

UNLEADED BACKFLOW PREVENTERS

Danfoss



FLOMATIC[®] VALVES

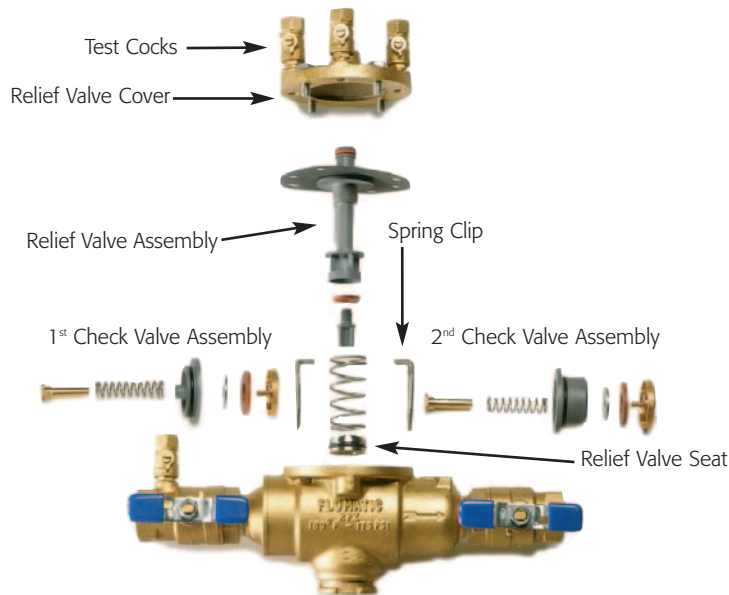
High Quality Valves Built to Last ...





FLOMATIC BACKFLOW PREVENTERS . . . BETTER BY DESIGN

Keeping our water safe and clean...



Flomatic's backflow preventers are designed to deliver both top performance and reliability. Our exclusive design streamlines the number of working parts, making maintenance easy.

Our unleaded backflow preventers offer easy and economical service. The unique top-entry cover allows quick access to both the relief valve and check valves.

As a responsible manufacturer we are dedicated to protecting our water from cross-contamination and lead exposure.

These backflow preventers are constructed from unleaded bronze or epoxy coated ductile iron*; They also include dimensionally stable, corrosion resistant components.

*See CHARACTERISTICS for specific Sizes/Body Construction.

Danfoss Flomatic, introduced the industry's first unleaded bronze ENVIRO CHECK® backflow preventers Model RPZE and DCVE

The National Sanitary Foundation (NSF), an ANSI-accredited certifying laboratory, tested our backflow Preventers for lead leaching in accordance to Standard 61 and achieved five (5) parts per billion (ppb) or less of lead. These Models are the first backflow Preventers that meet the new stringent, court approved, lead leaching requirements of

California Proposition 65

Our approved backflow preventer products carry a special permanent marking "61 < 5" signifying Proposition 65 compliant for lead leaching. See our product specification sheets and web page for detailed listing of all "61 < 5" approved products.

For more information on California Proposition 65 contact www.oehha.ca.gov/prop65/background/ or Danfoss Flomatic Corporation www.Flomatic.com.

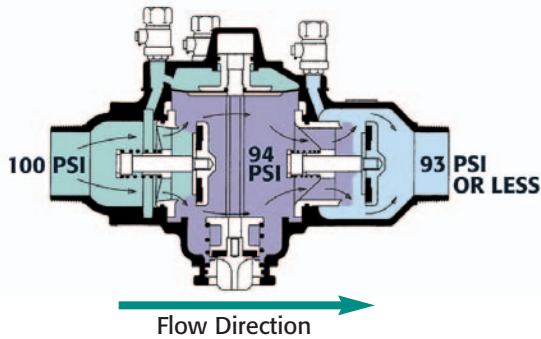
The new ENVIRO CHECK® backflow preventers are also approved by The Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California, FCCHR at USC, (from 1/2" to 2" other sizes are available up to 10" in size). These new units are designed to protect drinking water and are constructed to comply with the federal and state laws in California.

BACKFLOW PREVENTERS—RPZE WORKING PRINCIPLE



Flomatic's RPZE devices (reduced pressure principle backflow preventer) provide maximum protection against back-siphonage and backpressure. This superior safeguard technology consists of two independently acting check valves and a relief valve. Flomatic has recognized the need for unleaded backflow preventers which will assure safe drinking water. We are committed to a clean environment and to providing the most reliable valves in the industry.

