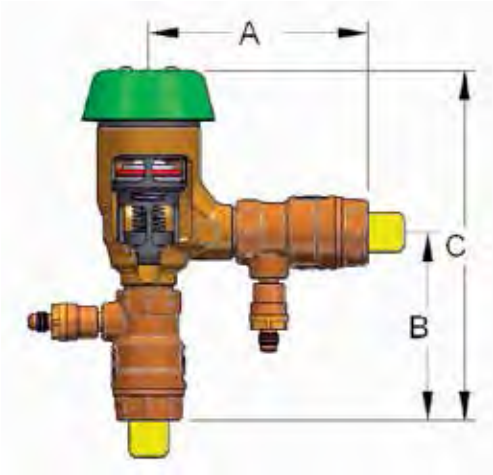
Pressure Vacuum Breaker Backflow Preventers

PVB 4A SERIES

Sizes 1/2", 3/4", 1", 1-1/4",1-1/2", 2"



4A FREEZE RESISTANT PRESSURE VACUUM BREAKER

The Apollo Model PVB 4A Pressure Vacuum Breakers are designed to prevent contamination of potable water due to back-siphonage. An integral relief valve serves to reduce the possibility of damage due to intermittent freezing conditions. The modular check valve cartridge has a replaceable seat and a reversible silicone seat disc. Apollo ball valves with stainless steel handles and nuts are standard.

FEATURES

- Modular cartridge check valve
- Low pressure loss
- Built-in freeze resistant relief valve
- Compact yet easy to maintain
- Apollo ball valves w/SS handles & nuts standard
- Test cocks located for easy draining
- Threaded testcock protectors
- Corrosion resistant
- 5 year, domestic warranty
- No special tools required
- **Lead-Free** option (3/4" - 1")
- Unique canopy detachment
- Patent pending
- ASSE 1020
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (1/2" - 2" Non Lead Free Only)
- CSA B64.1.2
- Easy maintenance
- Maximum operating pressure 150 psi
- Design pressure 300 psi
- Temperature range 33°F - 140°F
- MADE IN THE USA

MATERIALS

Part	Material
Body	Bronze (C84400 - LF C89836)
Ball Valves, Testcocks	Bronze C84800 or C87800 Lead Free
Canopy	UV Resistant ABS
Bonnet	Glass-Filled PPO
Check Valve Cartridge	Glass-Filled PPO
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone
Float	Glass-Filled
O-rings	Chloramine-Resistant EPDM
Ball Valve Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

4A [X]	50 X	A X	X
	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A = Standard	3 = 1/2"	2 = w/ ball valves (standard)	F = SAE threaded test cocks (standard 1/2", 3/4",1")
4ALF = Lead Free (3/4" - 1")	4 = 3/4"	4 = w/union ball valves (3/4" and 1" only)	LL = locking lever handles (3/4" - 2")
	5 = 1"		
	6 = 1-1/4"		
	7 = 1-1/2"		
	8 = 2"		

DIMENSIONS

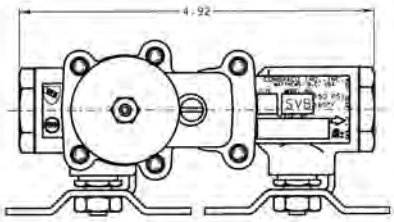
See Page 68 For Flow Curves

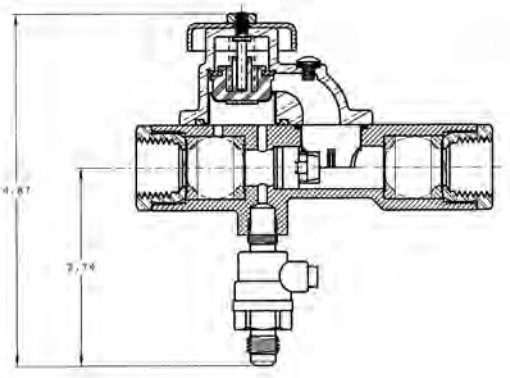
Factory No.	Model No.	Size In.	Size mm.	A (In.)	A (mm.)	B (In.)	B (mm.)	C (In.)	C (mm.)	Wt. Lbs.	Wt. Kgs.
4A-503-A2	PVB4A12	**1/2"**	15	**4-1/2**	114	**3-3/4**	95	**7-1/4**	184	**2.9**	1.3
4A-504-A2	PVB4A34	**3/4"**	20	**4-3/4**	121	**4-1/8**	105	**7-5/8**	194	**3.0**	1.4
4A-505-A2	PVB4A1	**1"**	25	**5-3/8**	135	**4-5/8**	194	**8-3/8**	211	**4.2**	1.9
4A-506-A2	PVB4A114	**1-1/4"**	32	**7**	178	**5-1/4**	133	**9-7/8**	250	**4.4**	2.0
4A-507-A2	PVB4A112	**1-1/2"**	40	**7-1/4**	184	**5-5/8**	143	**10-1/8**	257	**7.3**	3.3
4A-508-A2	PVB4A2	**2"**	50	**8-1/2**	216	**6-3/8**	161	**11-1/2**	292	**8.9**	4.0

Spill Resistant Vacuum Breaker Backflow Preventers

SVB 4W SERIES

Sizes 1/4", 3/8", 1/2"





SPILL RESISTANT VACUUM BREAKERS

The Apollo Series SVB 4W Spill Resistant Vacuum Breaker is designed to prevent contamination of the potable water supply due to back-siphonage. The SVB is ideally suited for continuous pressure, indoor applications where water spillage is undesirable. The device has a straight through flow path for minimal head loss. All components are easily accessible for easy repair and maintenance. All components are made of corrosion resistant materials for years of reliable service. Should be installed 12" above all downstream piping.

OPERATION

During normal flow conditions, the check valve remains open and the atmospheric vent seals in the bonnet assembly. As the line pressure falls to 1 psi, the spring loaded atmospheric vent opens and the check valve closes, breaking the vacuum and thereby preventing back-siphonage. Water is not allowed to spill at any time during operation.

