

Backflow Prevention

Fluid Control Product Catalog





A WATTS Brand

FEBCO is an ISO 9001 Certified manufacturer of high quality fluid control products. For over 80 years FEBCO has been committed to manufacturing excellence and innovative design and dedicated to the improvement of our industry.

This catalog is presented to assist our customers, design engineers, municipal officials, contractors and installers with the dimensional and technical data needed to use and specify FEBCO. Due to our commitment to product refinement and improvement, specific details of our products may change. We make every effort to ensure that our dimensions and technical data are as accurate as possible. Please contact your local FEBCO representative for our latest product information. A list of representatives as well as helpful, in-depth information about our products can be found at our web site: www.FEBCOonline.com

We thank you, our customers, for your continued support and for making our success possible. The employees and representatives of FEBCO look forward to serving you.

ISO 9001 Certified



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Note: FEBCO product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact FEBCO Technical Service. FEBCO reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on FEBCO products previously or subsequently sold.

Why Work with FEBCO?

Safeguarding the drinking water supply is critical to protecting human health. For 50+ years FEBCO has designed and manufactured innovative and patented assemblies for this critical purpose. FEBCO's backflow prevention assemblies, which prevent the backward flow of contaminated water into the potable water supply, are reliable and easily serviced. What's more, they offer one of the lowest total installed costs in the industry.

From FEBCO's earliest days, experienced engineers have combined expert knowledge, technological advances, industry innovation, and broad manufacturing experience to design and manufacture one of the widest lines of top-quality backflow prevention assemblies available.

FEBCO works closely with municipalities, engineers, architects, and contractors to solve their unique backflow prevention issues, and provides educational materials to the general public for building awareness around the importance of safeguarding potable water.

Why work with FEBCO? Simple. Superior designs, innovative technology, state-of-the-art manufacturing facilities, and a commitment to keeping all drinking water clean and safe with reliable and trusted backflow prevention assemblies.

Lead Free Transition

With the changeover to lead free in the United States that became effective January 4, 2014, lead free backflow prevention devices are required in certain applications and/or settings. The FEBCO backflow preventer line includes top-quality, fully-tested Lead Free* versions of our standard backflow products.

Standard Material Products (not Lead Free*) CONTAIN MORE THAN 0.25% LEAD.

Effective January 4, 2014, it is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States.

Before installing standard material product, consult your local water authority, building and plumbing codes.

Industry Terms

Backpressure: Pressure, higher than the supply pressure, caused by a pump, elevated tank, boiler, or other means that can cause backflow.

Backsiphonage: Backflow caused by negative or reduced pressure in the supply piping.

Cross-connection: A connection or potential connection between any part of the potable water system and another environment where undesirable substances could enter the potable water system. Contaminated or undesirable substances can include gases, liquids, or solids, such as chemicals, waste products, steam, water from other sources (potable or non-potable), or any other matter that can change the color of or add odor to the water. Bypass arrangements, jumper connections, removable sections, swivel or changeover assemblies, or any other temporary or permanent connecting arrangement where backflow can occur are considered cross-connections.

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Degrees of Health Hazard

Health hazard: A cross-connection or potential cross-connection where any substance that could cause death, illness, or spread disease, or have a high probability of causing such effects, could be introduced into the potable water supply.

Non-health hazard: A cross-connection or potential cross-connection where any substance introduced into the potable water supply would generally not be considered a health hazard, but would constitute a nuisance or be aesthetically objectionable.

Application

MODEL	TYPE	BACK SIPHONAGE	BACK PRESSURE	CONTINUOUS PRESSURE	NON-HEALTH HAZARD	HEALTH HAZARD
LF880V LF860 860/860U/ LF860/LF860U 825/LF825 825YA/LF825YA	Reduced Pressure Zone Assemblies	•	•	•	•	•
826YD	Reduced Pressure Detector Assemblies	•	•	•	•	•
LF870V LF850 850/850U LF850/LF850U	Double Check Valve Assemblies	•	•	•	•	
876VST 856ST	Double Check Detector Assemblies	•	•	•	•	
765/765U LF767FR	Pressure Vacuum Breaker Assemblies	•		•	•	•
710/715	Atmospheric Vacuum Breaker	•			•	•

WARNING

You are required to consult the local building and plumbing codes prior to installation. If the information in this manual is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements.

Series 800

Detector Check for Automatic Fire Sprinkler Systems

Size: 4" – 10" (100 – 250mm)

1

Single Check Valves



800 with optional by-pass

Features

- UL listed and FM approved for horizontal or vertical installation.
- Spring-loaded swing check for reliability and minimum head loss
- 250psi (17.2 bar) working pressure for superior strength
- DuraCast ductile iron body for superior strength and lighter weight
- Fully rubber encapsulated ductile iron disc for strength
- Fusion epoxy coated, inside and out, for corrosion protection
- Simple service procedures
- Cast lifting ring for ease of installation
- 4", 6", 8", and 10" Sizes
- 3/4" standard bypass; optional sizes 1", 1 1/2", 2"
- End Connections – Flanged ANSI B16.42, Class 150

The FEBCO Series 800 is used in the protection of water supplies from unauthorized usage. This requires installation of the proper valving to measure water loss. The Series 800 Detector check is not a backflow prevention assembly and should not be used as such.

Pressure – Temperature

Max. Working Pressure: 250psi
(17.2 bar)
Hydrostatic Test Pressure: 500psi
(34.5 bar)
Temperature range: 32°F to 110°F
(0°C to 60°C)

Materials

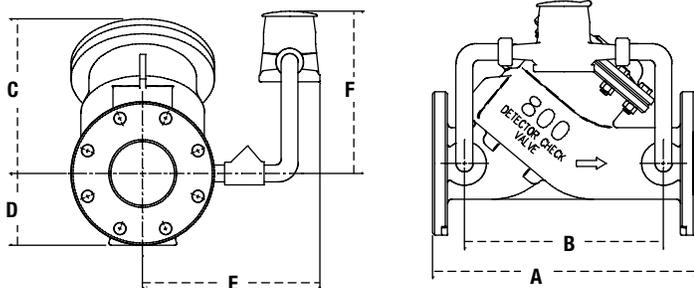
Main valve body: Ductile iron Grade 65-45-12, Fusion Epoxy coated, Internal and External, AWWA C550-90
Trim: Bronze
Elastomers: Nitrile
Spring: Stainless Steel
Bypass: Copper alloy tube and fittings
Bypass meter: Totalizing type GPM/CFM
Size: 5/8" x 3/4"

Approvals

4", 6", 8" and 10"



Dimensions – Weights



BYPASS SIZES

		STANDARD		OPTIONAL					
in.	mm	in.	mm	in.	mm	in.	mm		
		3/4	20	1	25	1 1/2	40	2	50
4	100	•	•	•	•	•	•		
6	150	•	•	•	•	•	•		
8	200	•	•	•	•	•	•	•	•
10	250	•	•	•	•	•	•	•	•

Series 800

SIZE (DN)		DIMENSIONS										WEIGHT			
		A		B		C		D		(Standard Bypass only)					
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	E		F		lbs.	kgs.
4	100	16 1/2	419	12 1/2	318	9 3/4	248	4 1/2	114	10 1/2	267	11	279	76	34.5
6	150	22 1/2	572	17	432	13 5/8	346	5 1/2	140	11 5/8	295	11	279	157	71.2
8	200	26 1/2	673	21	533	16 3/4	425	6 3/4	171	12 5/8	321	11	279	215	97.5
10	250	36 1/4	921	28	711	20	508	8	203	13 3/4	349	11	279	370	167.8

Dimensions shown are nominal.

8 For additional information, reference literature ES-F-800. Flow Charts on p. 60.

Detector Check for Automatic Fire Sprinkler Systems

Size: 2" (50mm)



406

Features

- Meter detects leakage and/or theft of water from Automatic Fire Sprinkler Systems
- Can be installed horizontally or vertically (up or down)
- Center-stem-guided, spring-loaded check for more positive seating
- Replaceable bronze seat ring
- Reversible seat disc for ease of service
- Bronze body and cover
- End Detail – 2 Bolt Meter Flange

The FEBCO Series 406 Detector Check is designed for automatic fire sprinkler systems (non-potable applications).

Materials

- Main Valve Body: Bronze
- Seat Ring: Bronze
- Disc Holder: Delrin
- Spring: Stainless Steel
- By-pass Meter: Bronze Totalizing Water Meter
- Optional (gpm or cfm)

Operation

In a non-flowing condition, the mainline check and by-pass check are closed and the meter is stopped. When water begins to flow, the bypass check opens and the meter begins to register. When the pressure drop across the valve approximates 1.5psi (10.3 kPa), the mainline check opens and allows full flow of water.

The bypass meter and check remain operating and open at all flow rates.

Pressure – Temperature

Sizes:

Mainline: 2" (50mm)

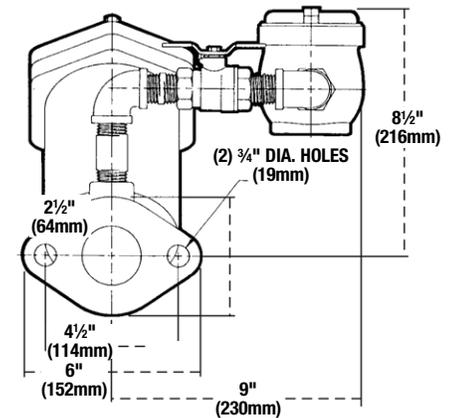
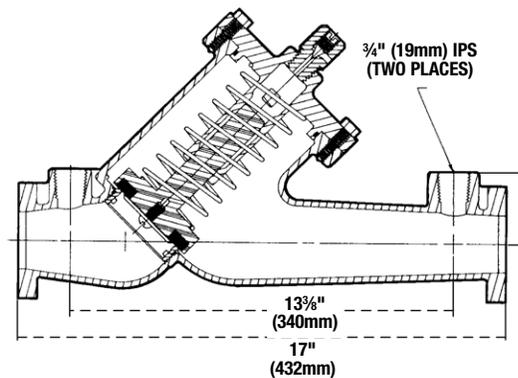
Bypass: ¾" (20mm) IPS

Maximum Working Pressure: 175psi (12.1 bar)

Hydrostatic Test Pressure: 350psi (24.1 bar)

Temperature Range: 32°F to 110°F (0°C - 43°C)

Dimensions



NOTICE

Inquire with governing authorities for local installation requirements.

Series 850/LF850

Double Check Valve Assemblies

Size: 1/2" – 2" (15 – 50mm)



850/LF850

The FEBCO Series 850 Double Check Valve Assemblies are designed for non-health hazard applications. End Connections – NPT ANSI/ASME B1.20.1. They are designed to protect drinking water supplies from dangerous cross connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing.

Materials

Valve Body: Bronze
Elastomers: Silicone
Springs: Stainless Steel

Models

- Wye - Strainer

Approvals – Standards

- ANSI/AWWA Conformance (C510-92)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Hydrostatic Test Press: 350psi
(24.1 bar)

Temperature Range: 32°F to 140°F
(0°C to 60°C)

LEAD FREE*

The FEBCO Series LF850 Double Check Valve are designed for non-health hazard applications. The LF850S features Lead Free* construction to comply with Lead Free* installation requirements. End Connections – NPT ANSI / ASME B1.20.1. The Lead Free* Double Check Valve Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Materials

Valve Body: Lead Free* cast copper silicon alloy
Elastomers: Silicone
Springs: Stainless Steel

Models

- LF850 - Standard Assembly with Ball Valves

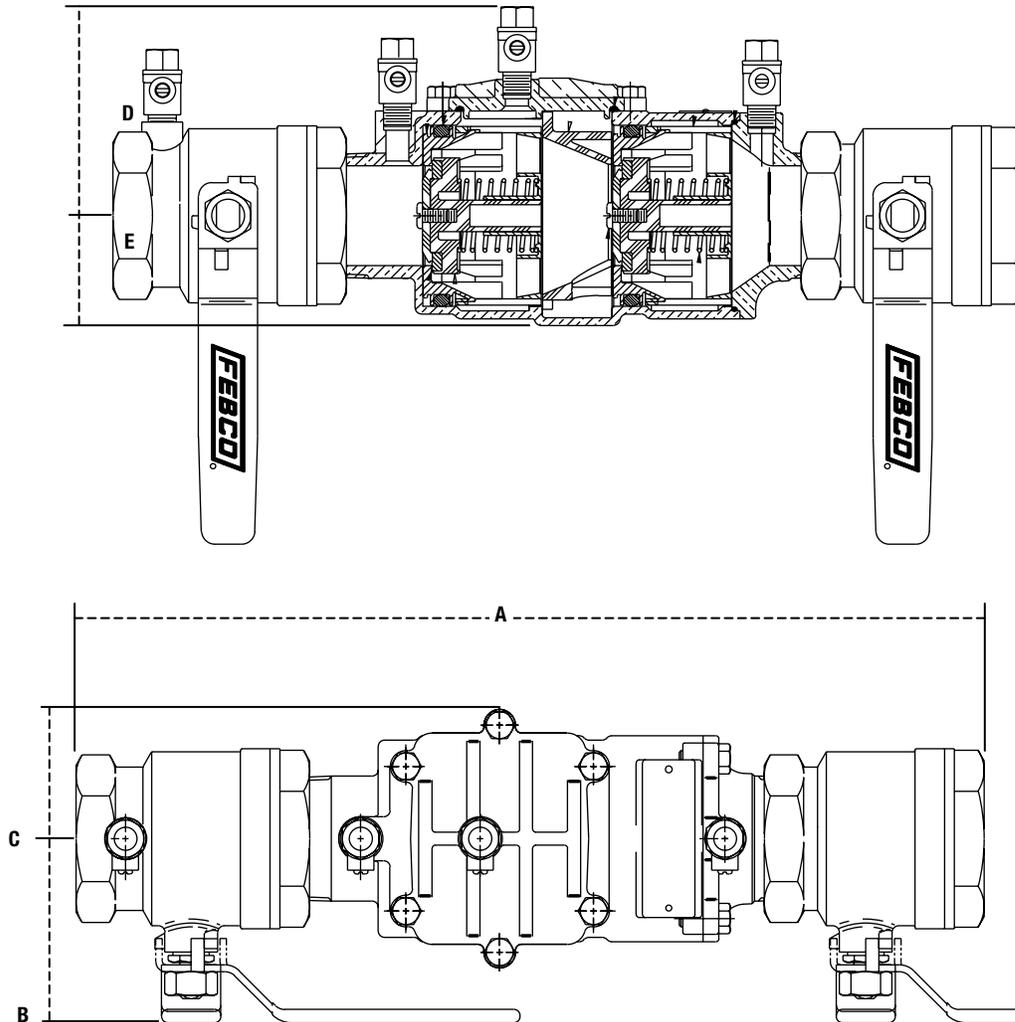
Approvals

- ANSI/AWWA Conformance (C510-92)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights



Series 850/LF850

SIZE (DN)		DIMENSIONS										WEIGHT	
<i>in.</i>	<i>mm</i>	A		B		C		D		E		<i>lbs.</i>	<i>kgs.</i>
		<i>in.</i>	<i>mm</i>										
1/2	15	10	254	1 1/2	38	1 1/2	38	3 1/8	79	1 1/4	32	4.2	1.9
3/4	20	10 3/4	273	1 1/2	38	1 1/2	38	3 1/8	79	1 1/4	32	4.4	2.0
1	25	12 1/2	318	1 7/8	48	1 5/8	41	3 3/8	86	1 1/2	38	6.8	3.1
1 1/4	32	15 5/8	403	3	76	2 1/2	64	4 1/4	108	2 1/4	57	15.8	7.2
1 1/2	40	16 3/8	416	3	76	2 1/2	64	4 1/4	108	2 1/4	57	16.2	7.4
2	50	17 3/8	450	3 1/2	89	2 1/2	64	4 1/4	108	2 1/4	57	21.1	9.6

Dimensions are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

Double Check Valve Assemblies

Size: 2½" – 10" (65 – 250mm)



850 Double Check Assembly

LEAD FREE*

The FEBCO Master Series® 850 Double Check Valve Assemblies are designed for non-health hazard applications. End Connections – Flanged ANSI B16.1 Class 125. The FEBCO MasterSeries LF850 Double Check Assembly is specifically designed to protect against possible backpressure and backsiphonage conditions for non-health hazard (i.e., pollutant) application in accordance with Local Governing Water Utility Code. This Backflow Assembly is primarily used on potable drinking water systems where Local Governing Code mandates protection from non-potable quality water being pumped or siphoned back into the potable water system.

The LF850 features Lead Free* construction to comply with low lead installation requirements. The Lead Free* Double Check Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Features

- Inline Serviceable Assembly
- No Special Tools Required for Servicing
- Captured Modular Spring Assembly
- Reversible & Replaceable Discs
- Field Replaceable Seats
- Ductile Iron Valve Body Design
- Stainless Steel Check Components
- Winterization feature with disc retainers and valve body drain ports
- Clapper Check Assembly
- Commonality between 1st & 2nd Check Components
- Captured O-ring Design

Pressure-Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Min. Working Pressure: 10psi
(0.7 bar)

Hydrostatic Test Pressure: 350psi
(24.1 bar)

Hydrostatic Safety Pressure: 700psi
(48.3 bar)

Temperature Range: 33°F - 140°F
(0.5°C - 60°C)
Continuous

Options

OSY: UL/FM Approved OS&Y Gate Valves
(ANSI/AWWA C515 Compliant)

NRS: Non-Rising Stem Gate Valves
(ANSI/AWWA C509 Compliant)

LG: Less Shut-off valves; This is NOT an APPROVED ASSEMBLY

Example Ordering Descriptions:

4" LF850-OSY - Valve Assembly fitted with OS&Y Shutoff Valves

4" LF850-NRS - Valve Assembly fitted with NRS Shutoff Valves

Materials

Below is a general materials list of the Model LF850. All assemblies size 2½" through 10" is similar in materials and construction. Please contact your local FEBCO Representative if you require further information.

Main Valve Body: Ductile iron Grade 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550

Shutoff Valves: NRS resilient wedge gate valves AWWA C509 (Standard) OSY resilient wedge gate valves AWWA C515 (UL/FM)

Check Seats: Stainless Steel

Disc Holder: Stainless Steel

Elastomer Disc: Silicone

Spring: Stainless Steel

Clamp: AWWA C606 (10" Only)

Approvals

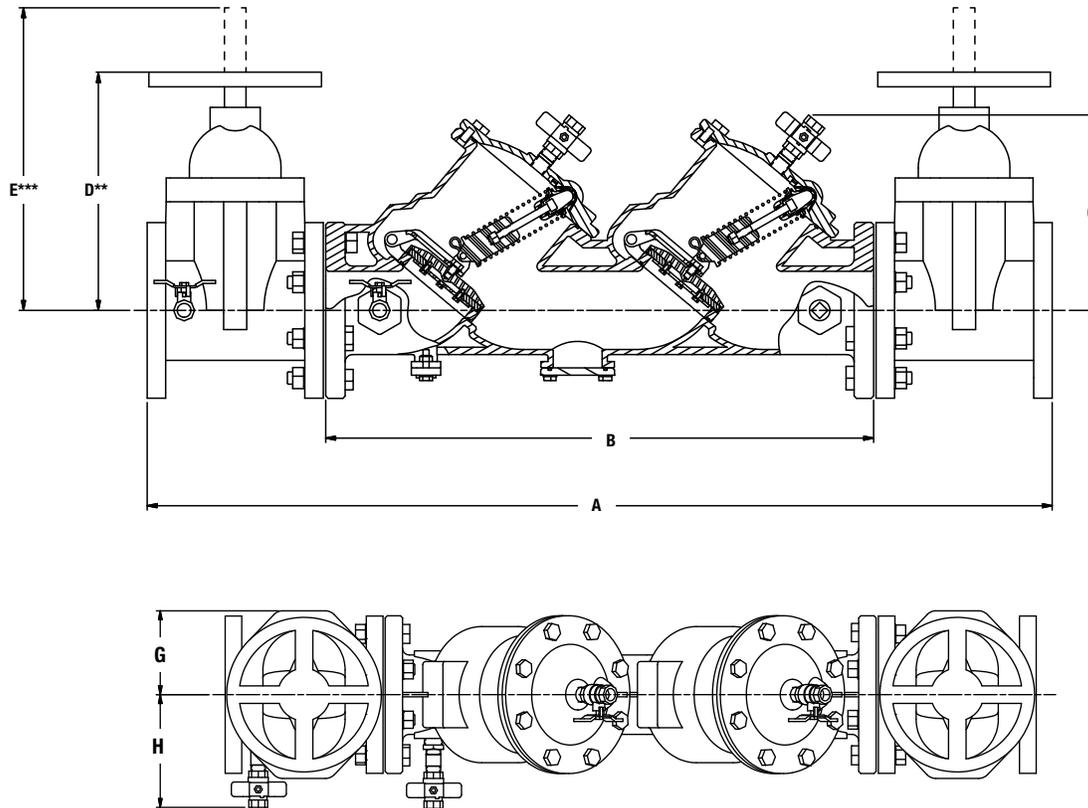
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCHR-USC)
- ASSE 1015 Listed
- UL Classified (US & Canada)†
- FM Approved†
- IAPMO
- CSA Listed
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

† Assembly configured with UL/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL/FM approved configurations.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights



MasterSeries® LF850

SIZE (DN)		DIMENSIONS										WEIGHT					
in.	mm	A		B		C*		D		G		H		NRS		OS&Y	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	lbs.	kgs.
2½	65	40¾	1035	25½	648	12½	321	10	254	4½	114	7½	181	199	90	203	92
3	80	41⅞	1064	25⅝	651	12⅞	327	10	254	4½	114	7¾	187	211	96	213	97
4	100	46¼	1175	28	711	14¾	365	10½	257	5½	140	8⅞	206	288	131	312	142
6	150	56	1422	34¾	883	18⅞	479	12¾	324	6½	165	9¾	251	450	204	494	224
8	200	65	1651	41¾	1061	23½	597	15½	397	7	178	11½	283	711	323	773	351
10	250	72½	1845	46¾	1178	27½	699	15¾	397	9	229	12¾	314	980	445	1080	490

Dimensions are nominal.