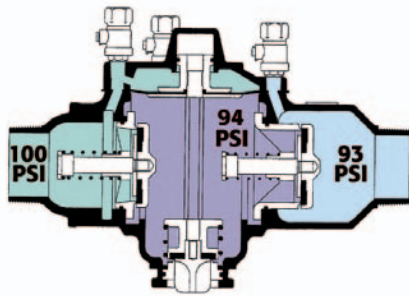
1.



NORMAL FLOW CONDITIONS

1) In this illustration, water flows in a normal direction with an inlet pressure of 100 PSI. The inlet pressure flows through an internal port to the top side of the relief valve diaphragm. The pressure drop across the first check valve into the "zone" area is approximately 6 PSI. The relief valve is held in the closed position due to the higher pressure on the top of the diaphragm. The second check valve operates with a lighter spring load, this creates the double check valve advantage, and further reduces the pressure by 1 PSI to 93 PSI or less.

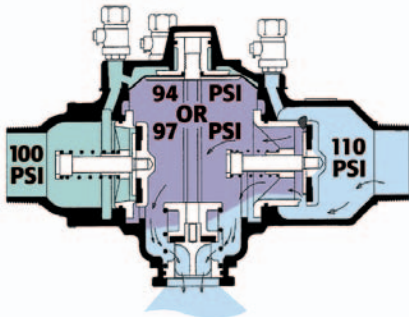
2.



STATIC PRESSURE CONDITION

2) In this no flow condition, upstream water pressure is 100 PSI, while the pressure in the "zone" (between the two check valves) is approximately 94 PSI. The 6 PSI differential ensures that the relief valve remains closed. If the first check valve leaks during this condition, the high water pressure will leak into the "zone" and cause the relief valve to open. This condition would result in a visual leakage at the relief valve vent.

3b.



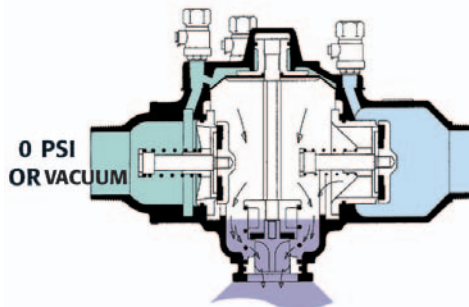
BACK-PRESSURE CONDITION

3) In this illustration, the downstream pressure increases to 110 PSI and causes a backflow condition.

a) The second check valve will normally prevent the higher pressure from entering the "zone" between the check valves. The relief valve will remain closed since 6 PSI differential pressure is being maintained between the supply pressure and the zone.

b) If the second check valve is obstructed or fouled, the water will leak into the center chamber and increase the pressure. As the pressure increases to approximately 97 PSI the relief valve starts to open, dumping the potentially contaminated liquid into the waste drain.

4.



BACK-SIPHONAGE CONDITION

4) In this illustration, the supply pressure drops causing a reduction of pressure on the top of the relief valve diaphragm. When the differential pressure between the supply and "zone" is decreased to 3 PSI, the relief valve will start to open. Should the inlet pressure drop to atmosphere or below, the relief valve will be fully open and the water between the two check valves (zone) will discharge.

LEGEND

- Inlet Pressure
- Outlet Pressure
- Intermediate Zone Pressure





REDUCED PRESSURE ZONE

FEATURES

- Unleaded body, test cocks and ball valves
- Top entry, single access cover
- Noryl® replaceable seats
- Air-gap adapter standard (1/2" - 2")
- Internal water passage to relief valve; prevents clogging and vandalism
- Simple construction; fewer parts
- Interlocking, three-piece relief valve assembly
- All internal parts made from dimensionally stable corrosion-resistant materials
- Easy to repair and install
- Request list of latest approvals for: ASSE® 1013, AWWA, USC FCCC&HR.