FEATURES

- Corrosion Resistant
- In-Line Flow
- Integral Shut-Off Valves w/Stainless Steel Handles and Nuts
- Threaded testcock protectors
- Designed For Easy Maintenance
- **Lead-Free** option
- Economical
- Low Head Loss
- Maximum Working Pressure 150 PSIG
- Operating Temperature Range 33˚F-180˚F
- ASSE 1056
- CSA B64.1.2
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- 5 year, domestic warranty

MATERIALS

Part	Material
Body	PPO, Bronze (C84400 - LF C89836)
Springs	Stainless Steel
Seat Discs	Silicone Rubber
Valve Canopy	ABS Plastic
Float	Acetal
Fasteners	Stainless Steel
Ball Valve Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

4W [X]	50 X	0 2
	SIZE	SHUTOFFS
4W = Standard	1 = 1/4"	SS = Tee Handles
4WLF = Lead Free (3/8" and 1/2" only)	2 = 3/8"	
	3 = 1/2"	

DIMENSIONS

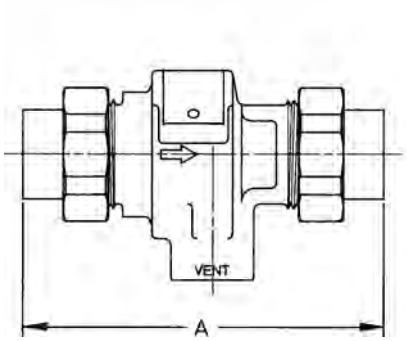
See Page 67 For Flow Curves

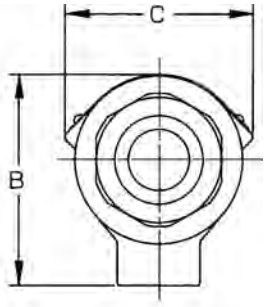
Model No. Factory No. Size	SVB4W14 4W-501-02 1/4"	SVB4W14 4W-501-02 6 mm.	SVB4W38 4W-502-02 3/8"	SVB4W38 4W-502-02 10 mm.	SVB4W12 4W-503-02 1/2"	SVB4W12 4W-503-02 15 mm.
Test Cock	**1/4" Flare**	1/4" Flare	**1/4" Flare**	1/4" Flare	**1/4" Flare**	1/4" Flare
WEIGHTS	**lbs.**	**kg.**	**lbs.**	**kg.**	**lbs.**	**kg.**
Net Wt. (Lbs.)	**1.16**	0.5	**1.16**	0.5	**1.16**	0.5
Shipping Wt.	**1.26**	0.6	**1.26**	0.6	**1.26**	0.6

Dual Check w/Atmospheric Port Backflow Preventers

DCAP SERIES

Sizes 1/2", 3/4"





DUAL CHECK WITH ATMOSPHERIC PORT BACKFLOW PREVENTER

The Apollo DCAP Series Backflow Preventer is designed to protect residential and commercial water supply lines from back-siphonage or back-pressure of non-potable (non-hazardous) substances. It has an intermediate atmospheric vent to insure protection from backflow conditions. It consists of two independently acting and spring-loaded check valves in a corrosion resistant material.

OPERATION

During normal flow operation, the vent valve is closed, and the two check valves are open allowing flow of water through the unit. Each check valve is designed to hold at least 1 psi in the direction of flow. When a back-siphonage condition occurs, both check valves close and the atmospheric vent opens to permit air to enter the intermediate zone. In the event of back-pressure and if the second check valve is prevented from closing tightly, leakage will be vented to the atmosphere through the vent port.

FEATURES

- Corrosion resistant
- Low head loss
- Independently acting check valves
- Ease of repair and installation
- Economical
- Suitable for hot or cold water service
- Durable
- **Lead-Free** option
- Maximum working pressure 175 psig
- ASSE 1012
- CSA B64.3
- Inlet temperature range 33°F-210°F
- 5 year, domestic warranty
- Maximum backflow temperature 250°F

MATERIALS

Part	Material
Body	Bronze (C84400 - LF C89836)
Springs	Stainless Steel
C.V. Seat Discs	EPDM
Seats	Glass-Filled PPO
Spring and Seat Retainer	Glass-Filled PPO
O-Rings	Nitrile/EPDM
Poppets	Glass-Filled PPO

Contact local water authorities for installation/service requirements.

DIMENSIONS

See Page 69 For Flow Curves

Model No. Factory No. Size	DCAP12, DCAP34 40-4x33xM, 40-4x44xM 1/2", 3/4"
A	5
B	2-15/16
C	2-5/8
WEIGHTS	**lbs.**
Unit Weight	1.9

x = connection type

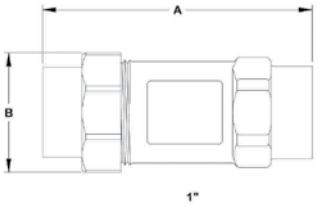
FACTORY CODE

40 [X]	4 X	X - X	X	M	X
	UNION INLET CONNECTION	INLET AND OUTLET SIZE	UNION OUTLET CONNECTION	M	OPTION
40 = Standard 40LF = Lead Free	A = FNPT H = Solder joint 2 = Female BSPP	3 = 1/2" 4 = 3/4"	A = FNPT B = MNPT F = Female BSPP H = Solder joint		C = Canadian (discharge port not threaded)

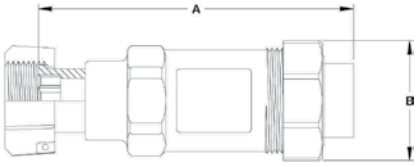
Dual Check Backflow Preventers

DUCLF-4N SERIES

Dimensions (In.) – Weight (Lbs.)



Union x NPT (shown)



Meter Swivel x NPT (shown)

DUAL CHECK VALVE

The Apollo DUCLF-4N Series Dual Check Valve Backflow Preventer is designed to prevent cross-connections of non-potable water (non-hazardous) into safe drinking water systems. It is a compact and economical device that consists of two independently-acting, spring-loaded check valves in a corrosion-resistant material.

OPERATION

Each of the two spring-loaded check valves is designed to open at 1 psi differential in the direction of flow. The check valves will remain tightly closed until there is a demand for water downstream. If the downstream pressure of the device increases above the supply pressure or there is a reverse direction of flow, the check valves will close to prevent backflow. If the second check valve is prevented from closing tightly, the first check will close to provide protection from a backflow condition.

FEATURES

- Low Head Loss
- Independently-acting Check Valves
- Compact and Lightweight
- Corrosion Resistant
- Replaceable Check Modules
- Industry Lay Lengths
- **Lead-Free**
- Available in Standard and Swivel Types
- Maximum Working Pressure 175 psi
- Operating Temperature Range 33°F-180°F
- ASSE1024
- CSA B64.6
- 5 year, domestic warranty

MATERIALS

Part	Material
Body	Bronze (LF C89836)
Union Tailpiece	Brass
Union Nut	Brass
Check Modules	Glass-Filled PPO (3/8"-1/2") Acetal (3/4"-1")
Springs	Stainless Steel
Seat Discs	Buna-N

Contact local water authorities for installation/service requirements.

METER THREAD SIZING

5/8" Meter	3/4"
3/4" Meter	1"
1" Meter	1-1/4"

Contact Customer Service for model numbers.

DIMENSIONS

Size	A	B	Wt. (Lbs.)
3/8" & 1/2"	3.32	1.88	.70
3/4"	4.375	2	1.40
3/4" Meter Swivel	4.75	2	1.60
1"	4.375	2	1.40
1" Meter Swivel	4.75	2	1.75

FACTORY CODE

See Page 69 For Flow Curves

4NLF [X]	3 X	X X	X	X
	UNION INLET CONNECTION [1,2]	INLET AND OUTLET SIZE	OUTLET CONNECTION [1,2]	FINISH
4NLF = Lead Free	A = FNPT B = MNPT C = Female Meter Thread E = Male Meter Thread S = Female Meter Swivel 2 = Female BSPP	2 = 3/8" 3 = 1/2" 4 = 3/4" 5 = 1" 6 = 1-1/4" (Meter Thread sizing for 1" meter swivel)	A = FNPT B = MNPT C = Female Meter Thread E = Male Meter Thread F = Female BSPP	Blank = Satin Brass C = Satin Chrome

Notes:
1 For meter threads, order one size larger than meter size. (i.e.- 4N3S54A = 1" Female Meter Swivel Inlet (for connection to 3/4" meter) x 3/4" FNPT outlet
2 Not all inlet and outlet combinations are available. Please contact Conbraco Customer Service for availability.