** Indicates nominal dimensions with NRS Gate Valves

*** Indicates nominal dimensions

**** Indicates weight of complete Backflow Assemblies with specified Gate Valves with OSY Gate Valves (Full Open Position)

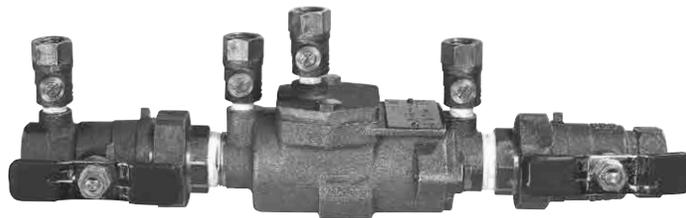
NOTICE

Inquire with governing authorities for local installation requirements.

Series 850U/LF850U

Double Check Valve Assemblies with Union End Ball Valves

Size: 1/2" – 2" (15 – 50mm)



850U/LF850U

The FEBCO Series 850U Double Check Valve Assemblies are designed for non-health hazard applications. Series 850U are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing. End Connections – NPT ANSI/ASME B1.20.1.

Materials

Valve Body: Bronze
Elastomers: Silicone
Springs: Stainless Steel

Approvals – Standards

- ANSI/AWWA Conformance (C510-92)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Hydrostatic Test Press: 350psi
(24.1 bar)

Temperature Range: 32°F to 140°F
(0°C to 60°C)

LEAD FREE*

The FEBCO Series LF850U Double Check Valve Assemblies are designed for non-health hazard applications. End Connections – NPT ANSI/ASME B1.20.1. The LF850U features Lead Free* construction to comply with Lead Free* installation requirements. End Connections – NPT ANSI/ASME B1.20.1. The Lead Free* Double Check Valve Assemblies with Union End Ball Valves shall comply with state codes and standards, where applicable, requiring reduced lead content.

Materials

Valve Body: Bronze
Elastomers: Silicone
Springs: Stainless Steel

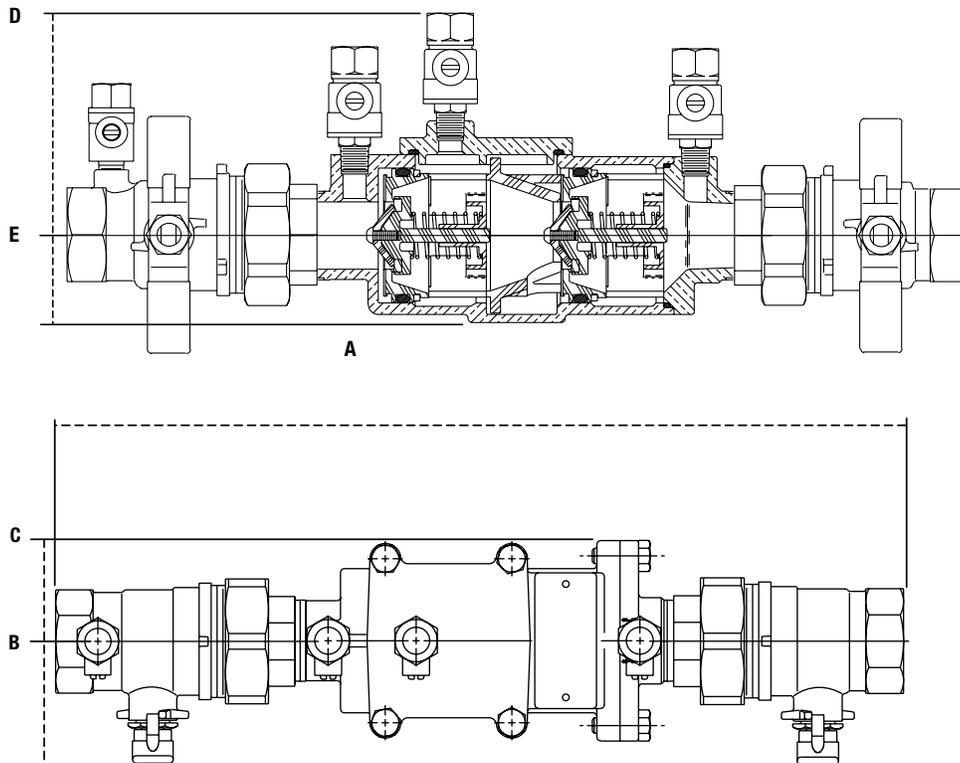
Approvals – Standards

- ANSI/AWWA Conformance (C510-92)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions — Weights



SERIES 850U/LF850U

SIZE (DN)		DIMENSIONS										WEIGHT	
		A		B		C		D		E			
<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>										
1/2	15	11	299	1 1/2	38	1 1/2	38	3 1/8	79	1 1/4	32	4.2	1.9
3/4	20	12 1/2	318	1 1/2	38	1 1/2	38	3 1/8	79	1 1/4	32	5.1	2.3
1	25	14 5/8	372	1 7/8	48	1 5/8	41	3 3/8	86	1 1/2	38	7.7	3.5
1 1/4	32	18 1/4	464	3	76	2 1/2	64	4 1/4	108	2 1/4	57	14.9	6.8
1 1/2	40	18 3/8	479	3	76	2 1/2	64	4 1/4	108	2 1/4	57	18.0	8.2
2	50	20 1/2	521	3 1/2	89	2 1/2	64	4 1/4	108	2 1/4	57	24.1	10.9

Dimensions are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

MasterSeries® LF870V

Double Check Valve Assemblies

Size: 2½" – 8" (65 – 200mm)



Standard Orientation



Vertical Orientation

LF870V

Features

- Inline Serviceable Assembly
- Horizontal "N-Pattern" Installations
- Vertical-Up "Z-Pattern" Installations
- No Special Tools Required for Servicing
- Captured Modular Spring Assembly
- Reversible & Replaceable Discs
- Field Replaceable Seats
- Ductile Iron Valve Body Design
- Stainless Steel Check Components
- Winterization feature with disc retainers and valve body drain ports
- Clapper Check Assembly
- Commonality between 1st & 2nd Check Components
- Captured O-ring Design

Pressure – Temperature

Max. Working Pressure: 175 psi
(12.1 bar)

Min. Working Pressure: 10 psi
(0.7 bar)

Hydrostatic Test Pressure: 350 psi
(24.1 bar)

Hydrostatic Safety Pressure: 700 psi
(48.3 bar)

Temperature Range: 33°F - 140°F
(0.5°C- 60°C)
Continuous

Assembly Flow Orientation

Horizontal (N-Pattern 2½" – 8")

Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO

Vertical Up (Z-Pattern 2½" – 8")

Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

LEAD FREE*

The FEBCO MasterSeries® LF870V Double Check Valve Assemblies are designed for non-health hazard applications. Standard orientation is inlet flow vertical up, outlet flow vertical down. Vertical orientation is inlet and outlet flow vertical up. The FEBCO MasterSeries LF870V Double Check Assembly is specifically designed to protect against possible backpressure and back-siphonage conditions for non-health hazard (i.e., pollutant) application in accordance with Local Governing Water Utility Code. This Backflow Assembly is primarily used on potable drinking water systems where Local Governing Code mandates protection from non-potable quality water being pumped or siphoned back into the potable water system.

The LF870V features Lead Free* construction to comply with Lead Free* installation requirements. The Lead Free* Double Check Assembly shall comply with state codes and standards, where applicable, requiring reduced lead content.

Options - Suffix

OSY: UL/FM Approved OS&Y Gate Valves
[ANSI/AWWA C515 Compliant]

NRS: Non-Rising Stem Gate Valves
[ANSI/AWWA C509 Compliant]

LG: Less Shut-off valves; This is NOT an APPROVED ASSEMBLY

Example Ordering Description:

4" LF870V-OSY - Valve Assembly fitted with OS&Y Shutoff Valves

Available Components

Wye Strainer: FDA Approved [ASME B16.1 Class 125 & AWWA Class D Flange]

Series 611 Valve Setter: MJ x MJ - Mechanical Joint x Mechanical Joint [AWWA C111/A21.11]

MJ x FL - Mechanical Joint x Flange [AWWA C111/A21.11; ASME B16.1 Class 125/AWWA Class D Flange]

FL x FL - Flange x Flange [ASME B16.1 Class 125 & AWWA Class D Flange]

Materials

Below is a general materials list of the Model LF870V. All assemblies size 2½" through 8" is similar in materials and construction. Please contact your local FEBCO Representative if you require further information.

Main Valve Body: Ductile iron
Grade 65-45-12

Coating: Fusion epoxy coated
internal and external AWWA C550-90

Materials (cont.)

Shutoff Valves: NRS resilient wedge gate valve AWWA C509 (Standard)

OSY resilient wedge gate valve AWWA C515 (UL/FM)

Check Seats: Stainless Steel

Disc Holder: Stainless Steel

Elastomer Disc: Silicone

Spring: Stainless Steel

Clamp: AWWA C606

Approvals: Standard

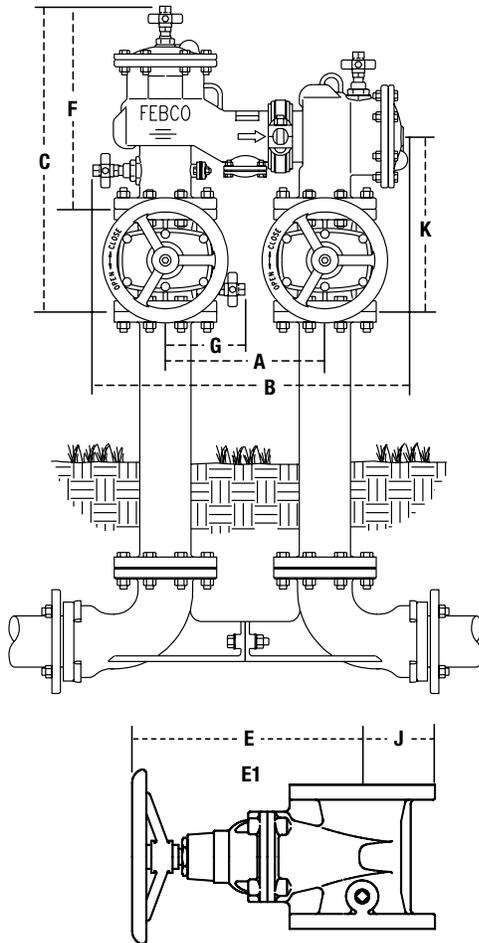
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California [FCCCHR-USC]
- ASSE 1015 Listed
- UL Classified [US & Canada]†
- FM Approved†
- IAPMO
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

† Assembly configured with UL/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL/FM approved configurations.

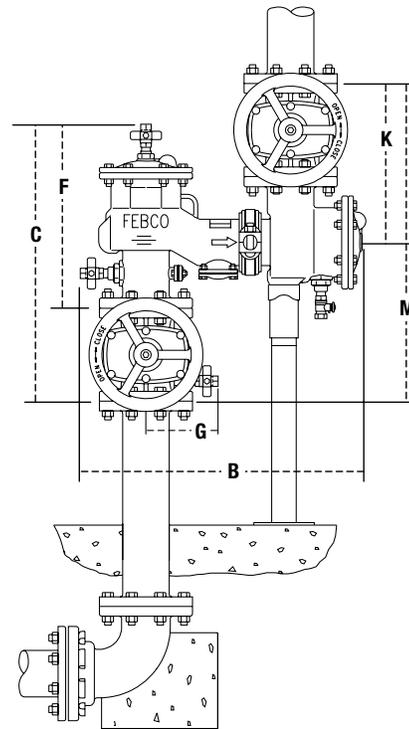


Dimensions – Weights

Model LF870V Standard Orientation



Model LF870V Vertical Orientation



SERIES LF870V

SIZE (DN)		DIMENSIONS										WEIGHT****													
		A		B		C		D		E		F		G		H		I**		J***		NRS		OSY	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.	lbs.	kg.
2½	65	25¾	654	12½	318	6¼	159	24¼	616	16½	422	13½	346	27¼	692	3½	89	12½	321	16½	416	197	89	201	91
3	80	25¾	654	12½	318	6¼	159	24¼	629	16½	422	14½	359	28¼	718	3¾	95	12½	327	22¼	565	223	101	227	103
4	100	27⅞	708	14	356	7	178	26¾	680	17¾	451	15½	394	31	787	4½	114	14¾	365	23¼	591	320	145	332	151
6	150	32¼	819	16	406	8	203	32¼	819	21½	548	18½	473	37¼	946	5½	140	18½	479	30½	765	492	223	512	232
8	200	37½	953	18½	470	9¼	235	36½	324	24¾	632	20¾	527	41½	1054	6¾	172	23½	597	37¾	959	782	355	810	367

Dimensions are nominal.

** Indicates nominal dimensions with NRS Gate Valves

*** Indicates nominal dimensions with OSY Gate Valves (Full Open Position)

**** Indicates weight of complete Backflow Assemblies with specified Gate Valves

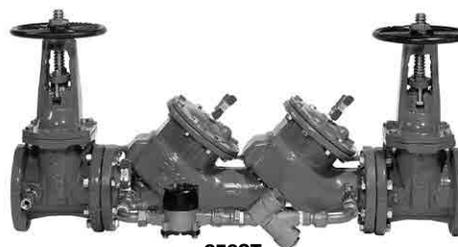
10" sizes are available in standard materials. Consult factory.

NOTICE

Inquire with governing authorities for local installation requirements.

Double Check Detector Backflow Prevention Assemblies

Size: 2½" – 10" (65 – 250mm)



856ST

Features

Main Valve:

- Inline Serviceable Assembly
- No Special Tools Required for Servicing
- Captured Modular Spring Assembly
- Reversible & Replaceable Discs
- Field Replaceable Seats
- Ductile Iron Valve Body Design
- Stainless Steel Check Components
- Winterization feature with disc retainers and valve body drain ports
- Clapper Check Assembly
- Commonality between 1st & 2nd Check Components
- Captured O-ring Design

Auxiliary Bypass:

- Compact Bypass Design; Remains within Main Valve Assembly Profile
- Inline Serviceable ¾" Backflow Assembly
- No Special Tools Required for Servicing
- Field Replaceable Seats & Discs
- Detect Potential Underground Water Leaks
- Detect Unauthorized Water Usage

Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Min. Working Pressure: 10psi
(0.7 bar)

Hydrostatic Test Pressure: 350psi
(24.1 bar)

Hydrostatic Safety Pressure: 700psi
(48.3 bar)

Temperature Range: 33°F - 140°F
(0.5°C- 60°C)
Continuous

The FEBCO MasterSeries 856ST Double Check Detector Assembly is specifically designed to protect against possible backpressure and backsiphonage conditions for non-health hazard (i.e., pollutant) application in accordance with Local Governing Water Utility Code. This Backflow Assembly is primarily used on potable drinking water systems and fire sprinkler systems, where Local Governing Code mandates protection from non-potable quality water being pumped or siphoned back into the potable water system. This assembly is designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing.

Options - Suffix

- OSY: UL/FM Approved OS&Y Gate Valves [ANSI/AWWA C515 Compliant]
- NRS: Non-Rising Stem Gate Valves [ANSI/AWWA C509 Compliant]
- LG: Less Shut-off valves; This is NOT an APPROVED ASSEMBLY

Example Ordering Description:

4" LF870V-OSY - Valve Assembly fitted with OS&Y Shutoff Valves

Available Components

- Wye Strainer:
FDA Approved [ASME B16.1 Class 125 & AWWA Class D Flange]
- Series 611 Valve Setter:
MJ x MJ - Mechanical Joint x Mechanical Joint [AWWA C111/A21.11]
- MJ x FL - Mechanical Joint x Flange [AWWA C111/A21.11; ASME B16.1 Class 125/AWWA Class D Flange]
- FL x FL - Flange x Flange [ASME B16.1 Class 125 & AWWA Class D Flange]

Assembly Flow Orientation

Horizontal (N-Pattern 2½" – 8")

Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO

Vertical Up (Z-Pattern 2½" – 8")

Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO

Materials

Below is a general materials list of the Model 856ST. All assemblies size 2½" through 10" is similar in materials and construction.

Main Valve Body: Ductile iron Grade 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550-90

Shutoff Valves: NRS resilient wedge gate valve AWWA C509 (Standard)

OSY resilient wedge gate valve AWWA C515 (UL/FM)

Check Seats: Stainless Steel

Disc Holder: Stainless Steel

Elastomer Disc: Silicone

Spring: Stainless Steel

Clamp: AWWA C606

Please contact your local FEBCO Representative if you require further information.

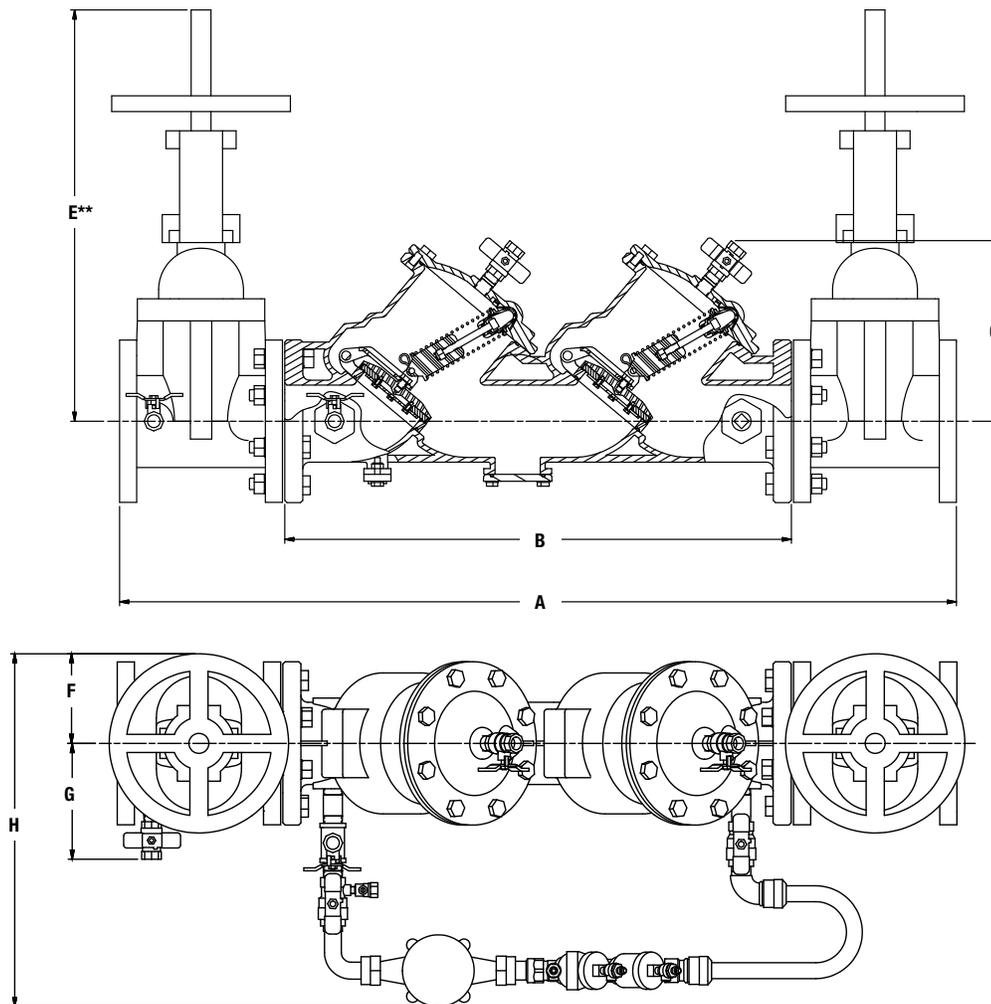
Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California [FCCCHR-USC]
- ASSE 1015 Listed
- UL Classified [US & Canada]†
- FM Approved †
- IAPMO
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

†Assembly configured with UL/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL/FM approved configurations.



