembly that demonstrates deficient or unsatisfactory operation.

ENVIRONMENTAL HEALTH MANUAL

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7. The following is a partial list of typical manufacturers abbreviations that may appear with the approved model/series designation:

- AG, AGD, AGF - air gap, drain, fitting
- B - full port, resilient seated ball valves
- BB - bronze body
- BF - butterfly valves
- EL - vent elbow
- FAE - flanged adapter ends
- FDA - FDA epoxy coating
- FS - flanged strainer
- FSC - FDA epoxy coated flanged strainer
- HW - hot water unit with stainless steel check valves
- M - manifold, modification
- NRS - non-rising stem shutoffs
- OS&Y - outside stem and yoke shutoffs
- QT - quarter turn resilient seated ball valves
- R, RW - resilient seated or resilient wedge shutoffs
- S - strainer
- SS - stainless steel
- U - union connections
- V - approved for vertical installation in accordance with manufacturers instructions
- XL - high temperature service with removable plastic check seats
- N-Shape - See diagram below for an example (please note that this diagram is not intended to represent any specific manufacturer or device)



- Z-Shape - See diagram below for an example (please note that this diagram is not intended to represent any specific manufacturer or device)



The BWSP should be contacted with any questions regarding this list.

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 4 of 11
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REDUCED PRESSURE PRINCIPLE ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	4000-RP	4.0, 6.0, 8.0, 10.0
	4000 SS	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0
	4000B	0.5, 0.75, 1.0, 1.25, 1.5, 2.0
	4000BM2	1.0
	Colt 400	2.5, 3.0, 4.0
	Maxim 400	2.5, 3.0
	Colt 400N	2.5 (↑↓o), 3.0 (↑↓o), 4.0 (↑↓o)
	Colt 400Z	2.5 (↑↑o), 3.0 (↑↑o), 4.0 (↑↑o)
	Maxim 400N	2.5 (↑↓o), 3.0 (↑↓o)
	Maxim 400Z	2.5 (↑↑o), 3.0 (↑↑o)
	BUCKNER	24000
CLA-VAL	RP-2	0.75, 1.0, 1.25, 1.5
	RP-4	2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	RP4V	4.0
	RP6LW	0.75, 1.0, 1.25, 1.5, 2.0
	RP6VW	0.75, 1.0, 1.5, 2.0
	RP7L (W/Y)	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	RP8L (W/Y)	2.0, 3.0, 4.0, 6.0, 8.0, 10.0
	RP8N (W/Y) - N Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	RP8V (W/Y) - Z Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
CONBRACO	40-200	0.25, 0.375, 0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	40-200-A2S	0.75, 1.0
FEBCO	825Y	0.75, 1.0, 1.25, 1.5, 2.0
	825YA	0.75, 1.0, 1.5, 2.0
	825YD	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	845	0.75, 1.0
	860	0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0
	880 - N Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	880V - Z Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only	↑↓o - vertical up inlet and vertical down outlet
↓ - vertical down only	↑↑o - vertical up inlet and vertical up outlet
↑↓ - vertical up and down	

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection <hr/> SUBJECT: Approved Backflow Prevention Assemblies Page 5 of 11
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FLOMATIC	RPZ IIE RPZE RPZ RPZII	0.5, 0.75 0.75, 1.0, 1.5, 2.0 0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0 0.5, 0.75
HERSEY/GRINNELL (BEICO)	FRP-2 6CM	0.75, 1.0, 1.25, 1.5, 2.0 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
ORION WATTS	BRP 009 009QT U009A U009AQT 909 909QT 909M1QT 990 994 957 995QT 957N 957Z U009M2AQT 009M2QT 009M3QT	0.75, 1.0, 1.5, 2.0, 3.0, 4.0 0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0 0.25, 0.375, 0.5 0.75, 1.0, 1.5, 2.0 0.75 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0 0.75 (↑), 1.0 (↑) 1.25, 1.5, 2.0 4.0, 6.0, 8.0 2.5, 3.0, 4.0, 6.0 2.5, 3.0, 4.0 0.5, 0.75, 1.0, 1.25, 1.5 2.5(↑i↓o), 3.0(↑i↓o), 4.0(↑i↓o) 2.5(↑i↑o), 3.0(↑i↑o), 4.0(↑i↑o) 1.0, 1.5, 2.0 1.0, 1.25, 1.5, 2.0 0.75
WILKINS	975XI 975 975XLU 975XLMS 975MS 975BMS 975XLBMS 975XLSE 975XLSE	0.25, 0.375, 0.5, 0.75, 1.0, 1.25, 1.5, 2.0 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0 0.75, 1.0, 1.5, 2.0 0.75, 1.0, 1.25, 1.5, 2.0 2.5, 3.0, 4.0, 6.0, 8.0, 10.0 2.5, 3.0, 4.0, 6.0, 8.0, 10.0 0.75, 1.0, 1.25, 1.5, 2.0 0.75 (↑i↓o), 1.0 (↑i↓o), 1.25 (↑i↓o), 1.5 (↑i↓o), 2.0 (↑i↓o) 0.75 (↑i↑o), 1.0 (↑i↑o), 1.25 (↑i↑o), 1.5 (↑i↑o), 2.0 (↑i↑o)