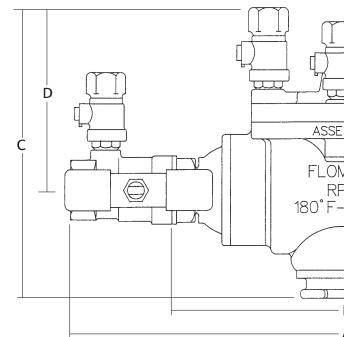


RPZE II 1/2", 3/4", 1 1/2"
Smaller compact design
Unleaded



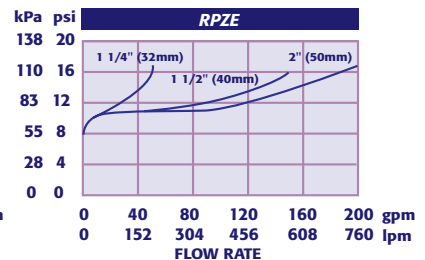
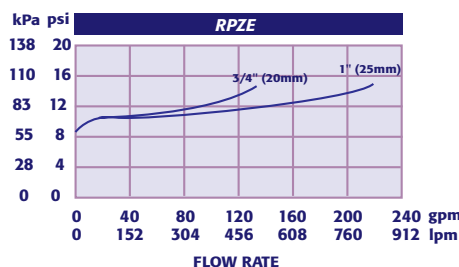
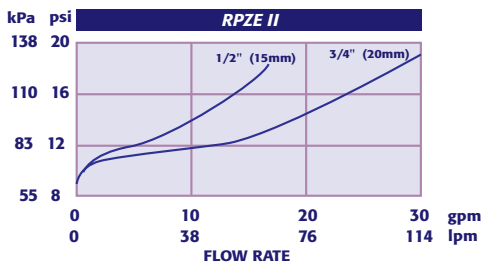
RPZE II VALVE SIZES 1/2", 3/4", 1 1/2" (15 mm, 20 mm, 40 mm)

PART #	B9399E		B9300E		B9303E	
Size	1/2"	(15 mm)	3/4"	(20 mm)	1 1/2"	(40 mm)
A	9 1/4	(235 mm)	9 3/4	(248 mm)	17	(432 mm)
B	5 1/2	(140 mm)	5 1/2	(140 mm)	10 1/2	(267 mm)
C	5 21/32	(144 mm)	5 21/32	(144 mm)	4 1/2	(114 mm)
D	3 5/8	(93 mm)	3 5/8	(93 mm)	7 63/64	(203 mm)
Width	3 5/32	(80 mm)	3 5/32	(80 mm)	5 1/16	(129 mm)
Weight With Ball Valves	4 3/8 lbs.	(2.0 kg)	4 7/8 lbs.	(2.2 kg)	18 1/2 lbs	(8.4 kg)
Weight Without Ball Valves	3 1/4 lbs.	(1.5 kg)	3 1/4 lbs.	(1.5 kg)	12 lbs.	(5.4 kg)



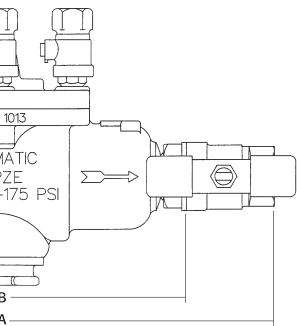
RPZE VALVE SIZES 3/4" - 2" (20 mm - 50 mm)

PART #	B9200E		B9201E		B9202E		B9203E		B9204E	
SIZES	3/4"	(20 mm)	1"	(25 mm)	1 1/4"	(32 mm)	1 1/2"	(40 mm)	2"	(50 mm)
A	12	(305 mm)	13	(330 mm)	14 3/8	(365 mm)	19	(483 mm)	20	(508 mm)
B	8	(203 mm)	8	(203 mm)	9	(229 mm)	12 1/2	(318 mm)	12 1/2	(318mm)
C	6 1/8	(156 mm)	6 1/8	(156 mm)	7 1/4	(184 mm)	9	(229 mm)	9	(229 mm)
D	3 3/4	(95 mm)	3 3/4	(95 mm)	4 1/8	(105 mm)	5	(127 mm)	5	(127 mm)
Width	4	(102 mm)	4	(102 mm)	4 9/16	(116 mm)	5 3/4	(146 mm)	5 3/4	(146 mm)
Weight With Ball Valves	8 1/2 lbs.	(3.9 kg)	9 1/2 lbs.	(4.3 kg)	13 lbs.	(5.9 kg)	27 1/2 lbs.	(12.5 kg)	32 lbs.	(14.5 kg)
Weight Without Ball Valves	6 7/8 lbs.	(3.1 kg)	6 7/8 lbs.	(3.1 kg)	8 1/2 lbs.	(3.9 kg)	21 lbs.	(9.5 kg)	21lbs.	(9.5 kg)