Dimensions — Weights



MasterSeries® 856ST

SIZE		DIMENSIONS										WEIGHT***					
		A		B		C		E**		F		G		H		OSY	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
2½	65	40¾	1035	25½	648	10	254	16¾	416	4½	114	7⅞	181	13⅞	340	245	111
3	80	41⅞	1064	25⅝	651	10	254	22⅞	565	4½	114	7⅞	187	13⅞	340	271	123
4	100	46¼	1175	28	711	10⅞	257	23¼	591	5½	140	8⅞	206	14	356	338	153
6	150	56	1422	34¾	883	12¾	324	30⅞	765	6½	165	9⅞	251	15	381	515	234
8	200	65	1651	41¼	1061	15⅝	397	37¼	959	7	178	11⅞	283	15¾	400	826	375
10	250	72⅞	1845	46⅞	1178	15⅝	397	48	1219	9	229	12⅞	314	15¾	400	1234	560

Dimensions are nominal.

** Indicates nominal dimensions with OSY Gate Valves (Full Open Position)

*** Indicates weight of complete Backflow Assemblies with specified Gate Valves

NOTICE

Inquire with governing authorities for local installation requirements.

MasterSeries® 876VST

Double Check Detector Backflow Prevention Assemblies

Size: 2½" – 10" (65 – 250mm)



Standard Orientation



Vertical Orientation

Features

Main Valve:

- Inline Serviceable Assembly
- Horizontal "N-Pattern" Installations
- Vertical-Up "Z-Pattern" Installations
- No Special Tools Required for Servicing
- Captured Modular Spring Assembly
- Reversible & Replaceable Discs
- Field Replaceable Seats
- Ductile Iron Valve Body Design
- Stainless Steel Check Components
- Winterization feature with disc retainers and valve body drain ports
- Clapper Check Assembly
- Commonality between 1st & 2nd Check Components
- Captured O-ring Design

Auxiliary Bypass:

- Compact Bypass Design; Remains within Main Valve Assembly Profile
- Inline Serviceable ¾" Backflow Assembly
- No Special Tools Required for Servicing
- Field Replaceable Seats & Discs
- Detect Potential Underground Water Leaks
- Detect Unauthorized Water Usage

Pressure - Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Min. Working Pressure: 10psi
(0.7 bar)

Hydrostatic Test Pressure: 350psi
(24.1 bar)

Hydrostatic Safety Pressure: 700psi
(48.3 bar)

Temperature Range: 33°F - 140°F
[0.5°C - 60°C]
Continuous

The FEBCO MasterSeries 876VST Double Check Detector Assembly is specifically designed to protect against possible backpressure and backsiphonage conditions for non-health hazard (i.e., pollutant) application in accordance with Local Governing Water Utility Code.

This Backflow Assembly is designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fire line, or industrial processing.

Options - Suffix

- OSY: UL/FM Approved OS&Y Gate Valves [ANSI/AWWA C515 Compliant]
- CFM: Totalizing Cubic feet/min 5/8"x 3/4" Water Meter [ANSI/AWWA C700 Compliant]
- GPM: Totalizing Gallons/min 5/8"x 3/4" Water Meter [ANSI/AWWA C700 Compliant]
- LG: Less Shutoff valves; This is NOT an APPROVED ASSEMBLY

Example Ordering Description:

4" 876VST-OSY-GPM
Valve Assembly fitted with OS&Y Shutoff Valves & Gallons per Minute Water Meter

4" 876VST-OSY-CFM
Valve Assembly fitted with OS&Y Shutoff Valves & Cubic Feet per Minute Water Meter

Available Components

Wye Strainer: FDA Approved [ASME B16.1 Class 125 & AWWA Class D Flange]

Series 611 Valve Setter:

MJ x MJ - Mechanical Joint x Mechanical Joint [AWWA C111/A21.11]

MJ x FL - Mechanical Joint x Flange [AWWA C111/A21.11; ASME B16.1 Class 125/AWWA Class D Flange]

FL x FL - Flange x Flange [ASME B16.1 Class 125 & AWWA Class D Flange]

Materials

Below is a general materials list of the Model 876VST. All assemblies size 2½" through 10" is similar in materials and construction. Please contact your local FEBCO Representative if you require further information.

Main Valve Body: Ductile iron Grade 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550-90

Shutoff Valves: OSY resilient wedge gate valve AWWA C515 (UL/FM)

Check Seats: Stainless Steel

Disc Holder: Stainless Steel

Elastomer Disc: Silicone

Spring: Stainless Steel

Clamp: AWWA C606

Approvals – Standards

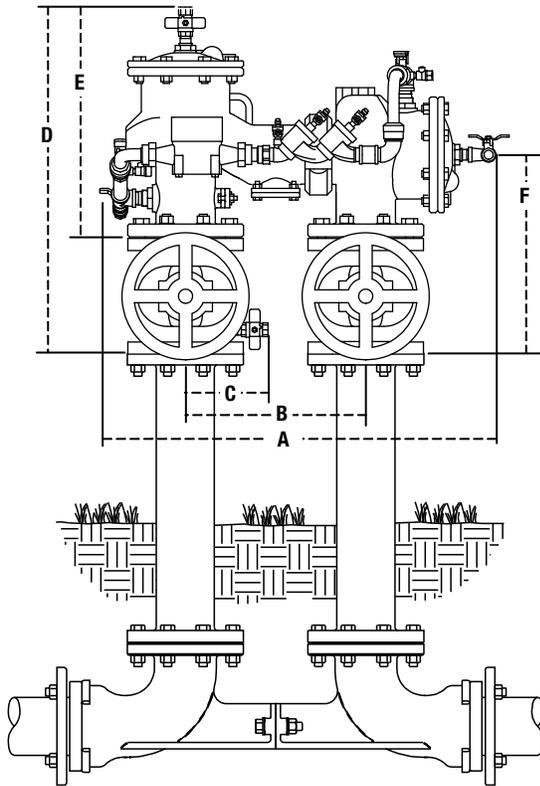
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California [FCCCHR-USC]
- ASSE 1048 Listed
- UL Classified [US & Canada]†
- FM Approved†
- IAPMO/cUPC
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

†Assembly configured with UL/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL/FM approved configurations.

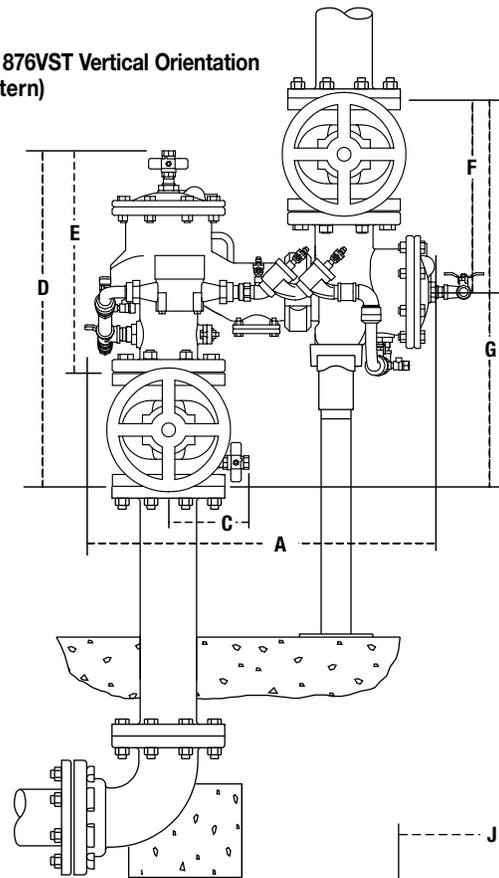


Dimensions – Weights

Model 876VST Standard Orientation (N-Pattern)

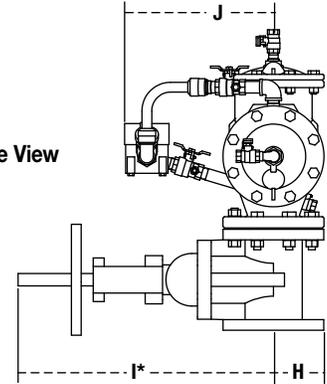


Model 876VST Vertical Orientation (Z-Pattern)



Note: The Series 876VST is shipped in the standard (N-Pattern) orientation as shown above.

Gate Valve Side View Clearance



MasterSeries® 876VST

SIZE		DIMENSIONS																		WEIGHT*			
in.	mm	A		B		C		D		E		F		G		H		I'		J		lbs.	kg.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
2½	65	25¾	654	12½	318	6¼	159	24¼	616	16⅝	422	13⅜	346	27¼	692	3½	89	16⅝	416	11½	292	216	98
3	80	25¾	654	12½	318	6¼	159	24¼	629	16⅝	422	14⅞	359	28¼	718	3¾	95	22¼	565	11½	292	242	110
4	100	27⅞	708	14	356	7	178	26¾	680	17¾	451	15½	394	31	787	4½	114	23¾	591	13	330	347	157
6	150	32¼	819	16	406	8	203	32¼	819	21⅝	548	18⅝	473	37¼	946	5½	140	30⅞	765	13	330	529	240
8	200	37½	953	18½	470	9¼	235	36⅜	324	24⅞	632	20¾	527	41½	1054	6¾	172	37¾	959	14½	368	827	375
10	250	42½	1080	21	533	10	254	40¾	1035	27½	699	24	610	48	1219	8	203	48	1219	15	381	1335	605

Dimensions are nominal.

* Indicates nominal dimensions with OSY Gate Valves (Full Open Position)

**Indicates weight of complete Backflow Assemblies with specified Gate Valves

NOTICE

Inquire with governing authorities for local installation requirements.

Series 825Y/LF825Y

Reduced Pressure Zone Assemblies

Size: 3/4" – 2" (20 – 50mm)



825Y/LF825Y

Features

- Ultimate mechanical protection of potable water, against hazards of cross-connection contamination.
- Meets all specifications of AWWA, ASSE, CSA and approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- Approved by the Foundation of Cross-Connection Control and Hydraulic Research at the University of Southern California.
- Modular relief valve for ease of maintenance.
- Simple Service procedures. All internal parts serviceable in line.
- Low head loss.
- Spring loaded "Y" type check valves.
- Internal relief valve pressure sensing passages.
- Replaceable seat rings on all sizes.
- End connection – NPT ANSI / ASME B1.20.1

Pressure – Temperature

Max. working pressure: 175psi
(12.1 bar)

Hydrostatic test pressure: 350psi
(24.1 bar)

Temperature range: 32°F to 140°F
(0°C to 60°C)

The FEBCO Series 825Y Reduced Pressure Zone Assemblies are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospitals, morgues, mortuaries, and chemical plants. These valves are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

Materials

Main valve body: Bronze
Relief valve body: Bronze
Elastomers: Nitrile Seat Discs**
Diaphragms: Nitrile, fabric reinforced
Springs: Stainless Steel

** Can be supplied with optional silicone seat disc.

Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- AWWA C511 Conformance



LEAD FREE* The FEBCO Series LF825Y Reduced Pressure Zone Assemblies are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospitals, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection. The LF825Y features Lead Free* construction to comply with Lead Free* installation requirements.

Operation

In a flow condition the check valves are open with the pressure between the checks, called the zone, being maintained at least 5.0psi lower than the inlet pressure and the relief valve is maintained closed.

Should abnormal conditions arise under no flow or reversal of flow, the differential relief valve will open and discharge to maintain the zone at least 2psi lower than the supply.

When normal flow resumes, the zone's differential pressure will resume and the relief valve will close.

Materials

Main valve body: Lead Free* Cast Copper Silicon Alloy
Relief valve body: Lead Free* Cast Copper Silicon Alloy
Elastomers: Nitrile Seat Discs
Diaphragms: Nitrile, fabric reinforced
Springs: Stainless Steel

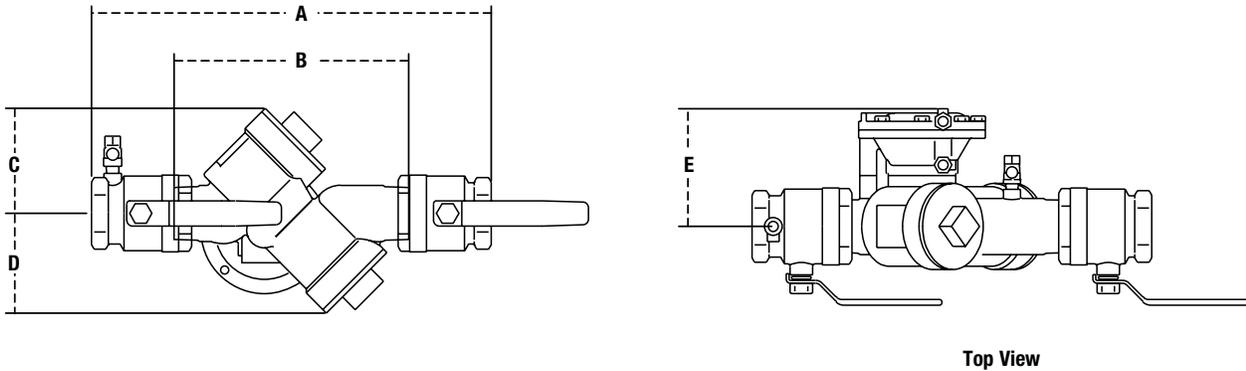
Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- AWWA C511 Conformance



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights



Top View

Series 825Y/LF825Y

SIZE (DN)		DIMENSIONS										WEIGHT	
<i>in.</i>	<i>mm</i>	A		B*		C		D		E		<i>lbs.</i>	<i>kgs.</i>
		<i>in.</i>	<i>mm</i>										
3/4	20	12	305	7 3/4	197	3/4	83	3/4	83	4 1/8	105	11.5	5.2
1	25	12 3/4	324	7 3/4	197	3/4	83	3/4	83	4 1/8	105	12.5	5.7
1 1/2	40	17	432	10 1/2	267	4 1/2	114	4 1/2	114	5	127	26.5	12.0
2	50	17 3/4	451	10 1/2	267	4 1/2	114	4 1/2	114	5	127	29.0	13.0

Dimensions are nominal.

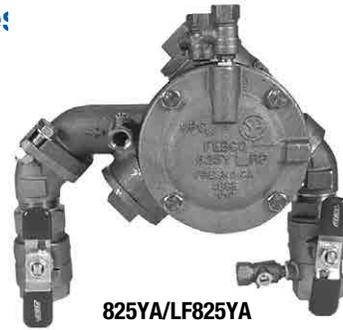
NOTICE

Inquire with governing authorities for local installation requirements.

Series 825YA/LF825YA

Angle Pattern Reduced Pressure Zone Assemblies

Size: ¾" – 2" (20 – 50mm)



825YA/LF825YA

Features

- Installation versatility simplifies new and retrofit installations
- Eliminates pipe elbows, nipples and unions from the installation
- Reduces installation time, labor costs and materials
- Compact design simplifies retrofit
- Integral flanged union connections allow assembly to be removed from the line for freeze protection or maintenance without the danger of spool substitution
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Modular relief valve and check valve internal components for ease of maintenance
- Smaller, less costly protective enclosures can be used to provide freeze and vandalism protection due to compact size of valve
- Field tested design for reliability and performance
- Replaceable seat rings for longer valve life
- Low head loss for optimum performance

Pressure – Temperature

Max. working pressure: 175psi
(12.1 bar)

Hydrostatic test pressure: 350psi
(24.1 bar)

Temperature range: 32°F to 140°F
(0°C to 60°C)

The FEBCO Series 825YA Reduced Pressure Zone Assemblies are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing, including hospitals, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feeds, water lines and other installations requiring the highest level of mechanical protection. End connections – NPT ANSI/ASME B1.20.1

Materials

Main valve body: Bronze

Relief valve body: Bronze

Elastomers: Nitrile Seat Discs

Diaphragms: Nitrile, fabric reinforced-

Springs: Stainless Steel

Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- ANSI/AWWA C511 Conformance



LEAD FREE The FEBCO Series LF825YA Reduced Pressure Zone Assemblies are used to protect against toxic fluids in water services to industrial plants, hospitals, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feeds, water lines and other installations requiring the highest level of mechanical protection. The LF825YA features Lead Free* construction to comply with Lead Free* installation requirements. End connection – NPT ANSI/ASME B1.20.1

Operation

In a flow condition, the check valves are open with the pressure between the checks, called the zone, being maintained at least 5psi (34 kPa) lower than the inlet pressure. The relief valve is held closed by the pressure differential.

Should abnormal conditions arise under no flow or reversal of flow, the differential relief valve will open and discharge to maintain the zone at least 2psi (14 kPa) lower than the supply.

When normal flow resumes, the zone's differential pressure will return and the relief valve will close.

Materials

Main valve body: Lead Free* Cast Copper Silicon Alloy

Relief valve body: Lead Free* Cast Copper Silicon Alloy

Elastomers: Nitrile Seat Discs

Diaphragms: Nitrile, fabric reinforced

Springs: Stainless Steel

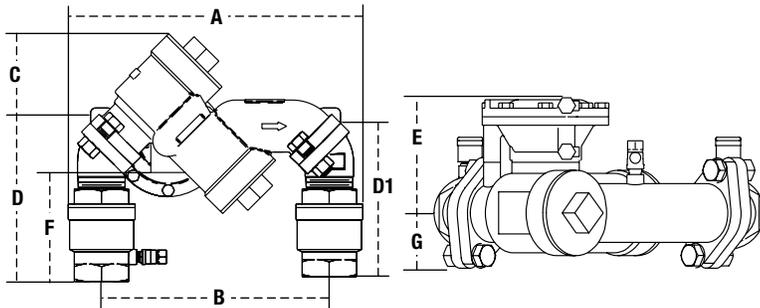
Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- AWWA C511 Conformance



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights



Legend:

- A Overall lay length, outside dimension
- B Centerline of inlet shutoff to centerline of outlet shutoff
- C Centerline of assembly to top
- D End of inlet shutoff to centerline of assembly
- D1 Centerline of assembly to end of outlet shutoff
- E Centerline of assembly to outside of relief valve
- F Bottom of relief port to end of inlet shutoff
- G Centerline of assembly to outside of flange

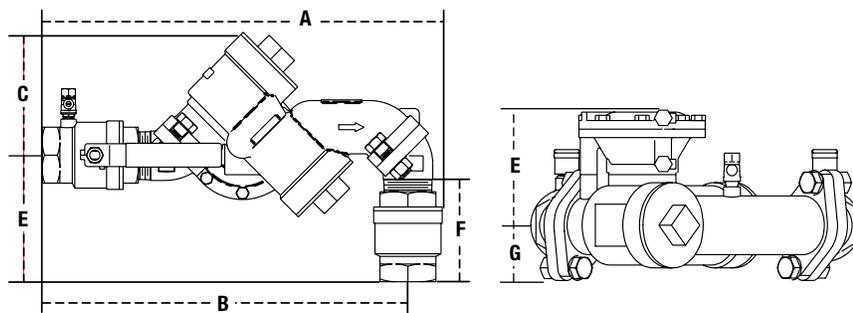
Vertical Up Flow In - Vertical Down Flow Out 825YA/LF825YA

SIZE (DN)		DIMENSIONS										WEIGHT							
in.	mm	A		B		C		D		D1		E		F		G**		lbs.	kgs
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
¾	20	10	254	8½	216	¾	83	4⅞	124	4⅝	118	4⅞	105	3½	89	1⅝	41	15.0	6.8
1	25	10¼	260	8½	216	¾	83	5¼	133	5	127	4⅞	105	3⅞	98	1⅝	41	16.5	7.5
1½	40	14¼	362	11½	292	4½	114	6⅞	175	6½	165	5	127	4⅞	118	2⅝	67	38.0	17.2
2	50	14⅞	378	11½	292	4½	114	7½	191	7½	181	5	127	5¼	133	2⅝	67	41.0	18.6

**G Dimension are based on standard vertical flow in / vertical flow out configuration.
All dimensions are nominal.

4

Reduced Pressure Zone Assemblies



Legend:

- A Overall lay length, outside dimension
- B Centerline of inlet shutoff to centerline of outlet shutoff
- C Centerline of assembly to top
- D End of inlet shutoff to centerline of assembly
- E Centerline of assembly to outside of relief valve
- F Bottom of relief port to end of inlet shutoff
- G Centerline of assembly to outside of flange

Vertical Up Flow In - Horizontal Flow Out 825YA/LF825YA

SIZE (DN)		DIMENSIONS										WEIGHT							
in.	mm	A		B		C		D		D1		E		F		G**		lbs.	kgs
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
¾	20	12⅝	321	11⅞	302	4½	114	3⅝	92	n/a	n/a	4⅞	105	3½	89	1⅝	41	15.0	6.8
1	25	13⅓	339	12¼	311	4½	114	4	102	n/a	n/a	4⅞	105	3⅞	98	1⅝	41	16.5	7.5
1½	40	18	457	16⅝	422	6	152	5¼	133	n/a	n/a	5	127	4⅞	118	2⅝	67	38.0	17.2
2	50	19	483	17¼	438	6	152	5⅞	149	n/a	n/a	5	127	5¼	133	2⅝	67	41.0	18.6

**G Dimension are based on standard vertical flow in / vertical flow out configuration.
All dimensions are nominal.

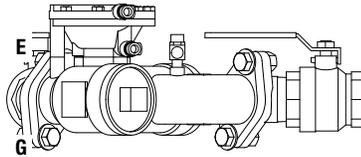
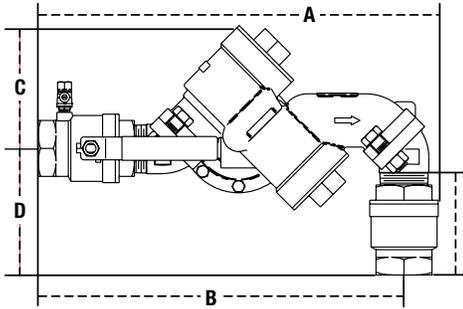
NOTICE

Inquire with governing authorities for local installation requirements.