Example:
***4NLF 3S54A** = Lead Free Dual Check with Female Swivel 1" Inlet (for 3/4" meter connection x 3/4" FNPT outlet)*

Dual Check Backflow Preventers

DUC 4FP SERIES

DUAL CHECK VALVE

The Apollo DUC 4FP Series Dual Check Backflow Preventer for Residential Fire Sprinkler Systems prevents backflow by either backpressure or backsiphonage from a cross-connection between potable water lines and substances that are objectionable, but not health-hazards.

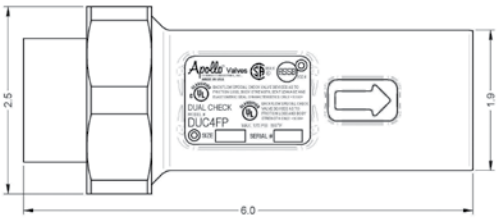
FEATURES

- Low Pressure Loss
- Corrosion Resistant
- Replaceable Check Modules
- Pressure drop at 30 gpm is less than 6 psi
- Complies with NFPA Standard 13D
- 5 year, domestic warranty
- Maximum Supply Pressure 175 psi
- Temperature Range 33°F - 180°F
- ASSE 1024
- UL Classified
- CSA B64.6
- Made in the USA

MATERIALS

Part	Material
Body	Bronze (C84400)
Union Tailpiece	Brass
Union Nut	Brass
Check Modules	Acetal/Nitrile/Stainless Steel
Spacer	Glass-Filled Noryl®
O-Ring	EPDM

Contact local water authorities for installation/service requirements.



FACTORY CODE

See Page 70 For Flow Curves

4FP3 X	X	X	X
INLET CONNECTION[1]	**INLET SIZE**	**OUTLET SIZE**	**OUTLET CONNECTION**[1]
A = FNPT	5 = 1″	5 = 1″	A = FNPT
C = Female Meter Thread	6 = 1-1/4″ (Meter thread sizing for 1″ meter)	6 = 1-1/4″ (Meter thread sizing for 1″ meter)	B = MNPT E = Male Meter Thread

Notes:

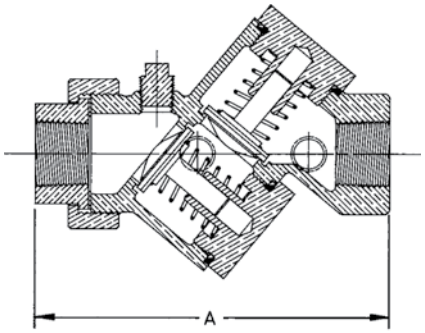
[1] Not all inlet and outlet combinations are available. Please contact Conbraco Customer Service for availability.

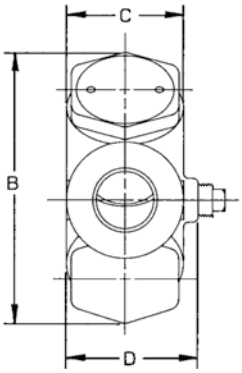
Example:
***4FP3A55A** = 1″ Dual Check FNPT Inlet x 1″ FNPT outlet*

Dual Check Backflow Preventers

DUC 40 SERIES

Sizes 1/2", 3/4", 1"





DUAL CHECK VALVE

The Apollo Series DUC 40 Dual Check Valve prevents backflow by either backpressure or back-siphonage resulting from a cross-connection between potable water lines and substances that are objectionable, but not health-hazards.

FEATURES

- In-line repairable
- Low pressure loss
- Corrosion resistant
- Compact and lightweight
- Independently-acting check valves
- **Lead-Free** option
- ASSE 1024
- CSA B64.6
- Available in standard and swivel types
- MADE IN THE USA
- 5 year, domestic warranty

PERFORMANCE RATING

Maximum Operating Pressure 175 psi
Temperature Range 33° F - 180° F

APPROVALS

ASSE® 1024 and CSA® B64.6

MATERIALS

Part	Material
Body	Bronze (C84400 - LF C89836)
Caps	Brass
Springs	Stainless Steel
Seat Discs	EPDM

DIMENSIONS

Size	DUC4012 40-3x3-3x	DUC4034 40-3x4-4x	DUC401 40-3x5-5x
A	4-3/8	4-3/8	4-3/8
B	3-1/2	3-1/2	3-1/2
C	1-1/2	1-1/2	1-1/2
Wt. (Lbs.)	2	2	2.1
Wt. (w/test cocks & ball valves)	4	4.6	6.4

FACTORY CODE

See Page 69 For Flow Curves

40 [X] 3	X	X	X	X
	INLET CONNECTION[1,2]	INLET AND OUTLET SIZE	OUTLET CONNECTION[1,2]	OPTIONS (CAN BE COMBINED)
40 = Standard 40LF = Lead Free	A = FNPT C = Female Meter Thread S = Female Meter Swivel	3 = 1/2" 4 = 3/4" 5 = 1"	A = FNPT C = Female Meter Thread	TP = w/Test Ports Drilled, Tapped w/Plugs TC = w/3 1/8"x1/4" Test Cocks

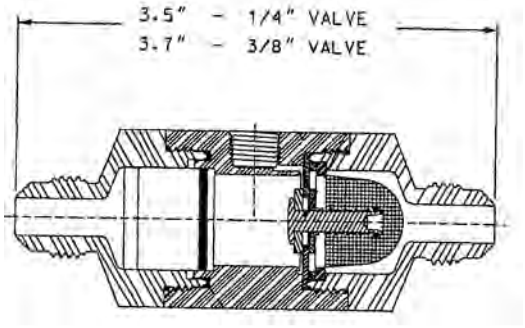
Notes:
[1] For meter threads, order one size larger than meter size.
[2] Not all inlet and outlet combinations are available. Please contact Conbraco Customer Service for availability.
** Standard body not drilled & tapped for testcocks.*

Example:
***40 3S5 4A** = 1" Dual Check Female with Meter Swivel Inlet (for connection to 3/4" meter) x 3/4"*

Carbonated Beverage Backflow Preventers

CBBP SERIES

Sizes 1/4", 3/8"



CARBONATED BEVERAGE BACKFLOW PREVENTER

The Apollo CBBP Series Carbonated Beverage Backflow Preventer (CBBP) is designed to prevent the contamination of the potable water supply due to backflow when installed on water distribution lines serving beverage dispensing equipment. The device consists of two independently acting check valves biased to a normally closed position. A normally open atmospheric port is located between the check valves. During backflow conditions, the port vents gases and/or liquids. Additionally, the CBBP is equipped with a 100 mesh integral strainer screen at the inlet. All wetted areas of the device are non-toxic, corrosion resistant, and approved for use with potable water. The CBBP is suitable for supply pressures to 150 psig and water temperatures from 33˚ to 130˚ F.