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only

↓ - vertical down only

↑↓ - vertical up and down

↑i↓o - vertical up inlet and vertical down outlet

↑i↑o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 6 of 11
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WILKINS (cont.)	975XLSEU	0.75 (↑↑o), 1.0 (↑↑o), 1.25 (↑↑o), 1.5 (↑↑o), 2.0 (↑↑o)
	375	2.5, 3.0, 4.0, 6.0, 8.0
	375A	4.0, 6.0, 8.0
	375DA	2.5, 3.0
	475	2.5 (↑↓o), 3.0 (↑↓o), 4.0 (↑↓o), 6.0 (↑↓o), 8.0 (↑↓o)
	475V	2.5 (↑↑o), 3.0 (↑↑o), 4.0 (↑↑o), 6.0 (↑↑o), 8.0 (↑↑o)
	975XLV	0.75 (↑↑o), 1.0 (↑↑o)
	975XLV	0.75 (↑↓o), 1.0 (↑↓o)

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only
 ↓ - vertical down only
 ↑↓ - vertical up and down

↑↓o - vertical up inlet and vertical down outlet
 ↑↑o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 7 of 11
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DOUBLE CHECK VALVE ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>	
AMES	2000-DCA	4.0, 6.0, 8.0, 10.0	
	2000 SE	2.5, 6.0 (↑), 8.0 (↑)	
	2000 SS	0.75 (↑), 1.0 (↑), 1.5, 2.0, 2.5 (↑), 3.0 (↑), 4.0(↑), 6.0 (↑), 8.0, 10.0	
	2000B	0.5 (↑), 0.75 (↑), 1.0, 1.25 (↑), 1.5 (↑), 2.0 (↑)	
	2000CIV	4.0, 6.0, 8.0, 10.0	
	2001 SS	3.0 (↑), 4.0 (↑)	
	Colt 200a	2.5 (↑), 3.0 (↑), 4.0 (↑)	
	Maxim 200a	2.5 (↑), 3.0 (↑)	
	Colt 200Na	2.5(↑↓o), 3.0(↑↓o), 4.0(↑↓o)	
	Maxim 200Na	2.5(↑↓o), 3.0(↑↓o)	
	BUCKNER CLA-VAL	24100	0.75, 1.0, 1.25, 1.5, 2.0
		D-2	0.75, 1.0, 1.25, 1.5
D-4		2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0	
DC6LW		0.75 (↑), 1.0, 1.5, 2.0	
DC7L (W/Y)		2.5, 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0, 10.0	
DC8L (W/Y)		4.0 (↑), 6.0 (↑), 8.0 (↑)	
DC8N (W/Y) - N Shape		2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0	
DC8V (W/Y) - Z Shape		2.5, 3.0, 4.0, 6.0, 8.0	
CONBRACO		40-100	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	DC (a/k/a 4S-100)	0.5 (↑), 2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0(↑), 8.0 (↑), 10.0 (↑)	
	40-106-A2	1.25	
	40-106-997	1.25	
	FEBCO	805Y	0.75 (↑), 1.0, 1.5, 2.0
805YD		2.5, 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0, 10.0	
850		0.5 (↑), 0.75 (↑), 1.0 (↑), 1.25 (↑), 1.5 (↑), 2.0 (↑), 2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑)	
851		8.0 (↑)	
870		4.0 (↑), 6.0 (↑), 8.0	
870V		4.0 (↑), 6.0 (↑), 8.0 (↑)	
870 - N Shape		2.5, 3.0, 10.0	
870V - Z Shape		2.5, 3.0	