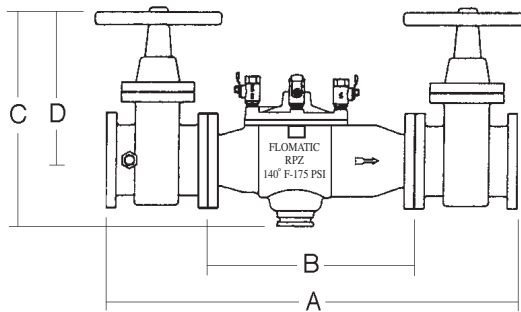




**RPZE 3/4"-2"
Unleaded**



**RPZ 2 1/2" - 10"
Epoxy Coated
Unleaded**



CHARACTERISTICS

RPZE II 1/2"-3/4" & 1 1/2"

- Pressure Max: 175 PSI
- Temperature Max: 180° F
- Valve Body: Unleaded Federalloy
- Springs: Stainless Steel
- Check Valve Seats: Noryl®
- Spring Clips: Stainless Steel
- Relief Valve Assembly: Noryl®
- Relief Valve Seat: Stainless Steel
- Seat Discs: Silicone
- Diaphragm: Nitrile/Nylon
- Fasteners: Stainless Steel

RPZE 3/4"-2"

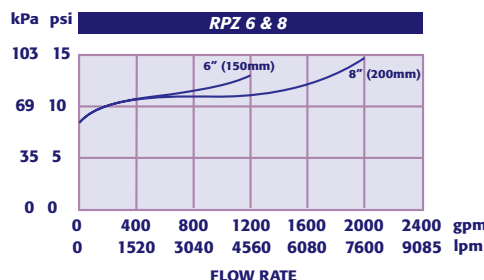
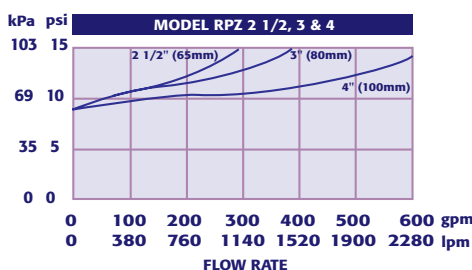
- Pressure Max: 175 PSI
- Temperature Max: 180° F
- Valve Body: Unleaded
- Springs: Stainless Steel
- Check Valve Seats: Noryl®
- Spring Clips: Stainless Steel
- Relief Valve Assembly: Noryl®
- Relief Valve Seat: Stainless Steel
- Seat Discs: Silicone
- Diaphragm: Nitrile/Nylon
- Fasteners: Stainless Steel

RPZ 2 1/2"-10"

- Pressure Max: 175 PSI
- Temperature Max: 140° F
- Valve Body: Epoxy Coated Ductile Iron
- Springs: Stainless Steel
- Check Valve Seats: Unleaded (4" - 10" seats) 2 1/2" & 3" Noryl®
- Spring Clips: Stainless Steel
- Relief Valve Assembly: Stainless Steel & Noryl®
- Relief Valve Seat: Stainless Steel
- Seat Discs: Silicone
- Diaphragm: Nitrile/Nylon
- Fasteners: Stainless Steel

RPZ VALVE SIZES 2 1/2" - 10" (65 mm - 250 mm)

PART #	B9205		B9206		B9207		B9209		B92010		B92011	
Size	2 1/2"	(65 mm)	3"	(80 mm)	4"	(100 mm)	6"	(150 mm)	8"	(200 mm)	10"	(250 mm)
A	31 1/4	(794 mm)	32 1/4	(819 mm)	39	(991 mm)	46	(1168 mm)	52 1/2	(1334 mm)	60 7/8	(1546 mm)
B	16 1/4	(413 mm)	16 1/4	(413 mm)	21	(533 mm)	25	(635 mm)	29 1/2	(749 mm)	34 7/8	(886 mm)
C	11 11/16	(418 mm)	11 11/16	(443 mm)	15 1/8	(569 mm)	18 1/16	(721 mm)	21 1/16	(826 mm)	37 7/8	(962 mm)
D	6 5/8	(289 mm)	6 5/8	(314 mm)	7 15/32	(375 mm)	8 11/16	(483 mm)	11 1/8	(572 mm)	26 1/2	(673 mm)
Width	8 13/16	(224 mm)	8 13/16	(224 mm)	10 1/4	(260 mm)	12 1/8	(308 mm)	14 3/4	(375 mm)	18	(475 mm)
Weight With Gate Valves	164 lbs.	(74.4 kg)	186 lbs.	(84 kg)	314 lbs.	(142 kg)	463 lbs.	(210 kg)	710 lbs.	(322 kg)	Call Factory	
Weight Without Ball Valves	60 lbs.	(27.2 kg)	60 lbs.	(27 kg)	120 lbs.	(54 kg)	163 lbs.	(74 kg)	300 lbs.	(136 kg)	Call Factory	