OPERATION

Under static (non-flowing) conditions, the check valves remain in the closed position. When a valve is opened downstream (i.e. a drink is delivered from the beverage dispensing unit), the check valves open and permit the flow of water. Under backflow conditions, the diaphragm seat on the first check lifts and permits flow through the atmospheric port located between the two check valves. The strainer insures debris does not enter the carbonator.

FEATURES

- Compact Design
- Lowest head loss
- Atmospheric vent provides indication of problems
- Integral strainer for equipment protection
- **Lead Free**
- Available in SAE & NPT connections
- Repairable check assemblies
- Non-metallic body for corrosion resistance
- CSA Certified to ANSI/NSF-61
- ASSE1022
- 5 year, domestic warranty

MATERIALS

Part	Material
End Cap	Acetal
Strainer	PVC/Stainless Steel
O-ring	Nitrile
Upstream Check	Nitrile/Stainless Steel/Acetal
Downstream Check	EPDM/Stainless
Valve Body	Acetal

Contact local water authorities for installation/service requirements.

DIMENSIONS

See Page 70 For Flow Curves

CBBP Size	Connection Sizing		Wt./Ea
1/4"	7/16"-20 UNF	SAE Flare	.19
3/8"	5/8"-18 UNF	SAE Flare	.19
3/8"	3/8" NPT	Male NPT	.19

MODEL NO. CBBP14

FACTORY CODE

4C10 X	X
SIZE	INLET AND OUTLET CONNECTION
1 = 1/4"	01 = Flare
2 = 3/8"	02 = MNPT (3/8" only)

Hose Connection Vacuum Breakers Backflow Preventers

HBV2 SERIES

Optional Satin Chrome Finish (shown)

3/4"
Apollo International

3/4" HOSE CONNECTION VACUUM BREAKERS

Apollo's HBV Hose Connection Vacuum Breakers are designed to prevent cross-connection caused by back-siphonage. They consist of a single check valve with atmospheric vacuum breaker vent. They feature a break-away set-screw for tamper-proof protection. They are not suitable for continuous pressure applications.

OPERATION

At no flow situations, the check disc seats against the diaphragm with the atmospheric vent open. This prevents back-siphonage or backflow of water. At flow conditions, the spring-loaded check disc opens, thus allowing flow of water through the device and at the same time the diaphragm seals the atmospheric vent.

INSTALLATION

It should only be installed in areas where spillage of water could not cause damage. For permanent installation, screw device directly into faucet, firmly hand tighten and turn set-screw in until head breaks off.

FEATURES

- Maximum Working Pressure 125 psig
- Maximum Temperature 180°F.
- ASSE1011
- CSA B64.2

DIMENSIONS

Factory No.	Model No.	Finish	Wt./Ea
38-314-AS	HBV234	Satin Brass	.17
38-314-CS	HBVC234	Satin Chrome	.17

38-314 shipped in 12 pcs./box

HBVAF2 SERIES

3/4"
Apollo International

3/4" FREEZE RESISTANT HOSE CONNECTION VACUUM BREAKERS

The Apollo Series HBVB Freeze Resistant Hose Connection Vacuum Breaker is especially designed to prevent back-siphonage on wall and yard hydrants. It features a break-away set-screw for tamper-proof protection and automatic drain for protection against freezing conditions when hose is removed. It is not suitable for continuous pressure applications.

OPERATION

The principle of operation is similar to the HCVB Series except it has an automatic draining feature. When the hose is removed, the internal mechanism opens to drain water from the unit and the hose bibb to help prevent water from freezing inside the unit.

INSTALLATION

It should only be installed in areas where spillage of water could not cause damage. For permanent installation, screw device directly into faucet, firmly hand tighten and turn set-screw in until head breaks off.

FEATURES

- Maximum Working Pressure 125 psig
- Maximum Temperature 180°F.
- ASSE1011

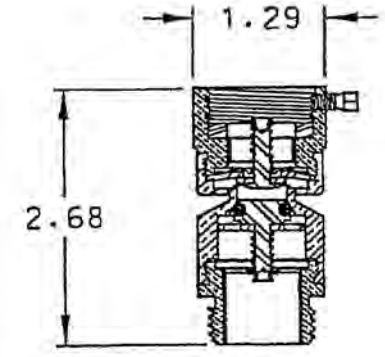
DIMENSIONS

Factory No.	Model No.	Finish	Wt./Ea
38-414-AS	HBVAF2	Satin Brass	.37

Hose Connection Dual Check /Lab Faucet Dual Check Backflow Preventers

HBDUC SERIES

38-304-02
Size 3/4"



3/4" HOSE CONNECTION DUAL CHECK

The Apollo Series HBDUC is designed to provide an in-line testable hose connection that will prevent backflow due to back-siphonage or low head back-pressure. Each device consists of two independent checks, forced loaded in the closed position with an atmospheric vent between the checks. The device is threaded for hose connection at both the inlet and outlet with a break-away set screw on the inlet for tamper proof installations. These devices are not suitable for continuous pressure applications.

OPERATION

During initial pressurization, the inlet check shuttles forward to close the atmospheric vent. As flow is established, both the inlet and outlet check open to allow flow through the device. If a backflow condition is present, then both checks will close and the atmospheric vent opens to introduce air and break the siphon.

FEATURES

- Corrosion resistant body and checks
- Low Head loss
- Easy to install with break-away set screw
- Protects against back siphonage and low-head back pressure
- ASSE1052

MATERIALS

Part	Material
Body	Brass
Seats	EPDM
Check components	Stainless steel
Check guide	Acetal

Contact local water authorities for installation/service requirements.

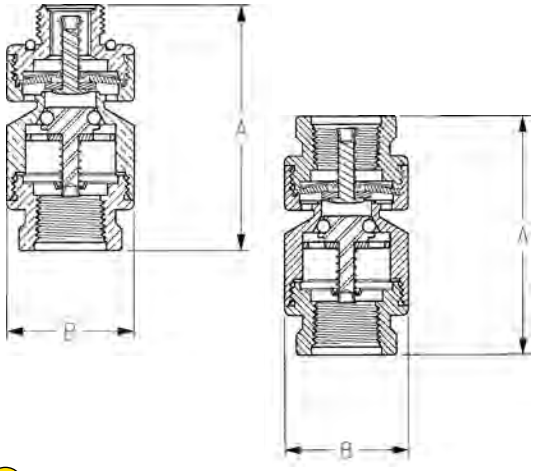
See Page 71 For Flow Curves

Factory No.	Model No.	Wt./Ea
38-304-02	HBDUC34	46

LFDUC SERIES

LEAD FREE OPTION AVAILABLE

Sizes 1/4", 3/8"



LABORATORY FAUCET DUAL CHECK BACKFLOW PREVENTER

The Apollo Series LFDUC is designed to provide protection against back-siphonage wherever a hose is connected to a faucet. The device consists of two independently acting checks with an intermediate relief port or vent. It is suitable for supply pressure up to 150 psig and a temperature range of 33°F-212°F. Not suitable for constant pressure conditions.