• Continued on next page

Series 825YA/LF825YA (cont.)

Dimensions – Weights



Legend:

- A Overall lay length, outside dimension
- B Centerline of inlet shutoff to centerline of outlet shutoff
- C Centerline of assembly to top
- D End of inlet shutoff to centerline of assembly
- E Centerline of assembly to outside of relief valve
- F Bottom of relief port to end of inlet shutoff
- G Centerline of assembly to outside of flange

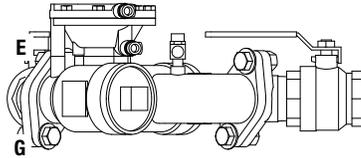
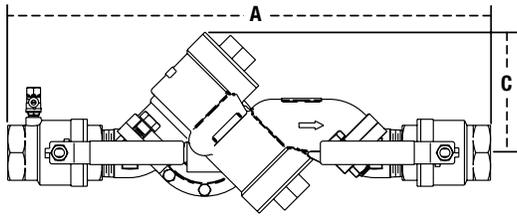
4

Horizontal Flow In - Vertical Down Flow Out 825YA/LF825YA

SIZE (DN)		DIMENSIONS												WEIGHT					
<i>in.</i>	<i>mm</i>	A		B		C		D		D1		E		F		G**			
		<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>		
3/4	20	12 ⁷ / ₈	327	12 ¹ / ₈	308	4 ¹ / ₂	114	3 ³ / ₈	92	n/a	n/a	4 ¹ / ₈	105	3 ¹ / ₂	89	1 ⁵ / ₈	41	15.0	6.8
1	25	13 ³ / ₈	340	12 ¹ / ₂	318	4 ¹ / ₂	114	4	102	n/a	n/a	4 ¹ / ₈	105	3 ⁷ / ₈	98	1 ⁵ / ₈	41	16.5	7.5
1 ¹ / ₂	40	18 ³ / ₈	467	17	432	6	152	5 ¹ / ₄	133	n/a	n/a	5	127	4 ⁵ / ₈	118	2 ⁵ / ₈	67	38.0	17.2
2	50	19 ³ / ₈	492	17 ⁵ / ₈	448	6	152	5 ⁷ / ₈	149	n/a	n/a	5	127	5 ¹ / ₄	133	2 ⁵ / ₈	67	41.0	18.6

**G Dimension are based on standard vertical flow in / vertical flow out configuration.

All dimensions are nominal.



Legend:

- A Overall lay length, outside dimension
- C Centerline of assembly to top
- E Centerline of assembly to outside of relief valve
- G Centerline of assembly to outside of flange

Horizontal 825YA/LF825YA

SIZE (DN)		DIMENSIONS												WEIGHT					
<i>in.</i>	<i>mm</i>	A		B		C		D		D1		E		F		G*		<i>lbs.</i>	<i>kgs</i>
		<i>in.</i>	<i>mm</i>																
3/4	20	15 1/2	394	n/a	n/a	4 1/2	114	n/a	n/a	n/a	n/a	4 5/8	105	n/a	n/a	1 5/8	41	15.0	6.8
1	25	16 1/4	413	n/a	n/a	4 1/2	114	n/a	n/a	n/a	n/a	4 5/8	105	n/a	n/a	1 5/8	41	16.5	7.5
1 1/2	40	22	559	n/a	n/a	6	152	n/a	n/a	n/a	n/a	5	127	n/a	n/a	2 5/8	67	38.0	17.2
2	50	23 3/8	594	n/a	n/a	6	152	n/a	n/a	n/a	n/a	5	127	n/a	n/a	2 5/8	67	41.0	18.6

*G Dimension are based on standard vertical flow in / vertical flow out configuration.
All dimensions are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

Series 860/LF860

Reduced Pressure Zone Assemblies

Size: 1/2" – 2" (15 – 50mm)



860/LF860

The FEBCO Series 860 Reduced Pressure Zone Assemblies are designed for use in health-hazard applications. End Connections – NPT ANSI/ASME B1.20.1. This assembly is designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing.

Materials

Valve Body: Bronze
Elastomers: Silicone
Springs: Stainless Steel

Approvals – Standards

- ANSI/AWWA Conformance (C511)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

Models

- Wye - Strainer

Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Hydrostatic Test Pressure: 350psi
(24.1 bar)

Temperature Range: 32°F to 140°F
(0°C to 60°C)

LEAD FREE* The FEBCO Series LF860 Reduced Pressure Zone Assemblies are designed for use in health-hazard applications. The LF860 features Lead Free* construction to comply with Lead Free* installation requirements. End Connections – NPT ANSI / ASME B1.20.1. The Lead Free* Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Materials

Valve Body: Lead Free* Cast Copper
Silicon Alloy
Elastomers: Silicone
Springs: Stainless Steel

Approvals – Standards

- ANSI/AWWA Conformance (C511)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

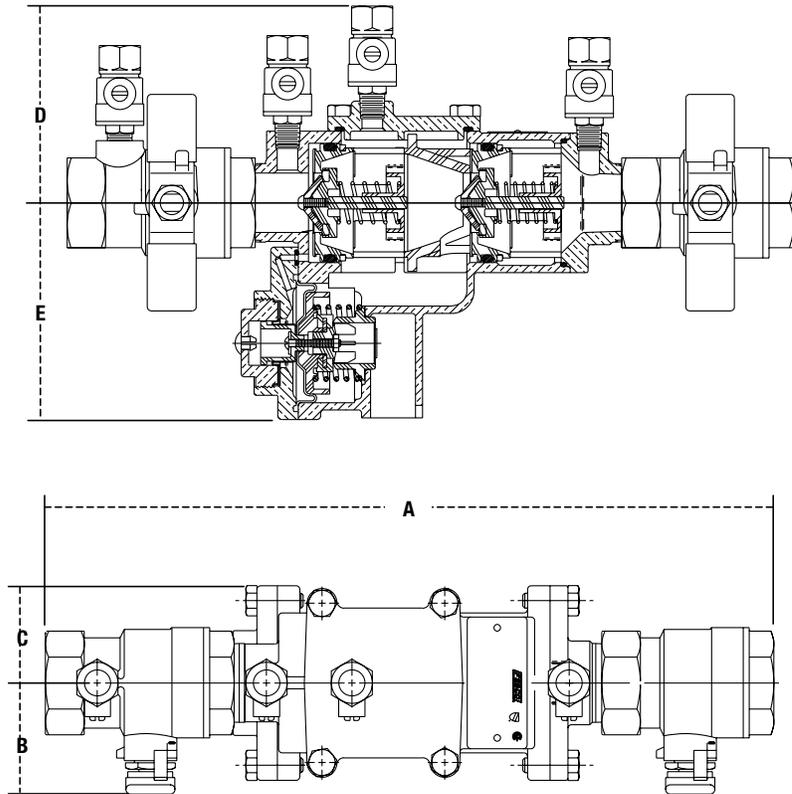
Models

- LF860 - Standard Assembly with Ball Valves



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights – Materials



NOTICE

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

Series 860/LF860

SIZE (DN)		DIMENSIONS										WEIGHT	
<i>in.</i>	<i>mm</i>	A		B		C		D		E		<i>lbs.</i>	<i>kgs.</i>
		<i>in.</i>	<i>mm</i>										
½	15	10	254	1½	38	1½	38	3⅞	79	3½	89	5.6	2.5
¾	20	10¾	273	1½	38	1½	38	3⅞	79	3½	89	5.8	2.6
1	25	12½	318	1⅞	48	1⅞	41	3⅞	86	3⅞	92	9.2	4.2
1¼	32	15⅞	403	3	76	2½	64	4¼	108	5⅞	143	20.2	9.2
1½	40	16⅞	416	3	76	2½	64	4¼	108	5⅞	143	20.6	9.4
2	50	17⅞	450	3½	89	2½	64	4¼	108	5⅞	143	24.8	11.3

Dimensions are nominal.

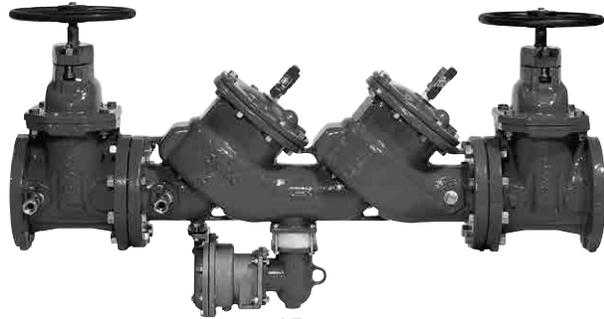
NOTICE

Inquire with governing authorities for local installation requirements.

MasterSeries® LF860

Reduced Pressure Zone Assemblies

Size: 2½" – 10" (65 – 250mm)



LF860

LEAD FREE* The FEBCO MasterSeries LF860 Reduced Pressure Zone Assembly is specifically designed to protect against possible backpressure and backsiphonage conditions for high hazard [i.e., toxic] application in accordance with Local Governing Water Utility Code. This Backflow Prevention Assembly is primarily used on potable drinking water systems where Local Governing Code mandates protection from non-potable water being pumped or siphoned back into the potable water system.

The LF860 features Lead Free* construction to comply with Lead Free* installation requirements. The Lead Free* Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Features

- Inline Serviceable Assembly
- No Special Tools Required for Servicing
- Captured Modular Spring Assembly
- Reversible & Replaceable Discs
- Field Replaceable Seats
- Ductile Iron Valve Body Design
- Stainless Steel Check Components
- Modular Pressure Differential Relief Valve
- Repairable Pressure Differential Relief Valve
- Clapper Check Assembly
- Captured O-ring Design

Pressure - Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Min. Working Pressure: 20psi
(1.4 bar)

Hydrostatic Test Pressure: 350psi
(24.1 bar)

Hydrostatic Safety Pressure: 700psi
(48.3 bar)

Temperature Range: 33°F - 140°F
(0.5°C - 60°C)
Continuous

Options - Suffix

OSY: UL/FM Approved OS&Y Gate Valves (ANSI/AWWA C515 Compliant)

NRS: Non-Rising Stem Gate Valves (ANSI/AWWA C509 Compliant)

LG: Less Shut-off valves; This is NOT an APPROVED ASSEMBLY

Example Ordering Descriptions:

4" LF860-OSY - Valve Assembly fitted with OS&Y Shutoff Valves

4" LF860-NRS - Valve Assembly fitted with NRS Shutoff Valves

Assembly Flow Orientation

- Horizontal (2½" – 10") - Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO and CSA

Materials

Below is a general materials list of the Series LF860. All assemblies size 2-1/2" through 10" is similar in materials and construction. Please contact your local FEBCO Representative if you require further information.

Main Valve Body: Ductile iron Grade 65-45-12

Relief Valve Body: Ductile iron Grade 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550

Shutoff Valves: NRS resilient wedge gate valve AWWA C509 (Standard) OSY resilient wedge gate valve AWWA C515 (UL/FM)

Check Seats: Stainless Steel

Materials (cont.)

Disc Holder: Stainless Steel

Elastomer Disc: Silicone

Spring: Stainless Steel

Clamp: AWWA C606 (10" Only)

Approvals - Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCHR-USC)
- ASSE 1013 Listed
- UL Classified (US & Canada)[†]
- FM Approved[†]
- IAPMO
- AWWA Standard C511 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

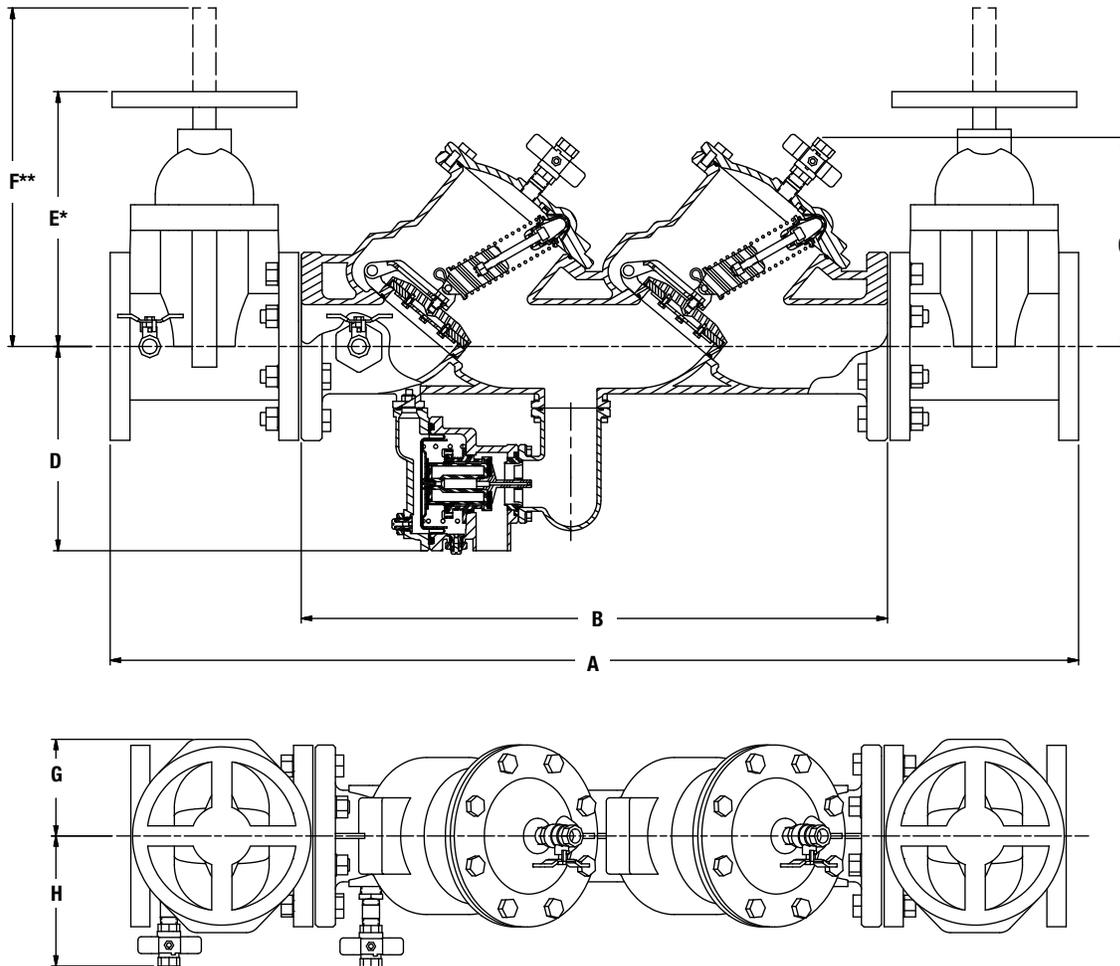
[†]Assembly configured with UL/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL/FM approved configurations.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights

Below are the nominal dimensions and physical weights for the Series LF860 size 2-1/2" through 10". Allowances must be made for normal manufacturing tolerances. Please visit our website to download a copy of this product's installation instructions, or contact your local FEBCO Representative for more information.



LF860

SIZE (DN)		DIMENSIONS										WEIGHT****									
		A		B		C		D		E**		F***		G		H		NRS		OSY	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.	lbs.	kg.
2½	65	40¾	1035	25½	648	10	254	10	254	12½	321	16¾	416	4½	114	7½	181	250	113	254	115
3	80	41¾	1064	25½	651	10	254	10	254	12¾	327	22¼	565	4½	114	7¾	187	276	125	280	127
4	100	46¼	1175	28	711	10½	257	10½	257	14¾	365	23¾	591	5½	140	8½	206	335	152	347	157
6	150	56	1422	34¾	883	12¾	324	11½	283	18¾	479	30½	765	6½	165	9¾	251	503	228	523	237
8	200	65	1651	41¾	1061	15¾	397	12¼	311	23½	597	37¾	959	7	178	11½	283	807	366	835	379
10	250	72¾	1845	46¾	1178	15¾	397	12¾	314	27½	699	48	1219	9	229	12¾	314	1205	547	1243	564

Dimensions are nominal.

** Indicates nominal dimensions with NRS Gate Valves

*** Indicates nominal dimensions with OSY Gate Valves (Full Open Position)

**** Indicates weight of complete Backflow Assemblies with specified Gate Valves

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of the FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

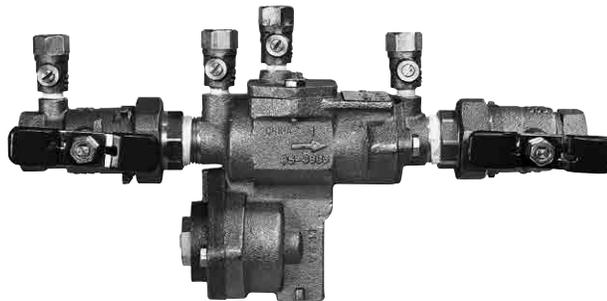
NOTICE

Inquire with governing authorities for local installation requirements.