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

- | | |
|---------------------------|--|
| ↑ - vertical up only | ↑↓o - vertical up inlet and vertical down outlet |
| ↓ - vertical down only | ↑↑o - vertical up inlet and vertical up outlet |
| ↑↓ - vertical up and down | |

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 8 of 11

FLOMATIC	DCVE	0.75, 1.0, 1.5, 2.0
	DCV	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0
HERSEY/GRINNELL (BEECO)	FDC	0.75, 1.5, 2.0
	HDC	0.75, 1.0, 1.5, 2.0
	No. 2	3.0, 4.0, 6.0, 8.0, 10.0
KENNEDY ORION	1373	4.0, 6.0, 8.0, 10.0
	BDC	0.75, 1.0, 1.5, 2.0, 3.0, 4.0
WATTS	007	0.50 (↑), 0.75 (↑ ↓), 1.0 (↑ ↓), 1.5 (↑ ↓), 2.0 (↑ ↓), 2.50 (↑ ↓), 3.0 (↑ ↓)
	007M1Qt	1.0(↑), 2.0 (↑)
	007M2Qt	1.25 (↑), 1.5 (↑)
	709	0.75 (↑ ↓), 1.0 (↑ ↓), 1.25 (↑ ↓), 1.5 (↑ ↓), 2.0 (↑ ↓), 2.5 (↑ ↓), 3.0 (↑ ↓), 4.0 (↑ ↓)
		6.0 (↑), 8.0 (↑), 10.0 (↑)
	774	0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0(↑), 10.0
	774X	6.0 (↑), 8.0 (↑)
	775	3.0 (↑), 4.0 (↑)
	775QT	0.5 (↑) 0.75 (↑), 1.0 (↑), 1.25 (↑), 1.5 (↑), 2.0(↑)
	757a	2.5 (↑), 3.0(↑), 4.0(↑), 6.0 (↑)
WILKINS	757Na	2.5(↑↓o), 3.0 (↑↓o), 4.0 (↑↓o), 6.0 (↑↓o)
	950	0.75, 1.0, 1.25, 1.5, 2.0, 2.5 (↑), 3.0(↑), 4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	950XL	0.75 (↑), 1.0, 1.25, 1.5, 2.0
	950XLT	0.75, 1.0
	950XLU	0.75, 1.0, 1.5, 2.0
	350	2.5(↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	350A	4.0 (↑), 6.0 (↑), 8.0 (↑)
	350DA	2.5(↑), 3.0(↑), 8.0(↑), 10.0(↑)
	450	2.5(↑↓o), 3.0(↑↓o), 4.0 (↑↓o), 6.1 (↑↓o), 8.0(↑↓o), 10.0 (↑↓o).

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

- ↑ - vertical up only
- ↓ - vertical down only
- ↑ ↓ - vertical up and down

- ↑↓o - vertical up inlet and vertical down outlet
- ↑↑o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 9 of 11
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DOUBLE CHECK DETECTOR ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	3000 DCDA	4.0, 6.0, 8.0, 10.0
	3000 SE	2.5, 6.0(↑), 8.0(↑)
	3000 SS	2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0, 10.0
	3000B	2.0
	3000CIV	4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	3001 SS	3.0 (↑), 4.0 (↑)
CLA-VAL	DD7LY	3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	DD8LY	4.0 (↑), 6.0 (↑), 8.0 (↑)
	DD8NY - N Shape	4.0 (↑), 6.0 (↑), 8.0
	DD8VY - Z Shape	4.0, 6.0, 8.0
CONBRACO	40-600	3.0, 4.0, 6.0, 8.0, 10.0
	DCDA (a/k/a 4S-600)	2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0(↑), 10.0(↑)
FEBCO	806YD	3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	856	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0 (↑)
	876	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	876V	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0 (↑)
HERSEY/GRINNELL (BEECO)	DDC-II	3.0, 4.0, 6.0, 8.0, 10.0
WATTS	007 DCDA	2.0 (↑), 2.5 (↑), 3.0
	709 DCDA	3.0 (↑ ↓), 4.0 (↑ ↓), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	774 DCDA	3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	774 XDCDA	6.0 (↑), 8.0 (↑)
	775 DCDA	3.0 (↑), 4.0 (↑)
	757a - DCDA - BF	2.5 (↑), 3.0 (↑), 4.0 (↑)
	757a - DCDA - GV	2.5 (↑), 3.0 (↑), 4.0 (↑)