OPERATION

During normal flow conditions, the two checks are held off their seats, supplying water downstream. The vent is held shut by supply pressure acting on the diaphragm. If the supply pressure should fall below atmospheric, the second check will close due to internal spring pressure and the vent will open to introduce air into the supply line and break the siphon.
NOTE: This device should only be installed where spillage of water could not cause water damage.

FEATURES

- Corrosion resistant
- Suitable for hot or cold water service up to 212°F and 125 psi
- **Lead-Free** option
- Polished (-CP2 and -CP3 are rough brass only)
- Easy to maintain
- Compact and lightweight
- ASSE 1035

DIMENSIONS

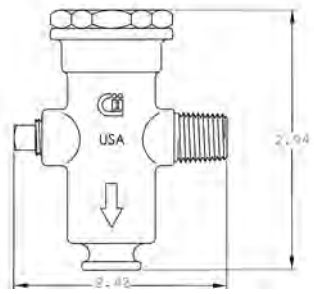
See Page 71 For Flow Curves

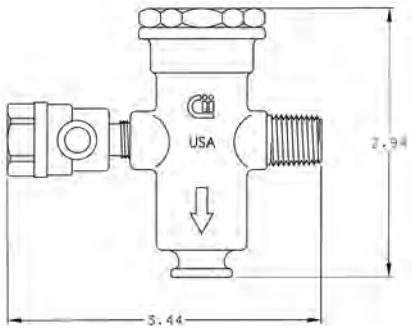
Factory No.	Model No.	Inlet	Outlet	A (In.)	B (In.)	Wt./Ea
38-502-01	LFDUCMF38	3/8" MNPSM*	3/8" FNPT	2.33	1.24	.50
38-502-02	LFDUCFF38	3/8" FNPT	3/8" FNPT	2.34	1.24	.50
38-502-03	LFDUCFM38	3/8'' FNPT	3/8'' MNPSM	2.33	1.24	.50
38-502-CP2**	LFDUCFF14	1/4" FNPT	1/4" FNPT	2.34	1.24	.50
38-502-CP3**	LFDUCFF38	3/8" FNPT	3/8" FNPT	2.34	1.24	.50

**American National Standard straight pipe thread for free-fitting mechanical joints (male)*
***-CP2 and -CP3 are non-approved devices with a rough brass finish for continuous pressure applications*

Freeze Protection Valve

FPV SERIES





FREEZE PROTECTION VALVE

The Apollo Series FPV Freeze Protection Valve protects backflow preventers from freezing when installed in accordance with manufacturer's instructions. All internal parts of the Freeze Protection Valve are replaceable.

OPERATION

During flow conditions, the Freeze Protection Valve shall be drip-tight during above-freezing normal operating conditions. The Freeze Protection Valve shall be suitable for normal operating pressures of 20 to 175 psig.

FEATURES

- Installs easily on all backflow preventers
- Ease of repair with available repair kit
- 175 psig maximum operating pressure
- Corrosion resistant
- 1/4" male pipe thread inlet port
- Available with 1/8" male x 1/4" female test cock
- Discharge port accommodates 5/8" I.D. hose
- **Lead-Free** option
- Mechanical operating principle
- Nominal start to open temperature of 35°F
- Maximum temperature of 180°F
- Compact design
- Patented design
- IAPMO listed
- US patent #6,374,849
- 5 year, domestic warranty

MATERIALS

Part	Material
Body	Bronze (C84400 / LF C89836)
Cap	Brass
Spring Guide	Brass
Spring	Stainless Steel
Cap O-Ring	Buna-N
Guide O-Ring	Buna-N
Thermal Element	Copper/Stainless Steel/EPDM

Contact local water authorities for installation/service requirements.

DIMENSIONS

Net Weight Each	Lbs.
Model 40-000-FPV1	.70
Model 40-000-FPV2	.77

MODEL NUMBERS

Model 40-000-FPV1
Model 40-000-FPV2 – w/test cock
Model 40LF-000-FPV1
Model 40LF-000-FPV2F – w/SAE test cock

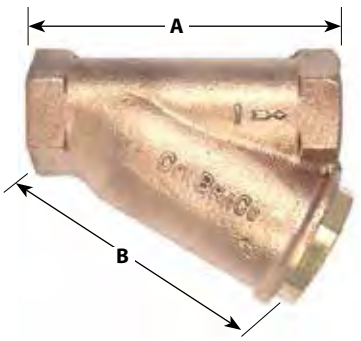
FACTORY CODE

40 [X] 000	FPV X
	OPTIONS
40 = Standard 40LF = Lead Free	1 = w/1/8" NPT plug 2 = w/1/8" male x 1/4" female test cock 2F = SAE test cock R = Repair kit* for FPV1 and FPV2

** Repair kit includes: Thermal element, spring, spring guide, two O-rings (all internal parts)*

"Y" Strainers Backflow Preventers

YB STRAINER SERIES



Y STRAINER

FEATURES

- Maximum protection capability against foreign particles in piping systems and process equipment.
- Cast bronze body (C84400 / LF C89836)
- 304 Stainless Steel screen
- Sizes 1/4" thru 1/2" comes standard with 50 mesh (0.009" wire)
- Sizes 3/4" thru 2" comes standard with 20 mesh (0.016" wire)
- **Lead-Free** option
- Other screen sizes available (contact customer service)
- Operating pressure to 400 psig WOG
- Removable self-aligning screen
- 5 year, domestic warranty
- 400 Series is female x male NPT (3/4" & 1" only)