Series 860U/LF860U

Reduced Pressure Zone Assemblies with Union End Ball Valves

Size: 1/2" – 2" (15 – 50mm)



860U/LF860U

The FEBCO Series 860U Reduced Pressure Zone Assemblies are designed for and suitable for use in health hazard applications. Series 860U are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing. End Connections – NPT ANSI / ASME B1.20.1

Approvals – Standards

- ANSI/AWWA Conformance (C511)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Hydrostatic Test Press: 350psi
(24.1 bar)

Temperature Range: 32°F to 140°F
(0°C to 60°C)

LEAD FREE*

The FEBCO Series LF860 Reduced Pressure Zone Assemblies are designed for use in health-hazard applications. The LF860S features Lead Free* construction to comply with Lead Free* installation requirements. End Connections – NPT ANSI / ASME B1.20.1. The Lead Free* Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Materials

Valve Body: Lead Free* Cast Copper
Silicon Alloy
Elastomers: Silicone
Springs: Stainless Steel

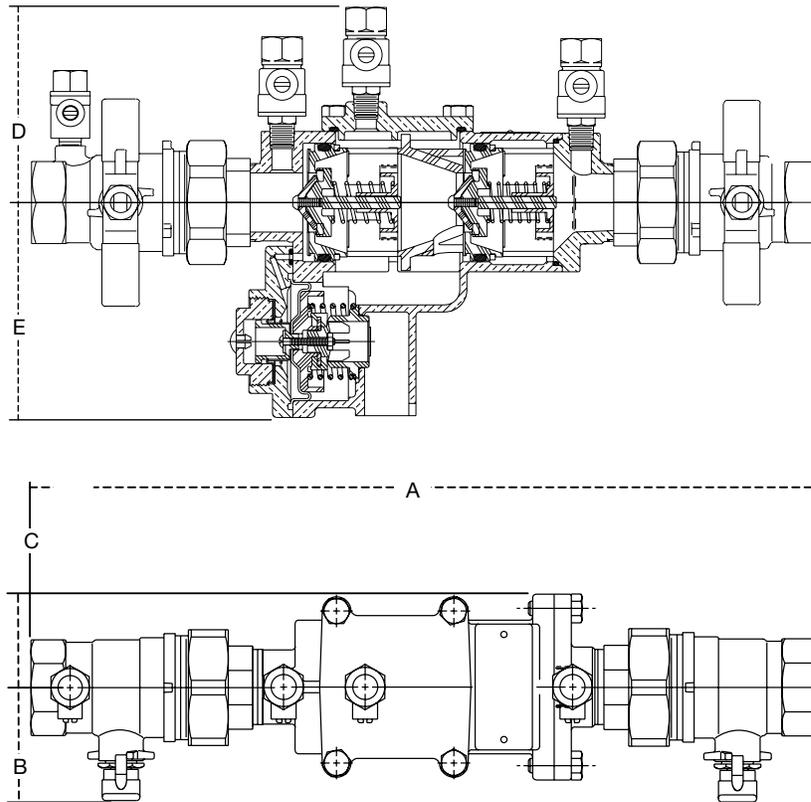
Approvals – Standards

- ANSI/AWWA Conformance (C511)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions — Weights



Series 860U/LF860U

SIZE (DN)		DIMENSIONS					WEIGHT						
in.	mm	A		B		C		D		E		lbs.	kgs.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
½	15	11¼	299	1½	38	1½	38	3½	79	3½	89	6.0	2.7
¾	20	12½	318	1½	38	1½	38	3½	79	3½	89	6.9	3.1
1	25	14⅝	372	1⅝	48	1⅝	41	3⅝	86	3⅝	92	9.3	4.2
1¼	32	18¼	464	3	76	2½	64	4¼	108	5⅝	143	19.3	8.8
1½	40	18⅞	479	3	76	2½	64	4¼	108	5⅝	143	22.4	10.2
2	50	20½	521	3½	89	2½	64	4¼	108	5⅝	143	26.9	12.2

Dimensions are nominal.

NOTICE

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

NOTICE

Inquire with governing authorities for local installation requirements.

MasterSeries® LF880V

Reduced Pressure Zone Assemblies

Size: 2½" – 10" (65 – 250mm)



Standard Orientation



LF880V

Vertical Orientation

Features

- Inline Serviceable Assembly
- Horizontal "N-Pattern" Installations
- Vertical-Up "Z-Pattern" Installations
- No Special Tools Required for Servicing
- Captured Modular Spring Assembly
- Reversible & Replaceable Discs
- Field Replaceable Seats
- Ductile Iron Valve Body Design
- Stainless Steel Check Components
- Modular Pressure Differential Relief Valve
- Repairable Pressure Differential Relief Valve
- Clapper Check Assembly
- Captured O-ring Design

Pressure - Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Min. Working Pressure: 20psi
(1.4 bar)

Hydrostatic Test Pressure: 350psi
(24.1 bar)

Hydrostatic Safety Pressure: 700psi
(48.3 bar)

Temperature Range: 33°F - 140°F
(0.5°C- 60°C)
Continuous

LEAD FREE*

The FEBCO MasterSeries LF880V Reduced Pressure Zone Assembly is specifically designed to protect against possible backpressure and backsiphonage conditions for high hazard [i.e. toxic] applications in accordance with Local Governing Water Utility Code. This Backflow Assembly is primarily used on potable drinking water systems where Local Governing Code mandates protection from non-potable quality water being pumped or siphoned back into the potable water system.

The LF880V features Lead Free* construction to comply with Lead Free* installation requirements. The Lead Free* Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

Materials

Below is a general materials list of the Model LF880V. All assemblies size 2½" through 10" is similar in materials and construction. Please contact your local FEBCO Representative if you require further information.

Main Valve Body: Ductile iron Grade 65-45-12

Relief Valve Body: Ductile iron Grade 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550-90

Shutoff Valves: NRS resilient wedge gate valve AWWA C509 (Standard) OSY resilient wedge gate valve AWWA C515 (UL/FM)

Check Seats: Stainless Steel

Disc Holder: Stainless Steel

Elastomer Disc: Silicone

Spring: Stainless Steel

Clamp: AWWA C606

Options - Suffix

OSY: UL/FM Approved OS&Y Gate Valves (ANSI/AWWA C515 Compliant)

NRS: Non-Rising Stem Gate Valves (ANSI/AWWA C509 Compliant)

LG : Less Shut-off valves; This is NOT an APPROVED ASSEMBLY

Example Ordering Description:

4" LF880V-OSY - Valve Assembly fitted with OS&Y Shutoff Valves

Available Components

Wye Strainer: FDA Approved (ASME B16.1 Class 125 & AWWA Class D Flange)

Series 611 Valve Setter:

MJ x MJ - Mechanical Joint x Mechanical Joint (AWWA C111/A21.11)

MJ x FL - Mechanical Joint x Flange (AWWA C111/A21.11; ASME B16.1 Class 125/AWWA Class D Flange)

FL x FL - Flange x Flange (ASME B16.1 Class 125 & AWWA Class D Flange)

Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California [FCCCHR-USC]
- ASSE 1013 Listed
- **UL Classified [US & Canada]
- **FM Approved
- IAPMO/cUPC
- AWWA Standard C511 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

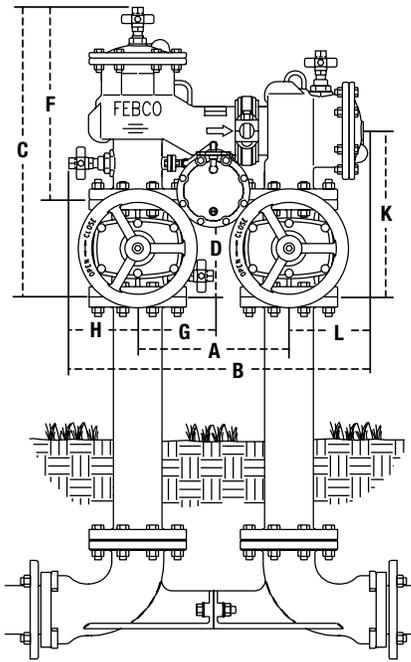
**Assembly configured with UL/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL/FM approved configurations.



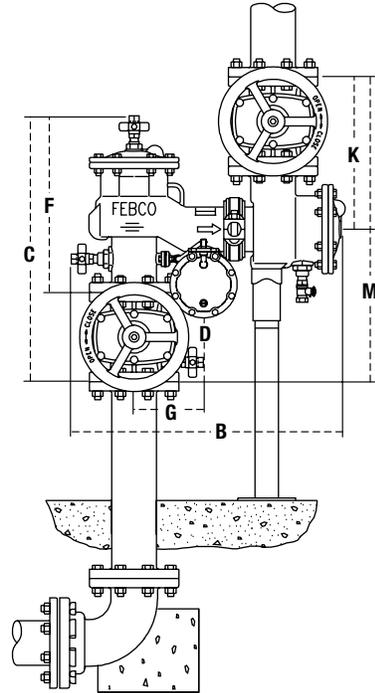
*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights

LF880V Standard Orientation

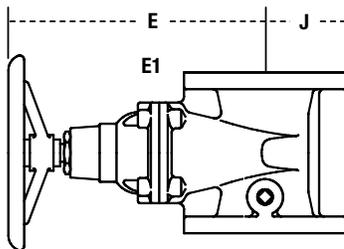


LF880V Vertical Orientation



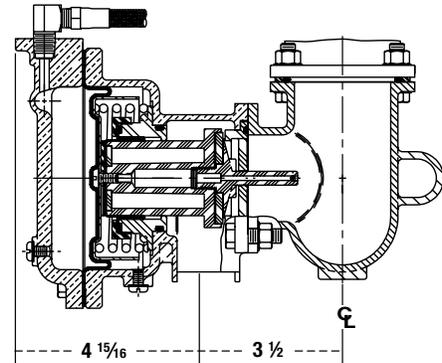
Note: The Model LF880V is shipped in the standard (N-Shape) orientation.

NRS Side View



Relief Valve Detail

Relief Valve shipped on right side (shown) field reversible to left side.



MasterSeries® LF880V

SIZE (DN)	DIMENSIONS														WEIGHT	
	A	B	C	D	E NRS	E1 OS&Y**	F	G	H	J	K	L	M	NRS	OS&Y	
in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	in. mm	lbs. kgs.	lbs. kgs.	
2½ 65	12½ 318	25¾ 654	24¼ 616	4 ¹⁵ / ₁₆ 125	12 ⁵ / ₁₆ 321	16 ³ / ₈ 416	16 ⁵ / ₁₆ 422	6¼ 159	5½ 140	3½ 89	13 ⁵ / ₈ 346	7¼ 184	27¼ 692	210 95	220 99.8	
3 80	12½ 318	25¾ 654	24¾ 629	5 ⁷ / ₁₆ 138	12 ⁷ / ₁₆ 327	22¼ 565	16 ⁵ / ₁₆ 422	6¼ 159	5½ 140	3¾ 95	14 ¹ / ₂ 359	7¼ 184	28¾ 718	280 127	290 131.5	
4 100	14 356	27 ⁷ / ₈ 708	26¾ 680	6 ⁹ / ₁₆ 167	14 ³ / ₈ 365	23¼ 591	17¾ 451	7 178	6 152	4½ 114	15½ 394	7¼ 184	31 787	320 145	350 158.8	
6 150	16 406	32¼ 819	32¼ 819	8 ⁹ / ₁₆ 218	18 ⁷ / ₁₆ 497	30 ³ / ₈ 765	21 ¹⁵ / ₁₆ 548	8 203	7½ 191	5½ 140	18 ³ / ₈ 473	9½ 241	37¼ 946	480 218	530 240.4	
8 200	18½ 470	37½ 953	36 ³ / ₈ 924	9 ⁹ / ₁₆ 243	23 ³ / ₈ 597	37¾ 959	24 ⁷ / ₁₆ 632	9¼ 235	8¾ 222	6¾ 172	20¾ 527	10¼ 260	41½ 1054	810 367	880 399.2	
10 250	21 533	42½ 1080	40¾ 1035	11½ 292	27 ¹ / ₂ 699	48 1219	27½ 699	10 254	9¾ 248	8 203	24 610	11½ 292	48 1219	1350 612	480 671.3	

**OS&Y OPEN

Weights do not include risers or optional valve setter.

Dimensions shown are nominal.

Refer to Specification Sheet ES-F-611 for details on valve setter.

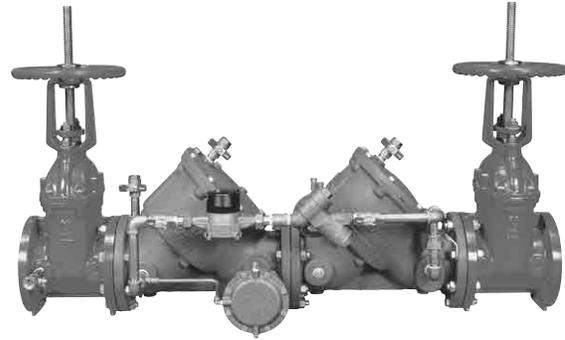
NOTICE

Inquire with governing authorities for local installation requirements.

Series 826YD

Reduced Pressure Detector Assemblies

Size: 2½" – 10" (65 – 250mm)



826YD

Features

- The DuraCheck, features all stainless steel check assemblies for corrosion resistance, reduced fouling and longer valve life.
- DuraCast, ductile iron body for superior strength, corrosion resistance and lighter weight. By-pass line has water meter in series with an approved reduced pressure assembly.
- Low Head Loss
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.
- End Detail is Flanged

The FEBCO Series 826YD Reduced Pressure Detector Assemblies designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications specifically for use with Automatic fire sprinkler systems containing toxic substances.

Installation

The Reduced Pressure Detector Assembly should be installed horizontally with a suggested minimum clearance of 12" (300mm) between the assembly and the floor or grade. They must be installed where discharge from the relief valve will not be objectionable and can be positively drained away. They should be installed where easily accessible for testing and maintenance and must be protected from freezing. Thermal water expansion and/or water hammer downstream of the backflow preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and assembly.

Operation

In a nonflow condition, check valves on the by-pass and mainline units are closed with pressure between the checks, called the zone, being maintained at least 5psi (35 kPa) lower than the inlet pressure and the relief valve is maintained closed. If the differential between the zone and the upstream pressure drops to 2psi (14kPa), the differential relief valve will open, maintaining proper zone differential. The by-pass reduced pressure backflow preventer will operate identically to the mainline assembly.

The by-pass opens to detect initial flow and the mainline opens for all other flows.

Models

- Less Gates
- Left hand by-pass
- Meter CFM/GPM

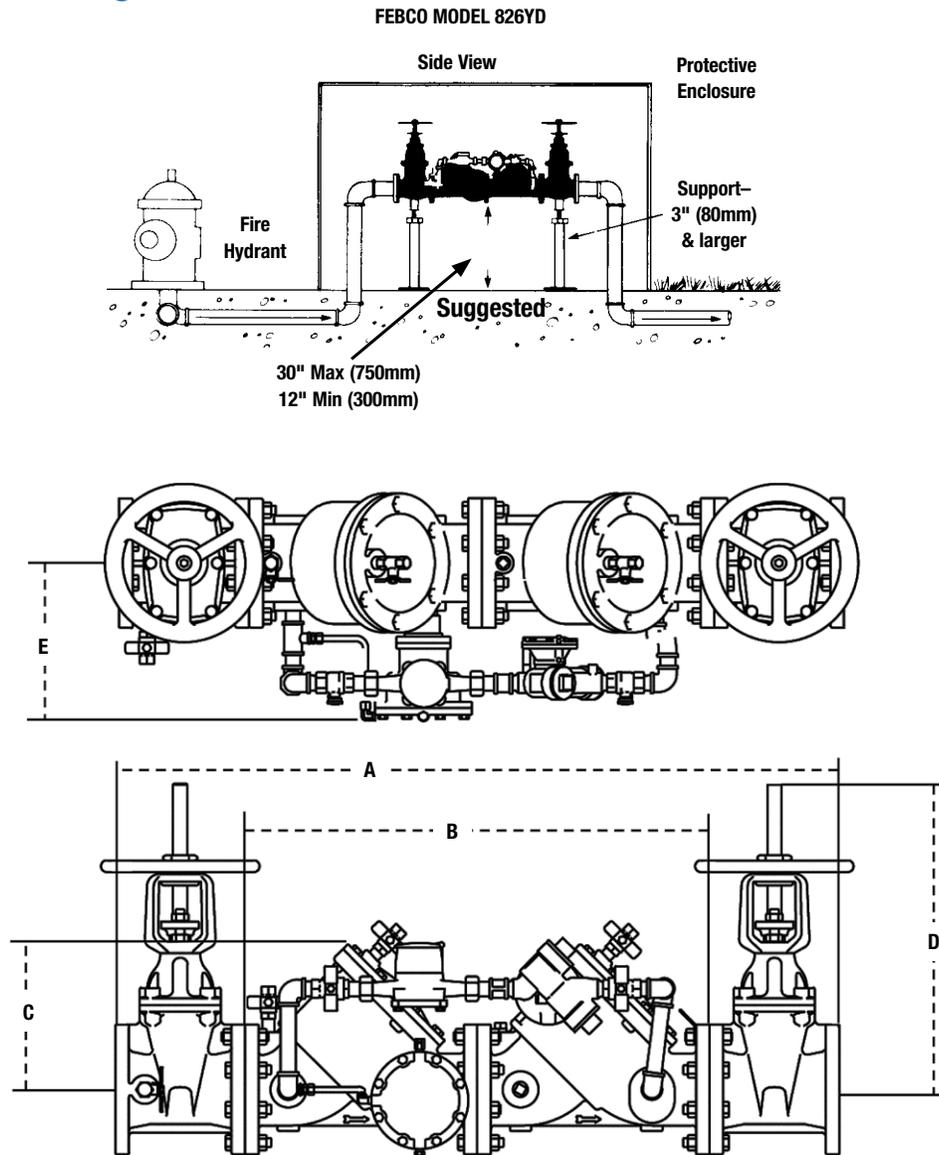
Approvals

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.†



† Valves must be supplied with resilient seated shutoff valves for USC and FM approvals to be in effect. UL and FM Listings only applicable with approved OS&Y gates.

Dimensions – Weights



Series 826YD

SIZE (DN)		DIMENSIONS										WEIGHT			
		A		B		C		D		E		gates		less gates	
<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>	<i>lbs.</i>	<i>kgs.</i>										
2½	65	37¼	946	22⅞	562	7½	191	16⅞	416	10¼	260	243	534.6	134	294.8
3	80	41¼	1061	25⅞	651	8½	216	22¼	565	10½	267	298	655.6	154	338.8
4	100	50⅞	1281	32⅜	822	11	279	23¼	591	11	279	469	1031.8	194	426.8
6	150	59¾	1518	38⅞	981	14	356	30¼	765	12	305	752	1654.4	397	873.4
8	200	69⅞	1757	46⅞	1172	18	457	37¼	959	13	330	1207	2655.4	537	1181.4
10	250	84¼	2140	58⅞	1476	22	559	48	1219	14	356	1617	3557.4	957	2105.4

Dimensions shown are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

Series 710, 715

Atmospheric Vacuum Breakers

Size: 1/2" – 2" (15 – 50mm)



710 1" – 2" (25 – 50mm)



715 1/2" – 3/4" (15 – 20mm)

Features

- Meets all specifications of ASSE
- Documented flow curves established by The Twining Labs, Inc.
- Simple service procedures.
- Light weight plastic poppets.
- Resilient rubber poppet discs designed for positive closure.
- Cold water applications.
- End Connections – NPT ANSI/ASME B1.20.1

Pressure – Temperature

Max. Working Pressure: 150psi
(10.3 bar)

Hydrostatic Test Press: 150psi
(10.3 bar)

Temperature Range: 710: 32°F to 110°F
(0° - 43°C)
715: 32°F to 180°F
(0° - 82°C)

The FEBCO Series 710, 715 Atmospheric Vacuum Breakers are designed for use in multiple non-potable water applications such as hose bibbs, chemical vats, x-ray tanks, turf irrigation systems and laboratory sinks.

Materials

Valve Body: Bronze

Elastomers: Nitrile

Poppet: Acetal/Polypropylene

Operation

FEBCO Series 710, 715 assures positive protection against backsiphonage of impure water into the main supply in the event that pressure loss causes vacuum conditions. A poppet seals the air inlet when the unit is pressurized. When a backsiphonage occurs, the poppet drops to allow air to enter the downstream piping. At the same time the poppet shields the water inlet to prevent foreign materials from entering the upstream piping. Restoration of pressure (flow) lifts the poppet to seal the air inlet.

Typical Installation

An Atmospheric Vacuum Breaker may be used to protect a cross-connection against backsiphonage, where the vacuum breaker is not subjected to back pressures due to pumps or any other conditions which may cause backpressure, no matter how slight. It must be installed on the discharge side of the last shutoff valve. Code requirements vary as to the height this vacuum breaker must be installed above the highest overflow level but a minimum of 6" (150mm) is required. The atmospheric vacuum breaker must be installed with the air inlet in a level position.

NOTICE

No valve of any type may be installed on the discharge side of an atmospheric vacuum breaker.