DOUBLE CHECK VALVE - DCVE

FEATURES

- Unleaded body, test cocks and ball valves
- Top entry, single access cover; top mounted test cocks
- Noryl® replaceable seats
- All internal parts made from dimensionally stable corrosion-resistant materials
- Easy to repair and install
- Request list of latest approvals for: ASSE® 1015 AWWA, USC FCCC&HR.

CHARACTERISTICS

DCVE 3/4"-2"

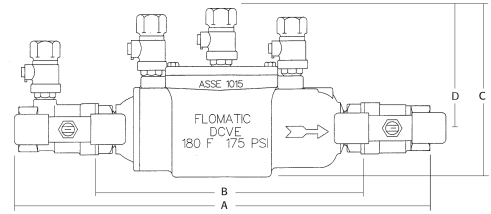
Pressure Max: 175 PSI
 Temperature Max: 180° F
 Body: Unleaded
 Springs: Stainless Steel
 Poppets: Unleaded
 Check Valve Seats: Noryl®
 Spring Clips: Stainless Steel
 Seat Discs: Silicone Rubber
 Fasteners: Stainless Steel

DCV 2 1/2"-10"

Pressure Max: 175 PSI
 Temperature Max: 140° F
 Body: Epoxy Coated
 Ductile Iron
 Springs: Stainless Steel
 Poppets: Unleaded
 Check Valve Seats: Unleaded (4" - 10" seats)
 2 1/2" & 3" Noryl®
 Spring Clips: Stainless Steel
 Seat Discs: Silicone Rubber
 Fasteners: Stainless Steel



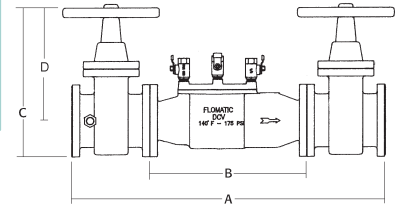
**DCVE 3/4" - 2"
Unleaded**



DCVE VALVES SIZE 3/4" - 2" (20 mm - 50mm)

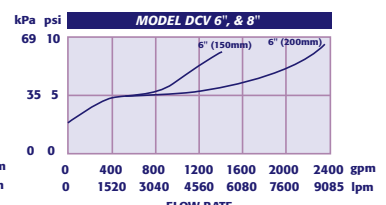
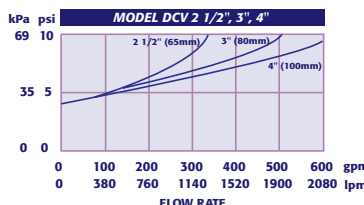
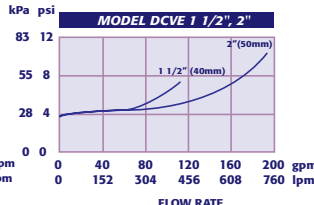
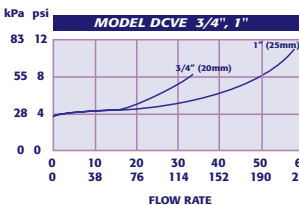
PART #	B9100E		B9101E		B9103E		B9104E	
Sizes	3/4"	(20 mm)	1"	(25 mm)	1 1/2"	(40 mm)	2"	(50 mm)
A	12	(305mm)	13	(330 mm)	19	(483 mm)	20	(508 mm)
B	7 5/8	(194 mm)	7 5/8	(194 mm)	12 1/2	(318 mm)	12 1/2	(318 mm)
C	5	(127 mm)	5	(127 mm)	6 1/2	(165 mm)	6 1/2	(165 mm)
D	3 1/2	(89 mm)	3 1/2	(89 mm)	4 3/8	(111 mm)	4 3/8	(111 mm)
Width	3 1/4	(83 mm)	3 1/4	(83 mm)	4 3/4	(121 mm)	4 3/4	(121 mm)
Weight With Valves	7 1/4 lbs.	(3.3 kg)	8 1/4 lbs.	(3.7 kg)	23 1/2 lbs.	(11 kg)	28	(13 kg)
Weight Without Valves	5 1/2 lbs.	(2.5 kg)	5 1/2 lbs.	(2.5 kg)	17 lbs.	(8 kg)	17 lbs.	(8 kg)