DIMENSIONS

Factory No.	Model No.	Size In.	A (In.)	A (mm.)	B (In.)	B (mm.)	Cap Tapping Suffix -02	Wt. Lbs.	Wt. Kgs.
59-001-01	YB14	1/4 NPT	**2**	50	**1-1/4**	32	1/8 NPT	**.42**	.19
59-002-01	YB38	3/8 NPT	**2-11/16**	68	**2**	50	1/4 NPT	**.79**	.36
59-003-01	YB12	1/2 NPT	**2-11/16**	68	**2**	50	1/4 NPT	**.75**	.34
59-004-01	YB34	3/4 NPT	**3-7/8**	98	**3-1/4**	83	1/2 NPT	**1.85**	.84
59-005-01	YB1	1 NPT	**4-3/4**	121	**4**	100	3/4 NPT	**2.76**	1.25
59-006-01	YB114	1-1/4 NPT	**5-1/8**	130	**4-1/4**	108	3/4 NPT	**3.58**	1.62
59-007-01	YB112	1-1/2 NPT	**5-3/4**	146	**5**	127	1 NPT	**5.41**	2.45
59-008-01	YB2	2 NPT	**6-3/4**	171	**6**	150	1-1/4 NPT	**7.47**	3.39
59-404-01	YBM34	3/4 F x MNPT	**5-3/8**	136	**3-1/4**	83	1/2 NPT	**2.0**	.9
59-405-01	YBM1	1 F x MNPT	**5-3/4**	146	**4**	100	3/4 NPT	**2.95**	1.3
59LF-001-01	YB14LF	1/4 NPT	**2**	50	**1-1/4**	32	1/8 NPT	**.42**	.19
59LF-002-01	YB38LF	3/8 NPT	**2-11/16**	68	**2**	50	1/4 NPT	**.79**	.36
59LF-003-01	YB12LF	1/2 NPT	**2-11/16**	68	**2**	50	1/4 NPT	**.75**	.34
59LF-004-01	YB34LF	3/4 NPT	**3-7/8**	98	**3-1/4**	83	1/2 NPT	**1.85**	.84
59LF-005-01	YB1LF	1 NPT	**1-3/4**	121	**4**	100	3/4 NPT	**2.76**	1.25
59LF-006-01	YB114LF	1-1/4 NPT	**5-1/8**	130	**4-1/4**	108	3/4 NPT	**3.58**	1.62
59LF-007-01	YB112LF	1-1/2 NPT	**5-3/4**	146	**5**	127	1 NPT	**5.41**	2.45
59LF-008-01	YB2LF	2 NPT	**6-3/4**	171	**6**	150	1-1/4 NPT	**7.47**	3.39
59LF-404-01	YBM34LF	3/4 NPT x MNPT	**5-3/8**	136	**3-1/4**	83	1/2 NPT	**2.0**	.9
59LF-405-01	YBM1LF	1 NPT x MNPT	**5-3/4**	146	**4**	100	3/4 NPT	**2.95**	1.3

"Y" Strainers Backflow Preventers

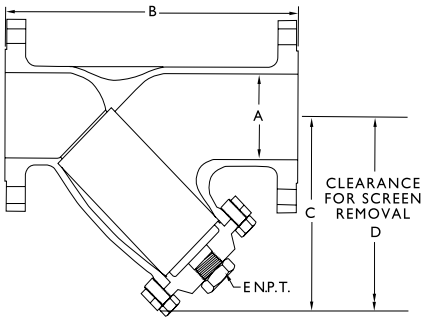
YSCF SERIES

(Optional Epoxy Coating Shown)

YSCF SERIES FLANGED, STYLE 125YF, CLASS 125 WYE STRAINERS

FEATURES

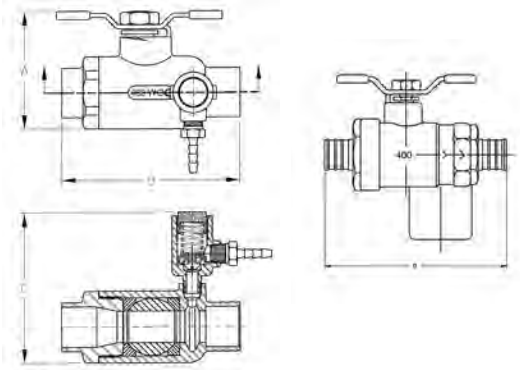
- Iron strainers are complete with Flat Face flanges in accordance with ASME B16.1.
- Strainer body meets applicable ASME Standard
- One piece cast body.
- Strainers equipped with bolted cover flange that utilize a flat gasket seal
- Low pressure drop.
- Upper and lower machined seats.
- 304 SS perforated screens are standard.
- Drain/Blow-off connection furnished with plug as standard
- 2-1/2" thru 3" come standard with .045 perforated screens
- 4" thru 10" come standard with .125 perforated screens
- Other screen sizes available (contact customer service)
- Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings.
- Compact end to end dimension.
- FDA Epoxy coated and lined option (add "E" Suffix)



DIMENSIONS

Factory No.	Size	A (In.)	A (mm.)	B (In.)	B (mm.)	C (In.)	C (mm.)	D (In.)	D (mm.)	E	Wt. Lbs.	Wt. Kgs.
125YF25P045E	2-1/2"	**2.50**	65	**10.75**	273	**8.00**	200	**11.25**	286	1	**35**	16
125YF03P045E	3"	**3.00**	80	**11.50**	292	**8.75**	222	**12.25**	311	1	**43**	20
125YF04P125E	4"	**4.00**	100	**13.88**	353	**9.50**	241	**13.38**	340	1-1/4	**75**	34
125YF06P125E	6"	**6.00**	150	**18.50**	470	**12.63**	321	**17.69**	449	1-1/2	**154**	70
125YF08P125E	8"	**8.00**	200	**21.38**	543	**16.38**	416	**23.00**	584	1-1/2	**243**	110
125YF10P125E	10"	**10.00**	250	**26.00**	660	**19.00**	483	**26.70**	678	2	**390**	177

EXV SERIES



Relief valve shown rotated 90°. Valve should be assembled w/hose barb pointed out of page.

THERMAL EXPANSION RELIEF VALVES

The Apollo EXV Thermal Expansion Relief Valves are designed primarily to relieve excessive water pressure build-up caused by thermal expansion.

In a closed hot water piping system, as water is heated, thermal expansion occurs. The increase of pressure will exert unwarranted stress on the system components, which may reach harmful levels well before the emergency setting of the main relief valve is reached. By installing the Series EXV, it will control any amount of expanded water without causing pressure increase to exceed maximum setting.

FEATURES

- Prevents excessive pressure build-up
- Protects plumbing fixtures
- Extends water heater life
- Compact and lightweight design
- Economical
- **Lead-Free** option
- Easy to install and requires no special tool
- Corrosion resistant
- 5 year, domestic warranty
- CSA B125.1 & B125.3
- City of Los Angeles

DIMENSIONS

Factory No.	Model No.	A	B	C	Wt./Ea
78-300	EXVS34	2.6	3.9	3.2	1.5
78-400	EXVT34	2.5	2.7	3.4	1.1
78-700	EXVX34	2.5	4.0	3.9	1.32

FACTORY CODE

78 / 78LF X	X	X RV
SIZE	**PRESSURE SETTING**	**RELIEF VALVE CONNECTION**
3 = 3/4"	0 = 125 psig	4 = Hose Barb
4 = 3/4"	1 = 100 psig	5 = Pex
7 = 3/4" PEX	2 = 80 psi	6 = Comp. Fitting
		7 = 1/2" NPT/SWT Fitting

EXP SERIES

EXPANSION TANKS FOR POTABLE SYSTEMS

Designed to protect closed water supply systems, appliances and piping from the hazards of thermal expansion, such as premature water heater failure. Installs easily on direct fired gas, oil and electric hot water heaters and storage tanks. Their pre-pressurized steel design includes an expansion membrane that stops any contact between the water and air in the tank.