Approvals – Standards



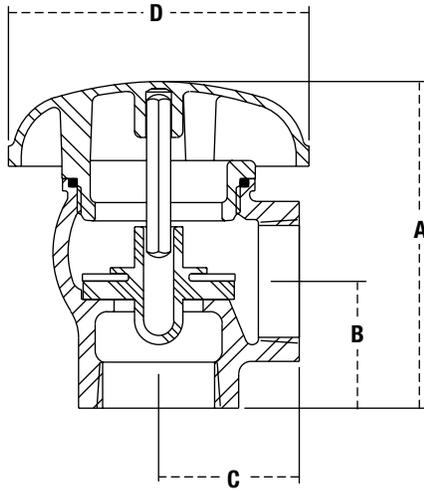
1001



B64.1.1



Dimensions – Weights



Series 710, 715

SIZE (DN)		DIMENSIONS								WEIGHT	
		A		B		C		D			
<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>								
½	15	2¼	64	1¼	32	1¼	32	2½	64	.75	.3
¾	20	2⅞	73	1⅝	35	1⅝	35	2½	64	1	.5
1	25	3½	89	1⅝	35	1½	38	3¼	83	1.75	.8
1¼	32	3⅞	98	1⅝	41	2	51	4	102	2.5	1.1
1½	40	4⅞	118	2⅞	54	2⅞	54	4½	114	3.75	1.7
2	50	5⅞	137	2⅞	54	2⅞	54	5½	140	5.25	2.4

Weights shown are approximate. Dimensions shown are nominal.

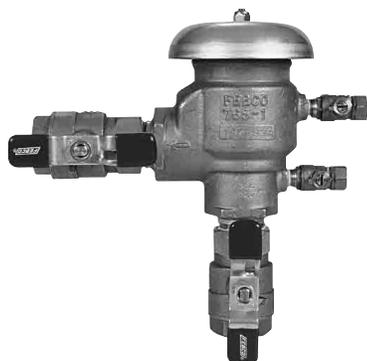
NOTICE

Inquire with governing authorities for local installation requirements.

Series 765

Pressure Vacuum Breakers

Size: 1/2" - 2" (15 - 50mm)



765



765 U

Features

- All bronze body for durability. One check valve and an air opening port in one assembly.
- Lightweight poppet seals air opening under minimum flow conditions.
- Simple service procedures. All internal parts serviceable in line from the top of the unit.
- Designed for minimum head loss.
- Engineered plastic bonnet protect valve bodies from freeze damage.
- Optional union end ball valves for easy removal and ultimate freeze protection.
- End Connections – NPT ANSI/ASME B1.20.1

Pressure – Temperature

Max. Working Pressure: 150psi
(10.3 bar)

Hydrostatic Test Press: 300psi
(20.7 bar)

Temperature Range: 32°F to 140°F
(0°C to 60°C)

The FEBCO Series 765 Pressure Vacuum Breakers are used to protect non-potable water applications against health hazard and non-health hazard backsiphonage conditions in industrial plants, cooling towers laboratories, laundries, swimming pools and lawn sprinkler systems.

Materials

Main Valve Body: Bronze

Elastomers: Nitrile

Models

- Union End Ball Valves

Applications

PVB assemblies are used to protect non-potable water applications against health hazard and non-health hazard backsiphonage conditions for non-potable applications in industrial plants, cooling towers laboratories, laundries, swimming pools and lawn sprinkler systems.

Typical Installation

Pressure Vacuum Breaker assemblies should be installed at least 12" (300mm) above the highest piping and outlet downstream of the assembly to preclude backpressure. Assemblies should be installed so they are easily accessible for maintenance, periodic testing, and where discharge will not be objectionable. They should be protected from freezing. If the assemblies are subject to freezing temperatures, the freeze protection procedures outlined in "Service Instruction Freeze Protection Model 765" must be followed. Assemblies must not be installed where backpressure could occur.

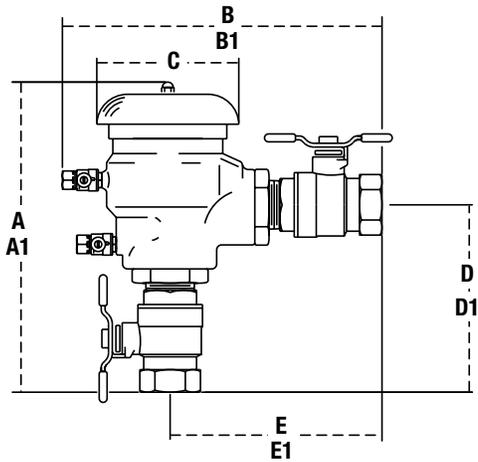
The discharge pressure shall be maintained above 3.0psi on 1/2" - 1 1/4" (15 - 32mm) sizes and 5.0psi on 1 1/2" - 2" (40 - 50mm) sizes to insure seating of the spring loaded air inlet poppet.

Approvals – Standards

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.



Dimensions – Weights



Series 765

SIZE (DN)		DIMENSIONS														WEIGHT					
		A		A1 (union)		B		B1 (union)		C		D		D1 (union)		E		E1 (union)			
<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>																		
½	15	6¼	159	7	178	6¾	172	7½	197	2½	64	¾	95	4½	114	4¼	108	5	127	2.6	1.2
¾	20	6½	165	7⅜	187	7	178	7⅞	200	2½	64	4	102	4⅞	124	4½	114	5⅜	137	2.9	1.3
1	25	8¾	222	9⅝	245	9	229	9⅝	252	4	102	5¼	133	6⅞	157	6	152	6⅝	176	5.9	2.7
1¼	32	9¼	235	10¼	260	10	254	11	279	4	102	6¼	159	7¼	184	7	178	8	203	7.0	3.2
1½	40	11¼	299	12⅞	327	11½	292	12⅝	321	6½	165	7¼	184	8⅝	213	7¾	197	8¾	225	14.8	6.7
2	50	12½	318	13¾	349	12¼	311	13½	343	6½	165	8	203	9¼	235	8½	216	9¾	248	16.5	7.5

Weights shown do not include union end ball valves and are approximate. Dimensions shown are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

Series LF767FR

Freeze-Resistant Pressure Vacuum Breakers

Sizes: ½" – 2" (15 – 50mm)



Features

- Unique built-in relief valve relieves pressure caused by ice formation
- Replaceable plastic seat
- Easy maintenance of internal parts
- O-ring bonnet seal for less possibility of fouling
- Silicone seat disc for durability
- Test cocks positioned for easy testing and winterization
- Compact space saving design
- Standardly equipped with tee handle quarter turn ball valve shut-offs ½" – 1" (15-25mm)**. The 1¼" – 2" (32-50mm)** feature lever handles
- No special tools required for servicing
- Lead Free* cast silicon copper alloy

Pressure - Temperature

Temperature Range: 33°F to 140°
(0.5°C to 60°C)

Max. Working Pressure: 150psi
(10.3 bar)

Min. Working Pressure: 15psi
(103 kPa)

LEAD FREE*

Series LF767FR is designed to prevent backsiphonage of contaminated water under continuous pressure into the potable water supply. Its superior design protects the valve body and internal components during sudden freeze conditions. Water inside the PVB freezes from the outside-inward.

As the ice forms and expands causing a buildup of pressure, the LF767FR relieves the pressure through a unique relief valve built into the plastic float.

Test cocks are positioned at the lowest point of the valve for winterization draining. The LF767FR is reusable with the relief valve designed to automatically re-seat. It will not discharge through the relief valve during normal operation. (The built-in relief valve is not designed to provide freeze protection for the entire irrigation system.) The LF767FR features Lead Free* construction to comply with Lead Free* installation requirements.

Materials

Springs: Stainless Steel

Bonnet: Celcon®

Vent Disc: Silicone Rubber

Disc Holder Float: Polypropylene

Check Valve Disc: Silicone Rubber

Check Valve Seat: Noryl Plastic

Body: Lead Free* cast copper silicon alloy

Celcon® is a registered trademark of Celanese Limited.

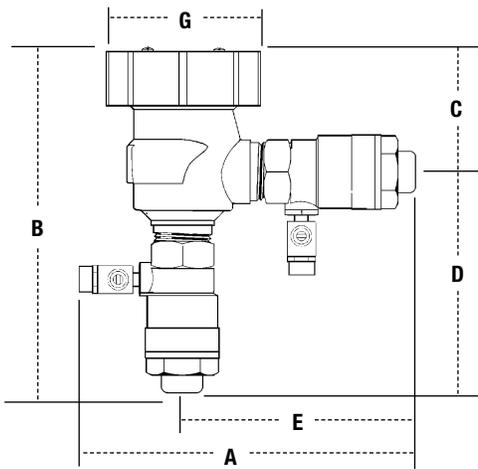
Approvals

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California, Manual Section 10.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights



LF767FR

SIZE (DN)		DIMENSIONS										WEIGHT			
<i>in.</i>	<i>mm**</i>	A		B		C		D		E		G		<i>lbs.</i>	<i>kg.</i>
		<i>in.</i>	<i>mm</i>												
1/2	15	6 1/8	156	6 1/4	159	2 9/16	65	3 11/16	94	3 7/8	98	2 1/4	57	4	1.8
3/4	20	6 1/2	165	6 1/2	165	2 9/16	65	3 15/16	100	4 1/8	105	2 1/4	57	4	1.8
1	25	7 1/2	191	7 1/2	191	2 3/4	70	4 3/4	121	4 7/8	124	3 1/16	87	6	2.7
1 1/4	32	8 7/8	225	9	229	3 1/4	83	5 3/4	146	6 1/8	156	5	127	11	5.0
1 1/2	40	9 1/4	235	9 1/2	241	3 1/4	83	6 1/4	159	6 3/8	162	5	127	14	6.3
2	50	10 5/8	270	9 5/8	245	3 1/4	83	6 3/8	162	7	178	5	127	19	8.6

Dimensions shown are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

Series 601-P

Air Gap Drain for Use with 860/860U/LF860/LF860U

Size: 1/2" - 2" (15 - 50mm)



601

Features

- Reduces amount of water splashing in area around reduced pressure assemblies.
- Funnels moderate relief valve discharge into drain.
- Designed to fit standard 2" pipe.

The air gap drain is designed to be installed under the 860/LF860, 860U/LF860U 1/2" - 2" reduced pressure assemblies to catch moderate relief valve discharge due to pressure fluctuations and/or minor check valve fouling.

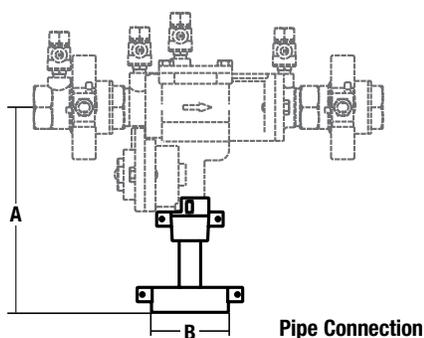
Materials

Funnel: Corrosion resistant ABS
Mounting fasteners: Stainless Steel.

NOTICE

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

Dimensions



Series 601-P

SIZE	DIMENSIONS		
		A	B
1/2	7 1/8	181	2" Pipe
3/4	7 1/8	181	2" Pipe
1	7 1/4	184	2" Pipe
1 1/4	13	330	2" Pipe
1 1/2	13	330	2" Pipe
2	13	330	2" Pipe

Dimensions are nominal.

NOTICE

Inquire with governing authorities for local installation requirements.

Air Gap Drains for Use with 860/860U/LF860/LF860U

Size: 1/2" – 2" (15 – 50mm)



601

Features

- Reduces amount of water splashing in area around reduced pressure assemblies.
- Funnels moderate relief valve discharge into drain.
- Designed to fit standard 1" and 2" pipe.

The air gap drain is designed to be installed under the 860/LF860, 860U/LF860U 1/2" - 2" (15 - 50mm) reduced pressure assemblies to catch moderate relief valve discharge due to pressure fluctuations and/or minor check valve fouling.

Materials

Funnel: ASTM A48
 Funnel Connectors: ASTM B26 Alloy 356
 Coating: Vitralon polyurethane, black

NOTICE

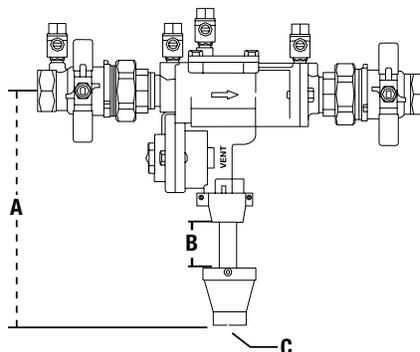
The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

Dimensions

Series 601-M

SIZE (DN)		DIMENSIONS					
		'A'		'B'		'C'	
in.	mm	in.	mm	in.	mm	in.(NPT)	mm
1/2	15	8 ⁵ / ₁₆	211	1	25	1	25
3/4	20	8 ⁷ / ₁₆	211	1	25	1	25
1	25	8 ⁹ / ₁₆	217	1	25	1	25
1 1/4	32	12 ¹¹ / ₁₆	322	1 3/4	44	2	50
1 1/2	40	12 ¹¹ / ₁₆	322	1 3/4	44	2	50
2	50	12 ¹¹ / ₁₆	322	1 3/4	44	2	50

Dimensions are nominal.



NOTICE

Inquire with governing authorities for local installation requirements.

Series 601-M

Air Gap Drains for Use With MasterSeries® Reduced Pressure Assembly

Sizes: 2½" – 10" (65 – 250mm)



601

Features

- Nozzle design directs flow directly into funnel, reducing side spray
- Funnels minor relief valve discharges into drains
- Lightweight for easy installation
- Coated for corrosion resistance
- 4" funnel outlet is designed to accept a hubless pipe coupling for simple drain pipe installation

The FEBCO Series 601 Air Gap Drains is constructed of coated aluminum. The air gap drain is designed to be attached to the relief valve of MasterSeries® reduced pressure assemblies, sizes 2½" – 10" (65 – 250mm). Four inch drainage piping may be attached to drain, creating a system that catches and removes minor relief valve discharges due to pressure fluctuations and/or minor check valve fouling.

Note: The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

Materials

Nozzle: ASTM B26 Alloy 356

Funnel: ASTM B26 Alloy 356

Rods: ASTM B241 Alloy 6063

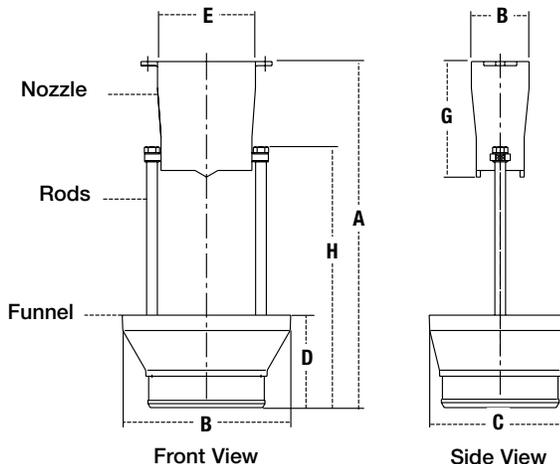
Vitralon polyurethane coating black

Dimensions – Weights

601-M

DIMENSIONS									WEIGHTS								
A		B		C		D		E		F		G		H		lbs.	kgs.
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
13⅞	333	6⅞	162	5⅞	137	3½	89	3⅞	97	27/32	56	4⅞	111	9⅞	251	2.2	1.0

Dimensions are nominal.



NOTICE

Inquire with governing authorities for local installation requirements.

Air Gap Drains for Use With 825Y, LF825Y, 825YD and 826YD Reduced Pressure Assemblies

AGD-Y: 3/4" - 2" (20 - 50mm) / AGD-L: 2 1/2" - 10" (65 - 250mm)



AGD



AGD

Features

- Reduces amount of water splashing in area around reduced pressure assemblies.
- Funnels minor relief valve discharge into drain.
- Conforms to air gap installation requirements.

The FEBCO Air Gap Drain is designed to be installed under the 825Y/LF825Y 3/4" - 2" and 825YD/826YD 2 1/2" - 10" reduced pressure assemblies to catch minor relief valve discharge due to pressure fluctuations and/or minor check valve fouling.

Materials

Funnel: Corrosion resistant
Mounting Fasteners: Stainless Steel

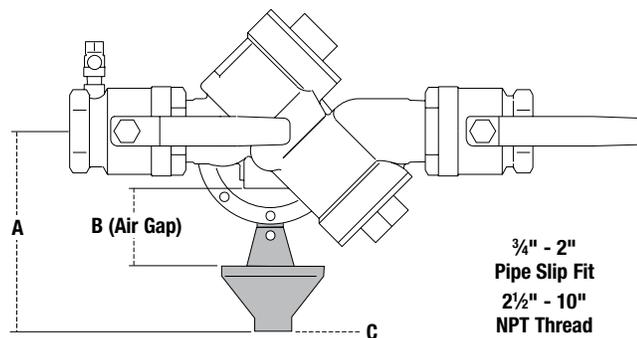
NOTICE

The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to be designed to prevent water damage caused by a catastrophic failure condition. Do not reduce the size of the drain line from the air gap fitting.

Dimensions – Weights

SIZE		DIMENSIONS				WEIGHTS		
<i>in.</i>	<i>mm.</i>	A		B		C	<i>lbs.</i>	<i>kgs.</i>
		<i>in.</i>	<i>mm.</i>	<i>in.</i>	<i>mm.</i>	<i>in.</i>		
3/4 - 1 1/4	20 - 25	6 1/2	165	2	51	1" Pipe	.12	.05
1 1/2 - 2	40 - 50	7 1/2	191	2 3/4	70	1" Pipe	.12	.05
2 1/2	65	12 1/4	311	5 3/4	146	2" NPT	7	3.2
3	80	12 1/2	318	5 3/4	146	2" NPT	7	3.2
4	100	12 3/4	324	5 3/4	146	2" NPT	7	3.2
6	150	13	330	5 3/4	146	2" NPT	7	3.2
8	200	13 1/2	343	5 3/4	146	2" NPT	7	3.2
10	250	13 3/4	349	5 3/4	146	2" NPT	7	3.2

Dimensions are nominal.



NOTICE

Inquire with governing authorities for local installation requirements.

Series 611

Valve Setter - Flange by Flange Used with MasterSeries® N-Shape Assemblies

Sizes: 2½" – 10" (65 – 250mm)



611

Features

- Corrosion resistant fusion epoxy coated.
- Eliminates the need for thrust blocks or other restraints at the point of installation.
- Flanges:
ANSI B16.1 Class 125 (Standard)
ISO 7005-2 (Optional. Contact factory for dimensions.)
AS 2129 (Optional. Contact factory for dimensions.)

Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Temperature Range: 32° to 140°
(0°C to 60°)

LEAD FREE*

The FEBCO Series 611 Flange by Flange Valve Setter is constructed of fusion epoxy coated ductile iron. Valve setters are designed to augment the installation of the "N" series backflow prevention valves. Integral ductile iron support between elbow transfers thrust downstream, thus eliminating thrust block requirements between elbows. The 611 features Lead Free* construction to comply with Lead Free* installation requirements.

Materials

Body: Ductile iron A536 GR 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550

Bolts & Nuts: Stainless steel

NOTICE

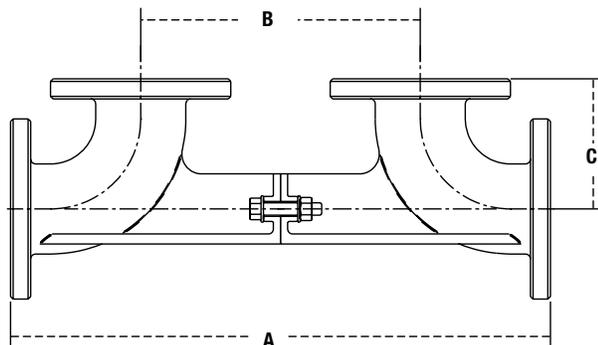
Flange bolts and gaskets are not included (except for center joint).

Dimensions – Weights

Series 611

SIZE (DN)		DIMENSIONS						WEIGHTS	
in.	mm	A		B		C		lbs.	kgs.
		in.	mm	in.	mm	in.	mm		
2½	65	23½	597	12½	318	5½	140	73	33.1
3	80	23½	597	12½	318	5½	140	73	33.1
4	100	27	686	14	356	6½	165	100	45.4
6	150	32	813	16	406	8	203	144	65.3
8	200	36½	927	18½	470	9	229	228	103.4
10	250	43	1092	21	533	11	279	310	140.6

Dimensions shown are nominal.



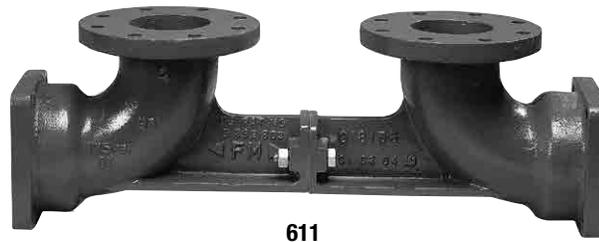
NOTICE

Inquire with governing authorities for local installation requirements.