**DCV 2 1/2" - 10"
Epoxy Coated
Unleaded**



DCV VALVE SIZES 2 1/2" - 10" (65 mm - 250 mm)

Part #	B9105	B9106	B9107	B9109	B91010	B91011
Size	2 1/2"	3"	4"	6"	8"	10"
A	31 1/4 (794 mm)	32 1/4 (819 mm)	39 (991 mm)	42 (1067 mm)	50 1/2 (1283 mm)	58 5/8 (1489 mm)
B	16 1/4 (413 mm)	16 1/4 (413 mm)	21 (533mm)	21 (533 mm)	27 1/2 (699 mm)	32 5/8 (829 mm)
C	14 7/8 (378 mm)	16 1/8 (410 mm)	19 1/4 (489 mm)	24 1/2 (622mm)	29 1/4 (743 mm)	34 1/2 (876 mm)
D	11 3/8 (289 mm)	12 3/8 (314 mm)	14 3/4 (375 mm)	19 (483 mm)	22 1/2 (572 mm)	26 1/2 (673 mm)
Width	7 3/4 (197 mm)	7 3/4 (254 mm)	9 15/16(254 mm)	12 1/8 (308 mm)	14 3/4 (375 mm)	18 (457 mm)
Weight With Valves	154 lbs. (70 kg)	176 lbs. (80kg)	290 lbs. (132 kg)	447 lbs. (203 kg)	695 lbs. (315 kg)	Consult Factory
Weight Without Valves	50 lbs. (23 kg)	50 lbs. (23 kg)	100 lbs. (45 kg)	147 lbs. (67 kg)	285 lbs. (129 kg)	Consult Factory



PRESSURE VACUUM BREAKER-PVB



FLOMATIC Model PVB The pressure vacuum breaker is designed to be installed in high hazard service to provide backflow protection against back-siphonage of contaminated fluids. It incorporates an independently acting check valve with a spring loaded float/disc. Under normal operation, the float disc remains closed. When the internal pressure of the device falls to 1 PSI or less, the float disc opens to atmosphere. This feature prevents back-siphonage or the creation of a vacuum.

FEATURES

- Corrosion resistant parts
- Fewer internal parts
- Easy maintenance
- Replaceable seat.
- Durable silicone disc elastomers.
- Low cost service life.
- Easy to repair-reduces cost.
- Higher operating pressures and temperatures
- ASSE® listed 1020, USC FCC&HR

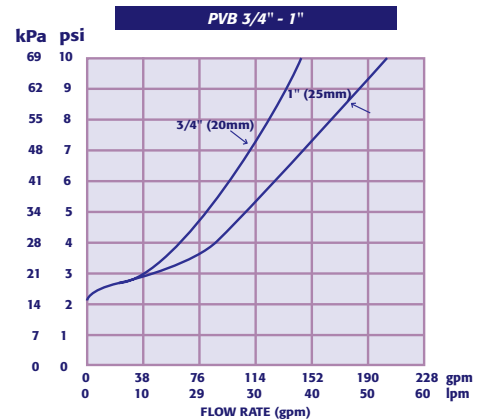
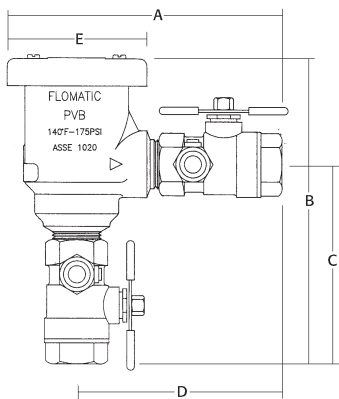
CHARACTERISTICS

Pressure Max: 175 PSI
 Temperature Max: 140° F
 Body: Bronze
 Seat Discs: Silicone
 Canopy: ABS
 Valve Bonnet : Noryl®
 GFN2 – 780S
 Bonnet O-Ring: Buna-N
 Springs: Stainless Steel
 Seat Rings: Noryl®
 GFN2 – 780S

PVB VALVE SIZES 3/4" - 1" (20 mm - 25mm)