FEATURES

- Ideal for use in dorms, apartments, office buildings and hospitals
- Compatible with most standard water heaters and storage tanks
- Maximum working pressure: 150 psig
- Food quality Chlorobutyl diaphragm
- 100 percent non-metallic non-corrosive water reservoir
- Pre-charge pressure 40 psig
- Field adjustable pre-charge
- ANSI/NSF 61-8, Annex G **(Lead Free)**
- **Made in USA**

DIMENSIONS

Factory No.	Capacity (Gal.)	Exp. Vol (Gal.)	Connection	Height	Diameter	Wt./Ea
40-XT1-03	2	1.27	3/4 NPT	12.5	8.25	5.5
40-XT3-03	5	3.05	3/4 NPT	14.0	11.25	8
40-XT5-03	10	7.80	3/4 NPT	15.75	15.25	20

Accessories – Backflow Preventers

DIFFERENTIAL PRESSURE GAUGE TEST KITS

The Apollo Backflow Preventer Test Kits are compact, lightweight and portable testing devices. They come equipped with a gauge, hoses (with integral filters) and all required adapter fittings. Also included is a flexible or adjustable strap for hanging the gauge, laminated test procedures and a molded plastic carrying case with foam inserts.

TK3

These are three-valve test kits used for testing all DCV, RPZ, PVB & SVB backflow preventers.

- Differential pressure type with a dual scale of 0-15 psid/0-100kPa differential pressure range with a ± 0.2 psig (Descending) accuracy. Maximum working pressure 200 psig.

TK5

This is a five-valve test kit used for testing all DCV, RPZ, PVB & SVB backflow preventers.
The five valve test kit is similar to the three valve kit except it has two additional valves that make it possible to bleed lines without disconnecting hoses.

Factory No.	Model No.	Application	Wt./Ea
40-200-TKU	TK3	ALL DCV, RPZ, PVB & SVB	6.5
40-200-TK5U	TK5	ALL DCV, RPZ, PVB & SVB	6.5

TFK SERIES TEST KIT FITTING

Brass fitting which installs onto Backflow Preventer Test Cocks by hand. No tools required. No Teflon® tape to deal with. Provides quicker testing. Sets of three fittings with o-rings for 1/4" SAE connections to the test kits. Packaged in a reclosable plastic bag.

Size	Factory No.	Model No.	Backflow Application
1/4" SAE x 1/4" NPT	40-000-TFK	TFK14	1/4" - 2"
1/4" SAE x 1/2" NPT	40-001-TFK	TFK12	2-1/2" - 6"
1/4" SAE x 3/4" NPT	40-002-TFK	TFK34	8" - 12"
Set of all 3 sizes	40-003-TFK	TFKSET	1/4" - 12"

HCPG SERIES PRESSURE GAUGE

3/4" HOSE CONNECTION PRESSURE GAUGE

The Apollo Hose Connection Pressure Gauge is designed to measure water pressure through a 3/4" hose thread connection. It consists of an indicator needle to determine maximum pressure.
Ordering No. - W807800 Model No. - HCPG

FEATURES

- 2-1/2" face dial
- 0 - 300 psig pressure range
- Swivel type 3/4" hose connection
- Adjustable indicator needle
- Temperature range = 50°F - 130°F
- Wt./Ea. 46 Lbs.

ST1 SERIES SIGHT TUBE

ST1 SERIES SIGHT TUBE

The kit allows for visual inspection during testing, provides an extension to the check valve body and offers quick connection with the 90˚ elbow. Provides means to static test double check backflow preventers.
Ordering No. - 40-200-ST Model No. - ST1

40 200 BV BLEED VALVE

BLEED VALVE

Test valve used to provide accurate readings in field test of the Double Check Valve backflow preventers. Benefits include quick connections, quick bleed off of testing lines and useful in tight locations.
Ordering No. - 40-200-BV

VALVE SETTERS

Apollo Valve 4An Setters are specifically designed to match the mounting dimensions of the 4An products. The three-piece configuration simplifies installation and eliminates the need for thrust blocks between the elbows. All hardware is stainless steel and the entire unit is FDA Epoxy coated inside and out. The mechanical joint connections are to AWWA C153 and the flanges are to ANSI B16.1 Class 125.

MATERIALS

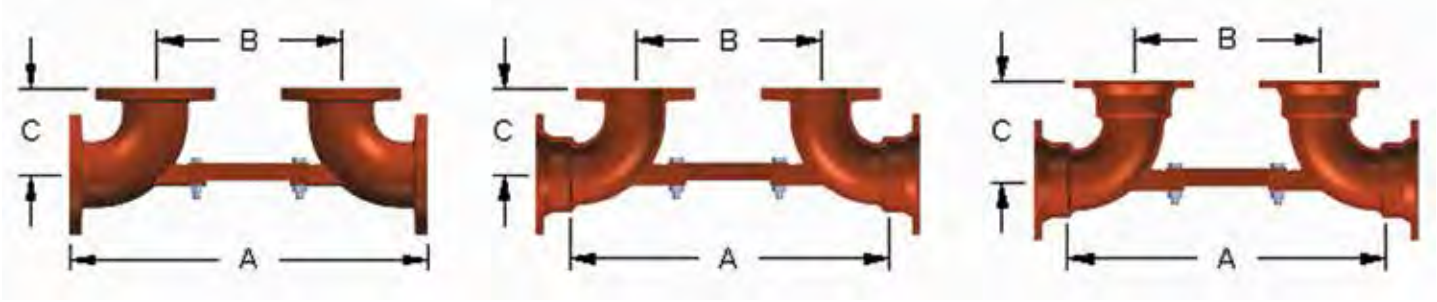
Part	Material
Setter Body	Ductile Iron, ASTM A536
Setter Center Brace	Hot Rolled Steel ASTM A36
Setter Bolts & Nuts	Stainless Steel
Setter & Brace Coating	Fusion-Bonded Epoxy FDA Compliant Internal and External

Contact local water authorities for installation/service requirements.

FACTORY CODE

4An 00 X	X
SIZE	**TYPE**
9 - 2-1/2″	F = Flange x Flange
0 - 3″	MJF = Mechanical Joint x Flange
A - 4″	MJ = Mechanical Joint x Mechanical Joint
C - 6″	
E - 8″	
G - 10″*	
H - 12″*	

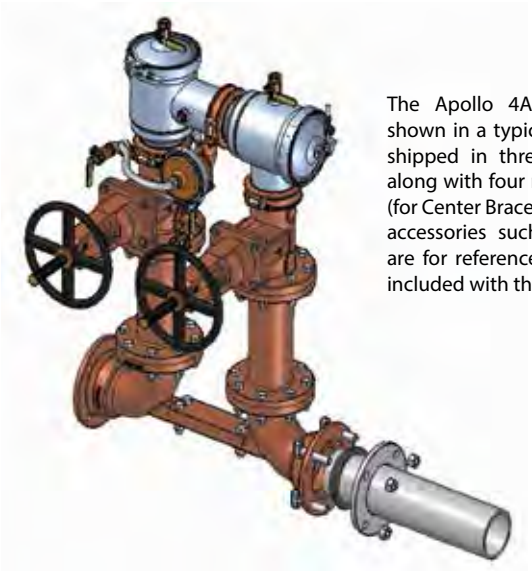
** Flange x Flange only*



Flange x Flange (F)

Mechanical Joint x Flange (MJF)

Mechanical Joint x Mechanical Joint (MJ)



The Apollo 4An Valve Setter is shown in a typical installation. It is shipped in three separate pieces along with four nuts and four bolts (for Center Brace). Mechanical Joint accessories such as those shown are for reference only and are not included with the 4An Valve Setter.