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only
 ↓ - vertical down only
 ↑ ↓ - vertical up and down

↑ ↓ o - vertical up inlet and vertical down outlet
 ↑ ↑ o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 10 of 11
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WILKINS	950DA	2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	350DA	4.0 (↑), 6.0 (↑)
	350ADA	4.0 (↑), 6.0 (↑), 8.0 (↑)
	450DA	4.0 (↑↓o), 6.0 (↑↓o)

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only
 ↓ - vertical down only
 ↑ ↓ - vertical up and down

↑↓o - vertical up inlet and vertical down outlet
 ↑↑o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 11 of 11
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REDUCED PRESSURE DETECTOR ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	5000 CIV	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	5000 RPDA	4.0, 6.0, 8.0, 10.0
CIA-VAL	18	10.0
	RD7LY	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
CONBRACO	40-700	3.0, 4.0, 6.0, 8.0, 10.0
FEBCO	826YD	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
HERSEY/GRINNELL (BEECO)	6CM-RPDA	4.0, 6.0, 8.0, 10.0
WATTS	909 RPDA	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
WILKINS	375DA	4.0, 6.0, 8.0
	375ADA	4.0, 6.0, 8.0
	475DA	4.0 (↑↓o), 6.0 (↑↓o)
	475DAV	4.0 (↑↑o), 8.0 (↑↑o)
	975DA	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	975MS	8.0, 10.0

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

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 ↑↓ - vertical up and down

↑↓o - vertical up inlet and vertical down outlet
 ↑↑o - vertical up inlet and vertical up outlet

Application for Approval of Backflow Prevention Devices

PRINT OR TYPE ALL ENTRIES EXCEPT SIGNATURES
Please completed items 1 through 12a + Block and Lot Numbers

Block #

Lot #

FOR DEPARTMENT USE ONLY
Log No.

1. Name of Facility		2. City, Village, Town		3. County	
4. Location of Facility <small>Street</small>		City		state	
4a. Phone Numbers		5. Contact Person			
5. Approx. Location of Device(s)		6. Mfg. Model #		Size of Device(s)	
# of Fire Services		# of Domestic Services		# of Combined Services	
Total # of Services		Total # of Buildings			
7. Name of Owner		Title		Phone Number	
8. Nature of works		<input type="checkbox"/> Initial Device Installation <input type="checkbox"/> Replace Existing Device			
Full Mailing Address <small>street</small>		8a			
Address		<input type="checkbox"/> New Service <input type="checkbox"/> Existing Service			
City		state		zip	
Owner's Signature		Date		8b	
		M / D / Y		<input type="checkbox"/> New Building <input type="checkbox"/> Existing Building <input type="checkbox"/> Major Renovations	

9. Name of Design Engineer or Architect		10. NYS License #	
Address <small>Street</small>		<input type="checkbox"/> PE <input type="checkbox"/> RA <input type="checkbox"/> Other	
City		10a. Telephone Number(s)	
State		Date	
zip		M / D / Y	
Signature			
Original Ink signature and seal required on all copies			

11. Water System Pressure (psi) at Point of Connection		12. Estimate Installation Cost		12a. Estimate Design Cost	
Max Avg Min					
13. Degree of Hazard		List of processes or reasons that lead to degree of hazard checked			
<input type="checkbox"/> Hazardous <input type="checkbox"/> Aesthetically Objectionable					

14. Public water supply name		Name of supplier's designate representative	
Mailing Address		Title	
<small>street</small>			
City		Signature	
state		M / D / Y	
zip			
Telephone No. ()			

Note: All applicants must be accompanied by plans, specifications and an engineer's report describing the project in detail. The project must first be submitted to the water supplier, who will forward it to the local public health engineer. This form must be prepared in quadruplicate with four copies of all plans, specifications and descriptive literature.