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Valve Setter - Mechanical Joint by Flange Used with MasterSeries® N-Shape Assemblies

Sizes: 3" – 10" (80 – 250mm)



Features

- Corrosion resistant fusion epoxy coated.
- Eliminates the need for thrust blocks or other restraints at the point of installation.
- Flanges:
ANSI B16.1 Class 125 (Standard)
ANSI AWWA C153 A21.53-88

Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Temperature Range: 32° to 140°
(0°C to 60°)

LEAD FREE*

The FEBCO Series 611 mechanical joint by flange valve setter is constructed of fusion epoxy coated ductile iron. Valve setters are designed to augment the installation of the "N" series backflow prevention valves. Integral ductile iron support between elbows transfers thrust downstream, thus eliminating thrust block requirements between elbows. Mechanical joint restraint devices may be used at pipe connections, depending on local conditions. The 611 features Lead Free* construction to comply with Lead Free* installation requirements.

Materials

Body: Ductile iron A536 GR 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550

Bolts & Nuts: Stainless steel

NOTICE

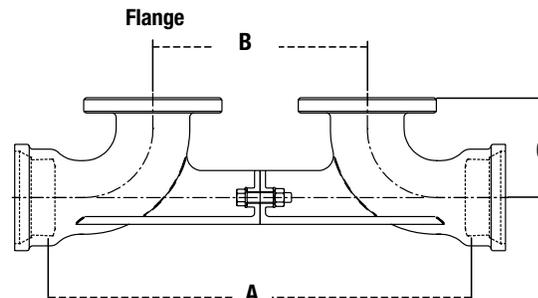
Mechanical joint accessories, flange bolts and gaskets are not included (except for center joint).

Dimensions – Weights

Series 611

SIZE (DN)		DIMENSIONS						WEIGHTS	
		A		B		C			
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>
3	80	21½	546	12½	318	5½	140	69	31.3
4	100	24	610	14	356	6½	165	96	43.5
6	150	29	737	16	406	8	203	152	68.9
8	200	33½	851	18½	470	9	229	216	98.0
10	250	40	1016	21	533	11	279	288	130.6

Dimensions shown are nominal.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

NOTICE

Inquire with governing authorities for local installation requirements.

Series 611

Valve Setter - Mechanical Joint by Mechanical Joint Used with MasterSeries® N-Shape Assemblies

Sizes: 3" – 10" (80 – 250mm)



611 MJ X MJ

Features

- Corrosion resistant fusion epoxy coated.
- Eliminates the need for thrust blocks or other restraints at the point of installation.
- Flanges: ANSI AWWA C153 A21.53-88.

Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Temperature Range: 32° to 140°
(0°C to 60°)

LEAD FREE*

The FEBCO 611 Series Mechanical Joint by Mechanical Joint valve setter is constructed of fusion epoxy coated ductile iron. Valve setters are designed to augment the installation of the “N” series backflow prevention valves. Integral ductile iron support between elbows transfers thrust downstream, thus eliminating thrust block requirements between elbows. Mechanical joint restraint devices may be used at pipe connections, depending on local conditions. The 611 features Lead Free* construction to comply with Lead Free* installation requirements.

Materials

Body: Ductile iron A536 GR 65-45-12

Coating: Fusion epoxy coated internal and external AWWA C550

Bolts & Nuts: Stainless steel

NOTICE

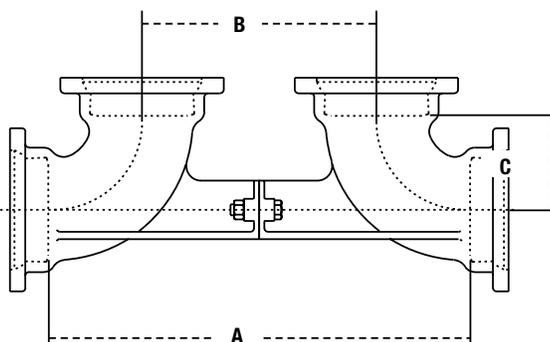
Mechanical joint accessories, flange bolts and gaskets are not included (except for center joint).

Dimensions – Weights

Series 611 Size: 3" - 10" (80 - 250mm)

SIZE (DN)		DIMENSIONS						WEIGHTS	
		A		B		C			
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>
3	80	21½	546	12½	318	4½	114	69	31
4	100	24	610	14	356	5	127	96	44
6	150	29	737	16	406	6½	165	152	69
8	200	33½	851	18½	470	7½	191	216	98
10	250	40	1016	21	533	9½	241	288	131

Dimensions shown are nominal.



NOTICE

Inquire with governing authorities for local installation requirements.

50 For additional information, reference literature ES-F-611-MJ.

Thermostatic Freeze Relief Kits

Sizes: 1/8" – 3/4" (3 – 20mm)



FPTC-1

Features

- Compact
- Easy to Install
- Low Maintenance
- Controlled by Water Temperature vs. Air Temperature
- IAPMO Approved

Pressure – Temperature

Max. Pressure: 175psi
(12.1 bar)

Working Temperature: 35°F
(1.6°C)

Series FPTC-1 Thermostatic Freeze Relief Kits are designed to keep water from freezing in the backflow preventer, while avoiding discharges based on the air temperature dropping below freezing. Series FPTC-1 thermostatically measures the water temperature and opens at 35°F (1.6°C) and closes at 40°F (4.4°C). The series FPTC-1 are for use in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation and industrial processing.

Materials

Body: Bronze

Springs: Stainless Steel

Internals: DZR Brass

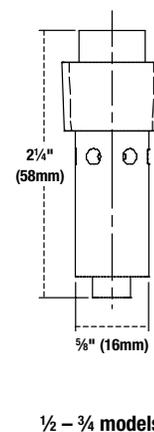
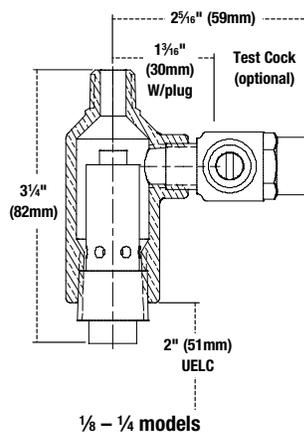
Approvals

NOTICE

Care should be given to ensure that discharged water will be adequately piped away from areas where slipping on ice could be a danger, such as roadways and pathways.



Dimensions



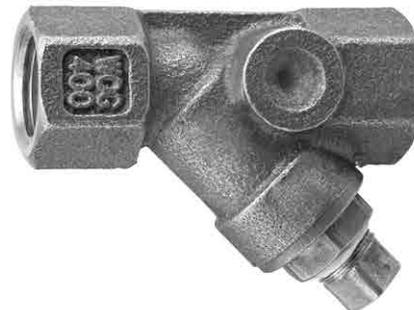
NOTICE

Inquire with governing authorities for local installation requirements.

Series LF650A

"Y" Strainers

Size: 1/2" – 2" (15 – 50mm)



LF650A

Features

- Tapped retainer cap with closure plug.
- 304 stainless steel, screen

Pressure – Temperature

Max. Working Pressure:

400psi (27.6 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°C)

LEAD FREE*

The FEBCO Series LF650A "Y" Strainers are installed in water piping systems to protect expensive equipment (such as backflow preventers) from damage or failure that can be caused by foreign material in the pipeline. The series LF650A features Lead Free* construction to comply with Lead Free* installation requirements.

Materials

Body: Cast copper silicon alloy

Cap/Cover: Cast copper silicon alloy

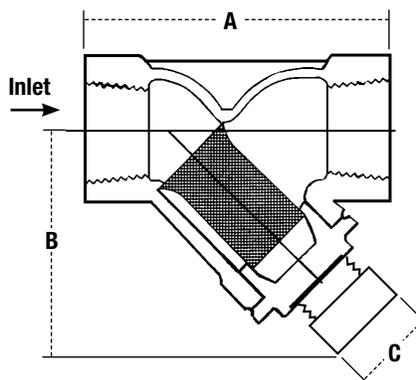
Screen: 20 Mesh, 304 stainless steel

Dimensions – Weights

Series LF650A

SIZE		DIMENSIONS						WEIGHT	
in.	mm	A		B		C		lbs.	kgs.
		in.	mm	in.	mm	in.	mm		
1/2	15	2 3/4	70	1 3/8	35	1/4	6	0.5	0.23
3/4	20	3 1/16	81	1 5/8	42	1/4	6	0.6	0.27
1	25	3 3/4	95	2 1/8	54	1/2	13	1.1	0.50
1 1/4	32	4 7/16	113	2 1/2	64	1/2	13	1.9	0.86
1 1/2	40	4 7/8	124	3	76	3/4	19	2.4	1.09
2	50	5 15/16	151	3 9/16	91	1	25	4.4	2.00

Dimensions shown are nominal.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

NOTICE

Inquire with governing authorities for local installation requirements.

"Y" Strainers

Size: 2½" – 10" (65 – 250mm)



758A

Features

- Unplugged, NPT blowoff connections are situated on cover
- Recessed screen seats assure accurate screen alignment
- Screens are perforated 304 stainless steel

Pressure – Temperature

Non-Shock, 200psi @ 150°
(13.8 bar @ 60°C)

LEAD FREE*

The FEBCO Series 758A "Y" strainers are installed in water piping systems to protect expensive equipment (such as backflow preventers) from damage or failure that can be caused by foreign material in the pipeline. Constructed of cast iron which complies with Lead Free* installation requirements.

Materials

Body: Cast Iron, ASTM A126-B

Cap/Cover: Carbon Steel, ASTM A36

Gasket: Non-asbestos

Screen: 2½" - 4" (65 - 100mm) (1/16" Perf.)

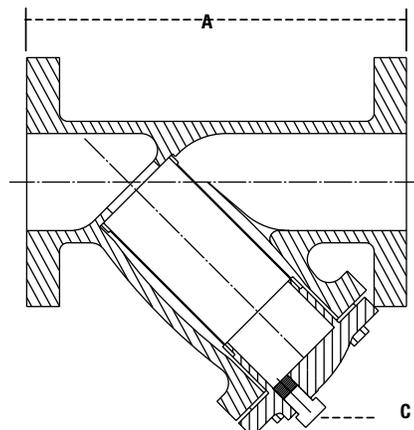
6" - 10" (150 - 250mm) (1/8" Perf.)

Dimensions – Weights

Series 758A

SIZE (DN)		DIMENSIONS						WEIGHT	
		A		B		C			
<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>
2½	65	10	254	6½	165	1	25	28	12
3	80	10⅞	257	7	178	1	25	34	15
4	100	12⅞	308	8¼	210	1½	40	60	27
6	150	18½	470	13½	343	2	50	133	60
8	200	21⅝	549	15½	394	2	50	247	112
10	250	26	660	18½	470	2	50	370	168

Dimensions shown are nominal.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

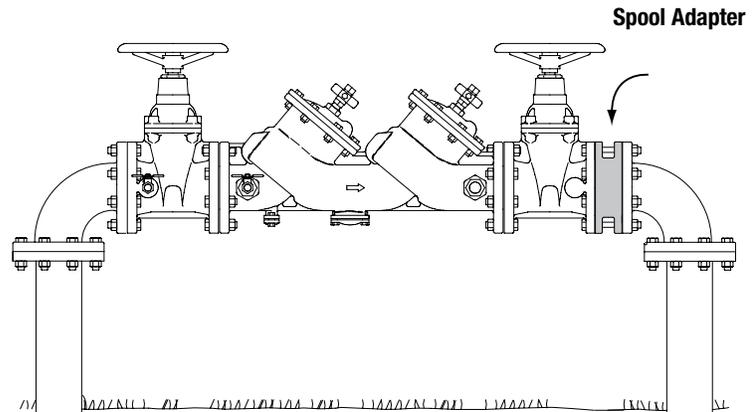
NOTICE

Inquire with governing authorities for local installation requirements.

Spool Adapters

DuraCheck to MasterSeries® Spacer Spool Adapter Kit

Size: 4" – 8" (100 – 200mm)



Features

- Easy retrofit
- Epoxy coated body
- Adapter Kit Includes: Spool, Gasket, Nuts and Studs
- End Details – Flanged ANSI B16.42, Class 150

Pressure – Temperature

Max. Working Pressure: 175psi
(12.1 bar)

Hydrostatic Test Press: 350psi
(24.1 bar)

Temperature Range: 33°F to 140°F
(0.5°C to 60°C)

LEAD FREE*

The FEBCO DuraCheck to MasterSeries® Spacer Spool Adapter allows for easy retrofit of the old style in-line FEBCO DuraCheck backflow preventers (Models 825YD, 805YD and 806YD in 4" – 8" (100mm - 200mm) with the new style in-line FEBCO MasterSeries® (Models 850/LF850, 860/LF860, and 856/856ST in 4" – 8" (100mm - 200mm). This kit eliminates the need for expensive custom fabricated spools, and provides a quick and easy way to retrofit the valve. The adapter kit comes complete with the proper length spool, gasket, nuts, and studs to retrofit the longer DuraCheck Valves with the shorter in-line MasterSeries®. See the retrofit chart below. The gasket is to be used between the backflow preventer and the spool adapter. MasterSeries® 2½" and 3" (65, 80mm) units do not require a spacer spool adapter to retrofit. Constructed of Lead Free* materials and complies with Lead Free* installation requirements.

Materials

Main Valve Body: Carbon Steel or Ductile Iron (ANSI B16.1)

Coating: Epoxy coated internal and external, AWWA C550

Elastomers: Gaskets

Trim: Hex Nuts & Studs - plated steel

Retrofit Part Number Chart

TYPE OF DEVICE	DURACHECK	MASTER SERIES	SPPOOL ADAPTER	SPPOOL ADAPTER	SPPOOL ADAPTER
			4" (100mm)	6" (150mm)	8" (200mm)
Double Check	Model 805YD	Model 850/LF850	905523	905524	905525
Double Check Detector	Model 805YD	Model 856/856ST	905523	905524	905525
Reduced Pressure	Model 805YD	Model 860/LF860	905523	905524	905525

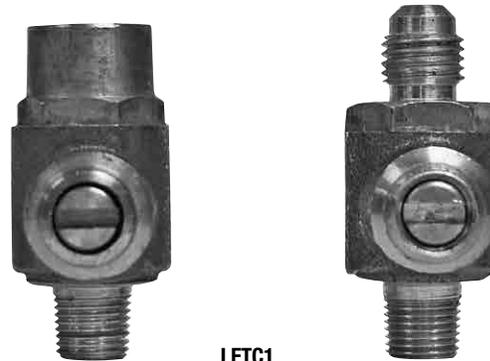
*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

NOTICE

Inquire with governing authorities for local installation requirements.

Full Port Test Cock

Sizes: 1/8" M x 1/4" F and 1/4" M x 1/4" F



LFTC1

Features

- Lead Free* Cast Copper Silicon Alloy
- Full port design for low pressure drop.
- PTFE stem packing seal, thrust washer and seat.
- Quarter-turn open or close with slot for coin or screw driver to operate.
- Ideal for throttling and balancing applications of non-abrasive fluids where flow is 20% to 100% of valve capacity.
- Low operating torque.

LEAD FREE*

The FEBCO Series LFTC1 is designed for the following applications:

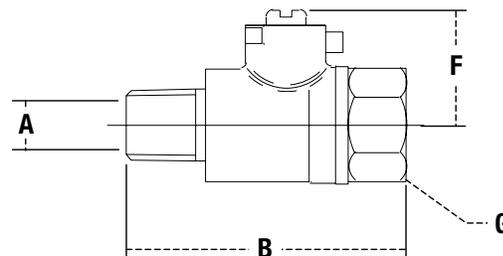
- Test cock for backflow preventers
- Isolation valve for gauges
- Balancing Valve for gauges
- Lead Free* construction to comply with Lead Free* installation requirements

Dimensions and Weights

Series LFTC1

SIZE		DIMENSIONS						WEIGHT		
in.	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
1/8M x 1/4F	1/8 x 1/4	3.0 x 6.4	1 3/4	45	1 1/16	17	1 1/16	17	.06	.03
1/4M x 1/4F	1/4	6.4	1 7/8	48	1 1/16	17	1 1/16	17	.06	.03

Dimensions shown are nominal.



*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

NOTICE

Inquire with governing authorities for local installation requirements.

Model TK-1

Backflow Preventer Test Kit



TK-1

Features

- Color-coded valves and hoses for simplified operation
- Top mounted drain/purge valves and conveniently located line pressure gauge for ease of use
- A large 4.5" anti-parallax dial which indicates descending measurement, accurate to $\pm 1\%$ of full scale
- Conveniently located needle valves for easy access
- Lightweight needle valves encased in a chemical-resistant body for trouble-free operation
- Replaceable hose filters and valve stem seals for field repair
- Complete kit contains gauge with color-coded valves and hoses, hose adapters, shock cord for easy mounting, supply pressure gauge. All contained in a durable carrying case with room for tools

The FEBCO Model TK-1 Backflow Preventer Test Kit has been designed for simplified operation and rugged reliability in a compact package. Offering the latest in gauge technology, the FEBCO TK-1 provides dependable accuracy when testing pressure vacuum breakers, anti-spill vacuum breakers, reduced pressure backflow preventers or double check assemblies and is accurate to $\pm 1\%$ of full scale.

Pressure – Temperature

Max. Working Pressure: 200psi
(13.8 bar)

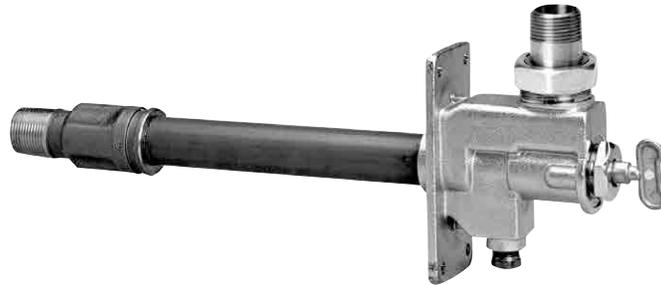
Max. Working Temperature: 200°F
(93°C)

NOTICE

Inquire with governing authorities for local installation requirements.

Key Operated Wall Hydrants

Sizes: 3/4" - 1" (20 - 25mm)



FPHB-1

Features

- Eliminates delays and multiple visits to gain interior access to irrigation equipment
- Standardizes location of supply shutoff valve and drain connection
- Access available anytime for winterizing
- Durable bronze valve body and shaft
- One piece valve plunger
- Tamper resistant key operated hydrant
- Exterior chrome finish
- Resilient seated shutoff
- Union connection for ease of installation of backflow preventer
- Manual drain port

Pressure — Temperature

Maximum Working Pressure: 175psi (12.1 bar)

Temperature Range: 33°F - 140°F (0.5°C - 60°C) continuous, 180°F (82°C) intermittent

Series FPHB-1 Key Operated Wall Hydrants have been specifically designed to provide outside access to a building water supply for start-up, winterizing, and servicing of irrigation sprinkler systems. The FPHB-1 is located outside of the home reducing the time spent on service calls. There is no need to locate the inside shutoff valve or the drain connection. Deploying the FPHB-1 wall hydrant enables the irrigation contractor to winterize an irrigation system at anytime thereby protecting the contractors' warranty and the homeowners' investment. Non-potable applications.

When used in conjunction with the FEBCO Series 767 Pressure Vacuum Breaker or either a Series 825Y or 860 Reduced Pressure Zone Backflow Preventer, the installing contractor provides affordable freeze protection for both the irrigation system and the backflow preventer.

Materials

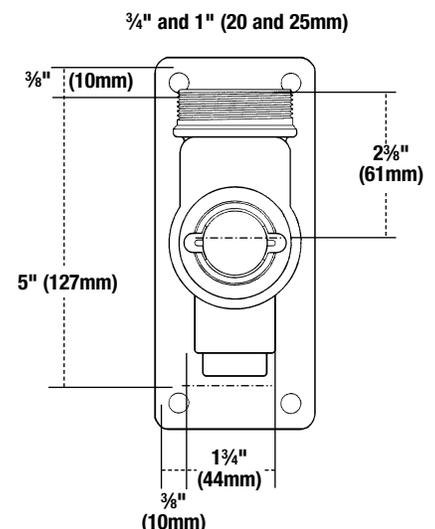
- Chrome plated bronze valve head
- Brass shaft with threaded end

Dimensions

Series FPHB-1

MODEL	DISTANCE (DN)		PIPE LENGTH		STEM LENGTH	
	in.	mm	in.	mm	in.	mm
FPHB-1-8	8	200	9	229	12 ⁵ / ₁₆	313
FPHB-1-10	10	250	11	279	14 ⁵ / ₁₆	364
FPHB-1-12	12	300	13	330	16 ⁵ / ₁₆	389

Dimensions shown are nominal.