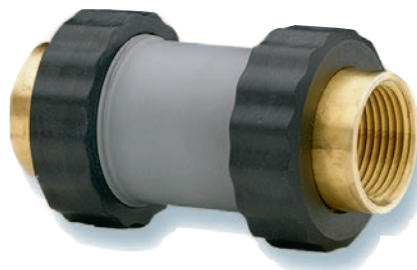
PART #	B9500		B9501	
	3/4" (20mm)	1" (25 mm)	3/4" (20mm)	1" (25 mm)
A	6 (152 mm)	6 1/2 (165 mm)	6 1/2 (165 mm)	6 1/2 (165 mm)
B	6 9/16 (167 mm)	7 1/8 (181 mm)	6 9/16 (167 mm)	6 9/16 (167 mm)
C	4 5/16 (110 mm)	5 1/16 (129 mm)	4 5/16 (110 mm)	4 5/16 (110 mm)
D	4 1/2 (114 mm)	5 (127 mm)	4 1/2 (114 mm)	4 1/2 (114 mm)
E	3 (76 mm)	3 (76 mm)	3 (76 mm)	3 (76 mm)
Width	3 7/8 (98 mm)	4 (102 mm)	3 7/8 (98 mm)	3 7/8 (98 mm)
Weight With Ball Valves	3 1/4 lbs. (1.5 kg)	4 1/4 lbs. (1.9 kg)	3 1/4 lbs. (1.5 kg)	3 1/4 lbs. (1.5 kg)
Weight Without Ball Valves	1 1/2 lbs. (0.7 kg)	1 1/2 lbs. (0.7 kg)	1 1/2 lbs. (0.7 kg)	1 1/2 lbs. (0.7 kg)

PVB 3/4" - 1"



FLOMATIC Model 8080 Is designed to be installed on potable water lines to protect against both back-siphonage and backpressure of contaminated water. Assembly shall provide protection against a potential health hazard. The **Model 8080** is ideal for meter protection and features optional testing ports. The body and internal parts are lead-free and extremely corrosion resistant. Approved for vertical and horizontal installation.

Model 8080 3/4", 1"

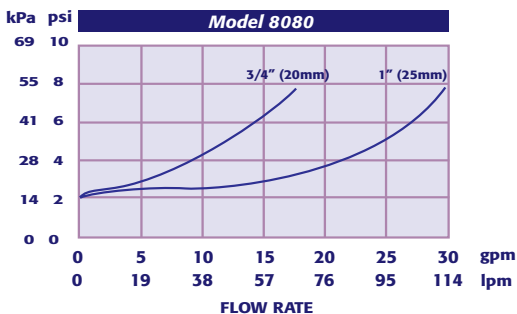


FEATURES

- Maximum working water pressure 175 PSI
- Maximum working water temperature 180° F
- End connections Threaded ANSI B1.20.1
- ASSE® listed 1024

CHARACTERISTICS

Body: Noryl®
 Tailpiece Nut: Noryl®
 Check Valve Housing: Delrin
 Check Valve Spring: Stainless Steel
 Check Valve Spring Retainer: Delrin
 Check Valve Disc: Silicone
 Check Valve Poppet: Noryl®



Danfoss . . .

Your global partner with innovative solutions for water and wastewater



Industrial Controls & Oxygen Meters



Drives up to 600 HP
VLT@ 5000 AQUA Series



Valves up to 30" in size

When you purchase Danfoss products, you are not only investing in reliability. You are also joining a partnership for tomorrow's solutions, based on the technology of the future. Danfoss is known for its precise mechanical and electronic components and for its intelligent "mechatronic" products. But all intelligent development begins with the innovative know-how. We employ over 19,000 people worldwide – all contributing to continuous development.

Water and Wastewater Control Products Program

Product Family

Water and Wastewater Valves

Product Type

- Check and Foot Valves
- Automatic Control Valves
- Backflow Preventer
- Air/Vacuum Valves

Who to Contact

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Fax: 610-495-3072

• PREFERRED SOURCES, INC.
Stallings, N.C. 28105
Phone: 704-821-0834
Fax: 704-821-0948

CENTRAL

• REP RITE BURK & ASSOCIATES
Mendota Heights, MN 55120
Phone: 651-686-0181
Fax: 651-686-0803

SOUTH WEST

• TIPTON COMPANY
1114 Quaker Street
Dallas, TX 75207
Phone: 214-630-1900
Fax: 214-630-1901

MEXICO

• DANFOSS COMPRESSORS S.A. de C.V.
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