DIMENSIONS

Size	Model	A	B	C	Wt./Ea
2-1/2″	F	23-1/2	12-1/2	5-1/2	43.7
3″	F	23-1/2	12-1/2	5-1/2	50.4
	MJF	21-1/2	12-1/2	5-1/2	50.4
	MJ	21-1/2	12-1/2	7	50.7
4″	F	27	14	6-1/2	87.1
	MJF	24	14	6-1/2	71.1
	MJ	24	14	7-1/2	65.1
6″	F	32	16	8	147.5
	MJF	29	16	8	115.3
	MJ	29	16	9	107.1
8″	F	36-1/2	18-1/2	9	236.30
	MJF	33-1/2	18-1/2	9	216.40
	MJ	33-1/2	18-1/2	10	193.20
10″	F	43.0	21	11.0	388
12″	F	50-3/4	26-3/4	12	547

Backflow Shut-Off Valves

Flange x Groove Shown

NON-RISING STEM (NRS)

Size	Flg x Flg	Flg x Grv	Grv x Grv
2-1/2"	W-6785-00	W-5310-00	W-9369-00
3"	W-6786-00	W-5311-00	W-9370-00
4"	W-6743-00	W-5312-00	W-9371-00
6"	W-6744-00	W-5313-00	W-9372-00
8"	W-6827-00	W-5314-00	W-9373-00
10"	W-6858-00	W-5315-00	N/A
12"	W-9529-00	N/A	N/A

AWWA

Groove x Groove Shown

OUTSIDE STEM & YOKE (OS&Y)

Size	Flg x Flg	Flg x Grv	Grv x Grv
2-1/2"	W-6789-00	W-4733-00	W-5282-00
3"	W-6790-00	W-4734-00	W-5283-00
4"	W-6824-00	W-4735-00	W-5284-00
6"	W-6825-00	W-4736-00	W-5285-00
8"	W-6826-00	W-4737-00	W-5286-00
10"	W-6859-00	W-4738-00	W-5321-00
12"	W-9528-00	N/A	N/A

AWWA, UL Listed, ULC Listed, FM Approved

Flange x Flange Shown

POST INDICATOR (PI)

Size	Flg x Flg	Flg x Grv	Grv x Grv
3"	W-4478-00	W-9125-00	W-9236-00
4"	W-4366-00	W-9126-00	W-9237-00
6"	W-4367-00	W-9127-00	W-9238-00
8"	W-4368-00	W-9128-00	W-9239-00
10"	W-4369-00	W-9129-00	N/A

UL Listed, ULC Listed, FM Approved

Groove x Groove Only

MONITORED BUTTERFLY (3G)

Size	Grv x Grv
2-1/2"	W-5244-00
3"	W-5245-00
4"	W-5246-00
6"	W-5247-00
8"	W-5248-00
10"	W-5249-00

UL Listed, ULC Listed, FM Approved

FNPT x FNPT

77 SERIES BRONZE BALL VALVE (BV)

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A Series			**4ALF Series**	
1/2"	77B-103-85	77C-103-A4	77BLF-103-85	77CLF-103-85
3/4"	77B-104-83	77C-104-83	77BLF-104-83	77CLF-104-83
1"	77B-105-83	77C-105-83	77BLF-105-83	77CLF-105-83
1-1/4"	77B-106-84	77C-106-84	77BLF-106-84	77CLF-106-84
1-1/2"	77B-107-84	77C-107-84	77BLF-107-84	77CLF-107-84
2"	77B-108-84	77C-108-84	77BLF-108-84	77CLF-108-84

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A Series Union Ball Valves			**4ALF Series Union Ball Valves**	
1/2"	77B-303-85	77C-303-85	77BLF-303-85	77CLF-303-85
3/4"	77B-304-83	77C-304-83	77BLF-304-83	77CLF-304-83
1"	77B-305-83	77C-305-83	77BLF-305-83	77CLF-305-83
1-1/4"	77B-306-84	77C-306-84	77BLF-306-84	77CLF-306-84
1-1/2"	77B-307-84	77C-307-84	77BLF-307-84	77CLF-307-84
2"	77B-308-84	77C-308-84	77BLF-308-84	77CLF-308-84

91 SERIES BRONZE BALL VALVE (BV)

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A A Series			**4ALF A Series**	
1/2"	91B-103-85	91C-103-85	91BLF-103-85	91CLF-103-85
3/4"	91B-104-83	91C-104-83	91BLF-104-83	91CLF-104-83
1"	91B-105-83	91C-105-83	91BLF-105-83	91CLF-105-83
1-1/4"	91B-106-84	91C-106-84	91BLF-106-84	91CLF-106-84
1-1/2"	91B-107-84	91C-107-84	91BLF-107-84	91CLF-107-84
2"	91B-108-84	91C-108-84	91BLF-108-84	91CLF-108-84

Size	Inlet FxFNPT	Outlet FxFNPT	Inlet FxFNPT	Outlet FxFNPT
4A A Series Union Ball Valves			**4ALF A Series Union Ball Valves**	
-	-	-	-	-
3/4"	91B-304-83	91C-304-83	91BLF-304-83	91CLF-304-83
1"	91B-305-83	91C-305-83	91BLF-305-83	91CLF-305-83
1-1/4"	91B-306-84	91C-306-84	91BLF-306-84	91CLF-306-84
1-1/2"	91B-307-84	91C-307-84	91BLF-307-84	91CLF-307-84
2"	91B-308-84	91C-308-84	91BLF-308-84	91CLF-308-84

TEST COCKS FOR SMALL BACKFLOW

Male x FNPT	LEAD FREE Male x FNPT
1/8" x 1/4" **78 290 01**	1/8" x 1/4" **78LF 290 01**
1/4" x 1/4" **78 291 01**	1/4" x 1/4" **78LF 291 01**
Male x SAE Flare	**LEAD FREE Male x SAE Flare**
1/8" x Flare **78 292 01**	1/8" x Flare **78LF 292 01**
1/4" x Flare **78 293 01**	1/4" x Flare **78LF 293 01**

LEAD FREE TEST COCKS FOR LARGE BACKFLOW

2-1/2" to 4" SS Assemblies	
SS Cover Testcock	77CLF803A0
SS Body Testcock	77CLF80310
Shutoff Valves T/C	77CLF10310
6" SS Assemblies	
SS Cover Testcock	77CLF804A0
SS Body Testcock	77CLF80410
Shutoff Valves T/C	77CLF10410
8" SS Assemblies	
Cover & Body T/C	77CLF80410
Shutoff Valves T/C	77CLF10410
10" and 12" Assemblies	
All Testcocks	77CLF10410