NOTICE

Inquire with governing authorities for local installation requirements.

Series LF622F/FT/UF/UFT

Lead Free* Bronze, Full Port Ball Valves

Size: 1/2" - 2" (15mm - 50mm)



Series LF622UF



Series LF622FT

Features

- The FEBCO Series LF622FT/ LF622UFT available with tapped side outlet suitable for installation of pressure gauges or test cocks. LF622UF/UFT with Union Ends.
- Lead Free* construction to comply with Lead Free* installation requirements.
- Tee handle standard on 1/2" through 1 1/4" sizes (15mm – 32mm).
- Lever handle standard on 1 1/2" through 2" sizes (40mm – 50mm).
- Full port design for low pressure drop.
- Pressure rated at 600psi (41.4 bar) WOG, (non-shock) 1/2"-2" (15mm – 50mm) (DN15-DN50) and 125psi (8.6 bar) saturated steam.
- Suitable for temperature from 0°F to +350°F (-18°C to 177°C) at 50psi (345 kPa).
- PTFE stem packing seal, thrust washer and seat.
- Plated carbon steel handle with vinyl insulator.
- Quarter-turn open or close operation.
- Ideal for throttling and balancing applications of non-abrasive fluids where minimum flow is 20% to 100% of valve capacity.
- Low operating torque.
- Adjustable stem packing gland.
- Bottom loaded, pressure retaining stem.

LEAD FREE*

Options

LF622F: Full Port Thread x Thread Ball Valve

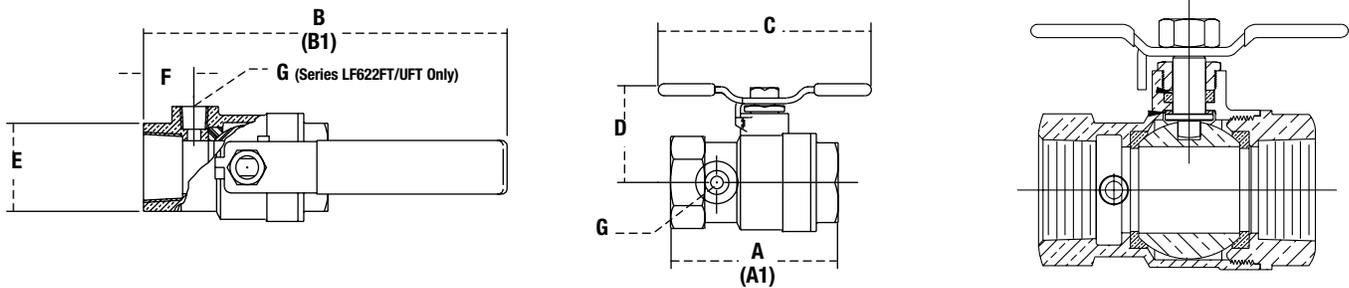
LF622FT: Full Port Thread x Thread Ball Valve with Tapped Side Outlet

LF622 UF: Full Port Thread x Thread Ball Valve with (1) Union End

LF622 UFT: Full port Thread x Thread Ball Valve with (1) Union End with Tapped Side Outlet

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Dimensions – Weights



LF622FT/LF622UFT

SIZE		DIMENSIONS										WEIGHT													
		A		A1 (union)		B		B1 (union)		C		D		E		F		G		LF622FT		LF622UFT			
<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>	<i>lbs.</i>	<i>kgs.</i>																				
1/2	2 3/16	61	3 1/2	79			3 1/8	79	1 7/16	36	1	25	5/8	16	1/8 - 27	n/a	.6	.3	.7	.3					
3/4	2 9/16	67	3 1/2	89			3 3/8	79	1 5/8	41	1 1/4	32	3/4	19	1/8 - 27	n/a	.8	.4	1.1	.5					
1	3 1/8	79	4	102			3 9/16	91	2	51	1 1/2	38	13/16	20	1/8 - 27	n/a	1.3	.6	1.6	.7					
1 1/4	3 5/8	92	4 9/16	116			3 9/16	91	2 1/16	53	1 13/16	46	13/16	21	1/4 - 18	n/a	2.3	1.0	2.4	1.1					
1 1/2	3 7/8	99	5	129	8 1/2	216	9 1/2	241			3	76	2 3/16	55	13/16	21	1/4 - 18	n/a	3.2	1.4	3.7	1.7			
2	4 7/16	113	5 11/16	144	8 1/2	216	9 5/8	244			3 1/2	89	2 3/4	70	13/16	21	1/4 - 18	n/a	5.6	2.5	6.4	2.9			

LF622F/LF622UF

SIZE		DIMENSIONS								WEIGHT												
		A		A1		B		B1		C		D		E		LF622FT		LF622UFT				
<i>in.</i>	<i>mm</i>	<i>lbs.</i>	<i>kgs.</i>	<i>lbs.</i>	<i>kgs.</i>																	
1/2	2 9/16	55	3	74			3 1/8	79	1 7/16	36	1	25	.6	.3	.7	.3						
3/4	2 3/8	61	3 1/4	82			3 3/8	79	1 5/8	41	1 1/4	32	.7	.3	1.0	.5						
1	2 7/8	73	3 3/4	96			3 9/16	91	2	51	1 1/2	38	1.3	.6	1.6	.7						
1 1/4	3 1/4	83	4 3/16	107			3 9/16	91	2 1/16	53	1 13/16	46	2.0	.9	2.4	1.1						
1 1/2	3 5/8	92	4 3/4	120	8	206	9	231			3	76	2 3/16	55	3.1	1.4	3.6	1.7				
2	4 3/16	106	5 3/8	137	8 3/8	213	9 11/16	246			3 1/2	89	2 3/4	70	5.3	2.4	6.3	2.9				

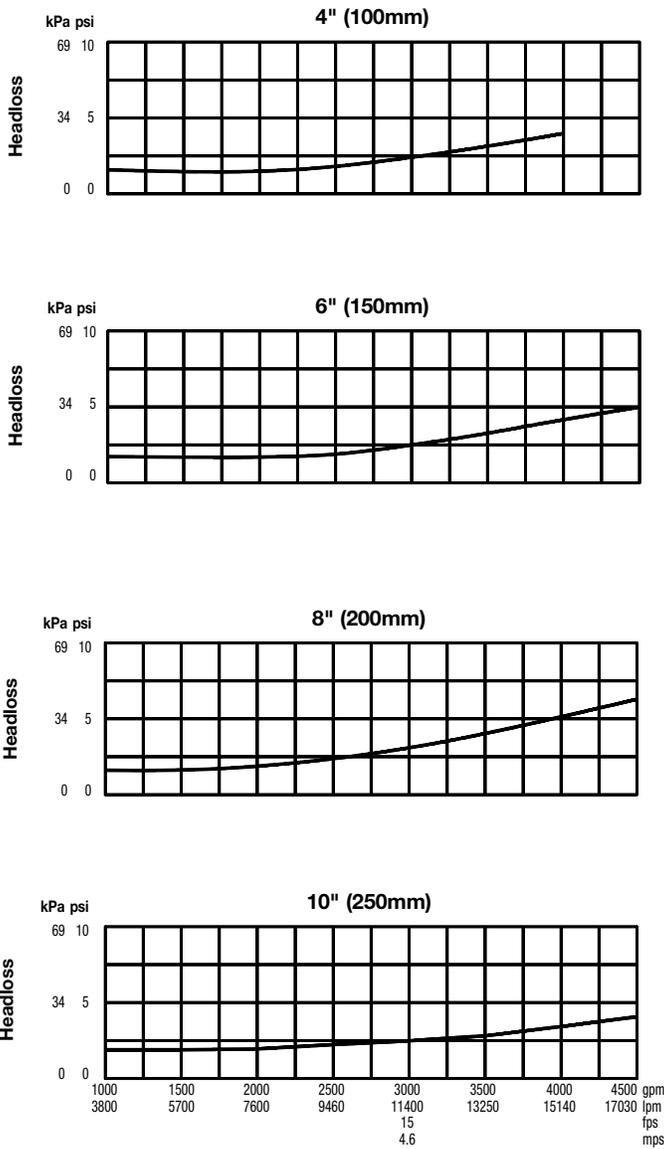
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NOTICE

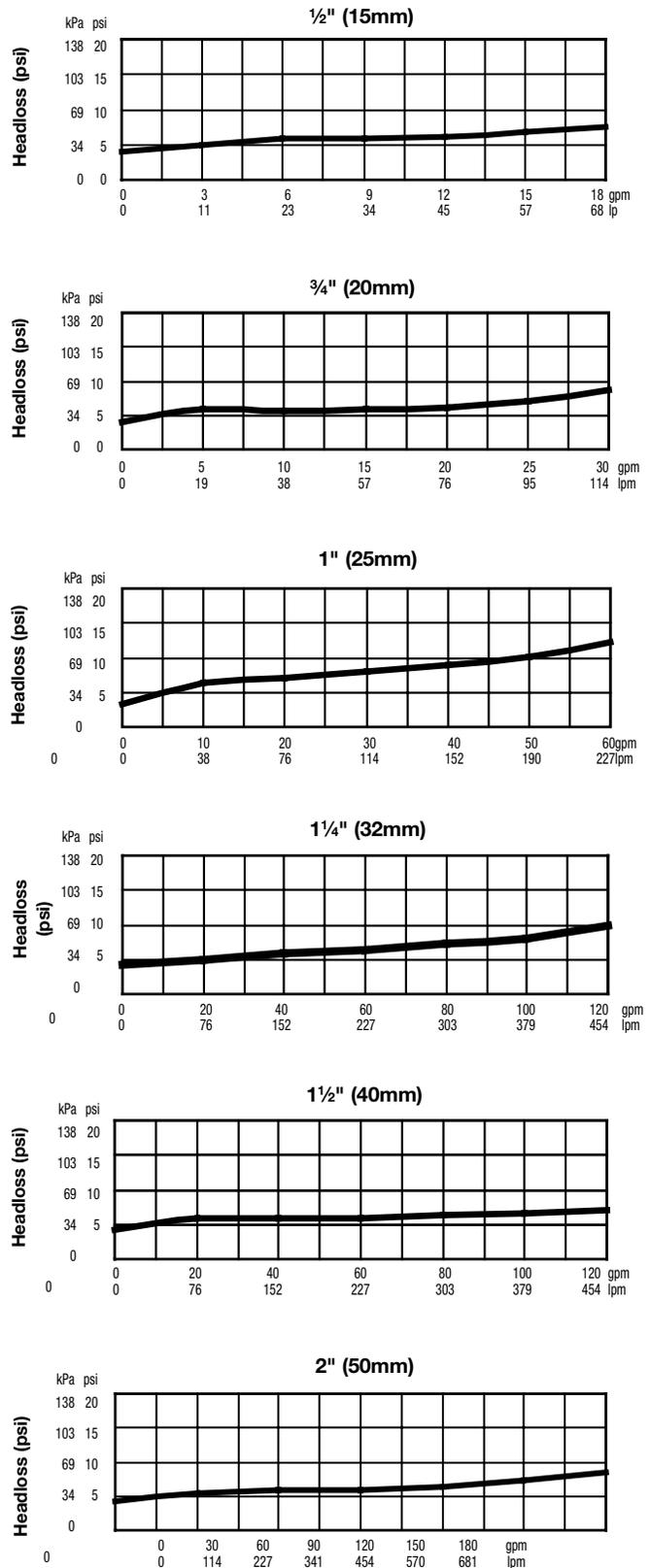
Inquire with governing authorities for local installation requirements.

Flow Charts

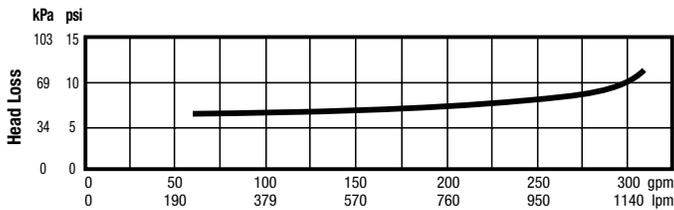
Series 800



Series 850S/LF850S

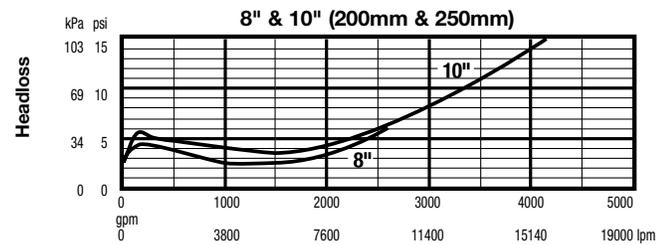
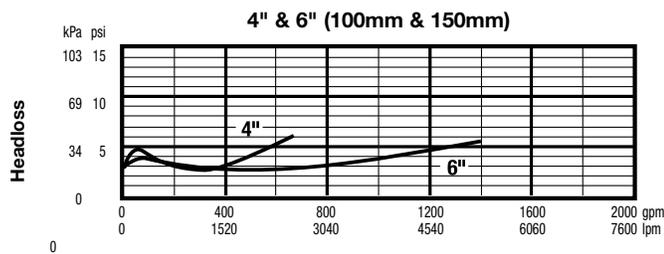
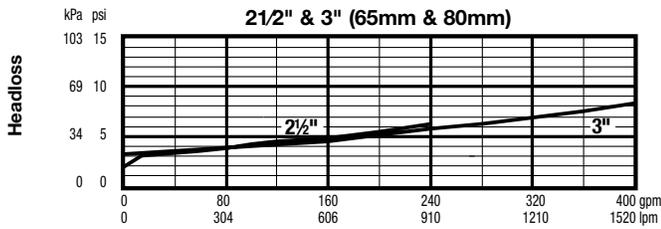


Series 406

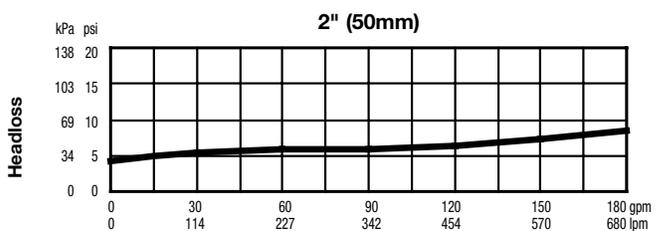
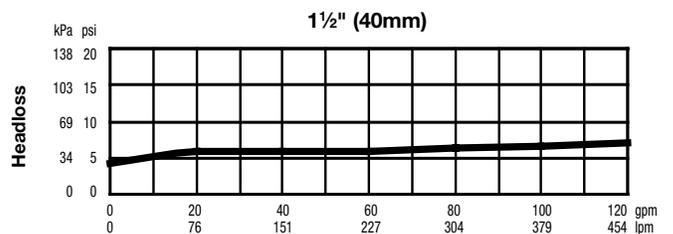
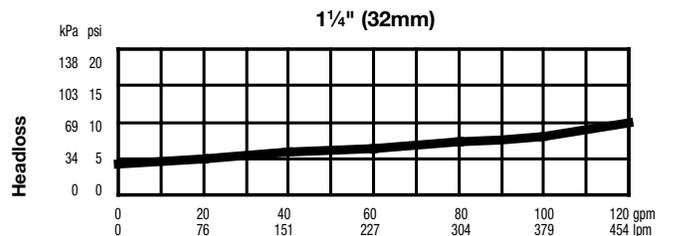
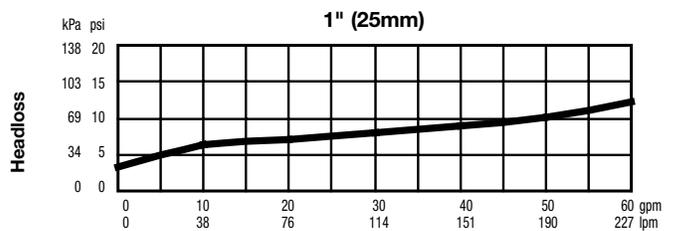
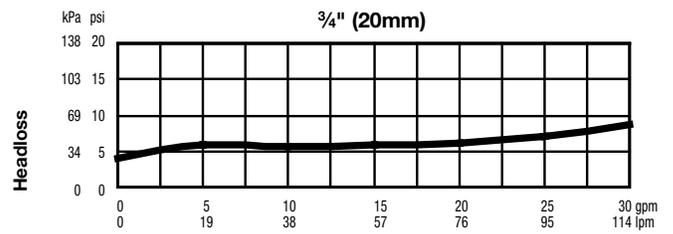
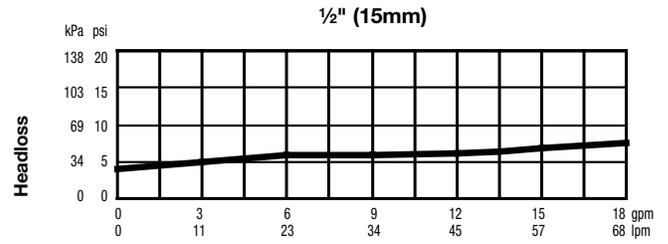


Velocities are calculated for flows in Schedule 40 steel pipe.

Series LF850L



Series 850U/LF850U

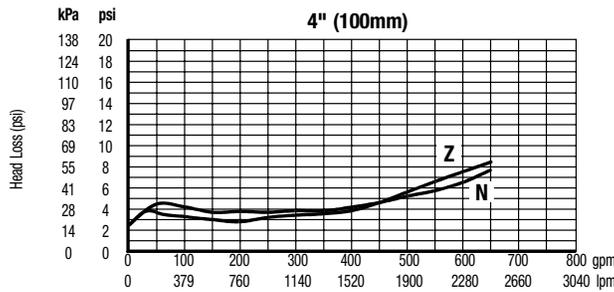
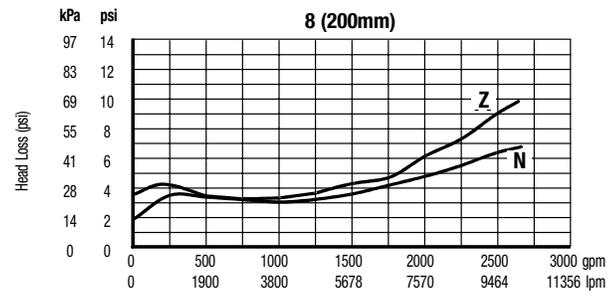
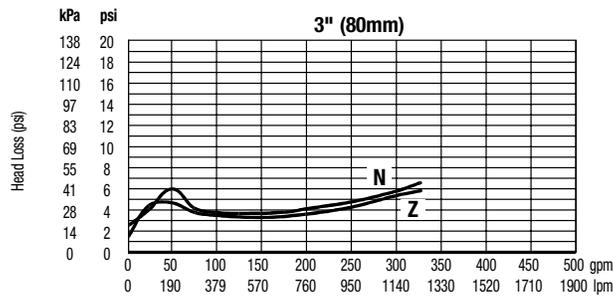
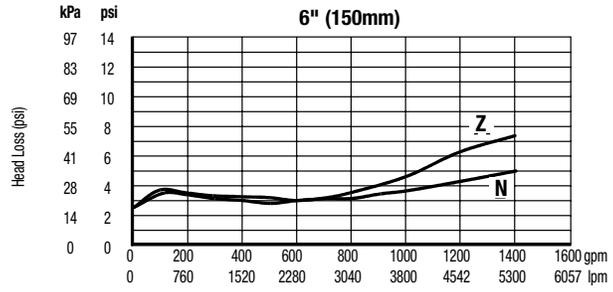
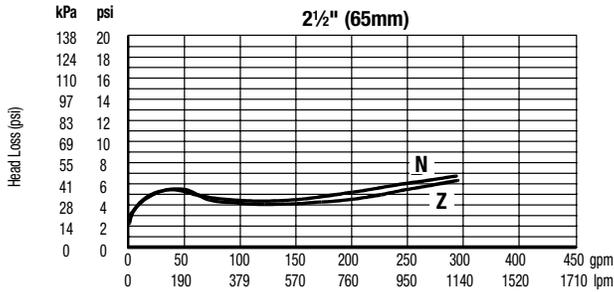


NOTICE

Inquire with governing authorities for local installation requirements

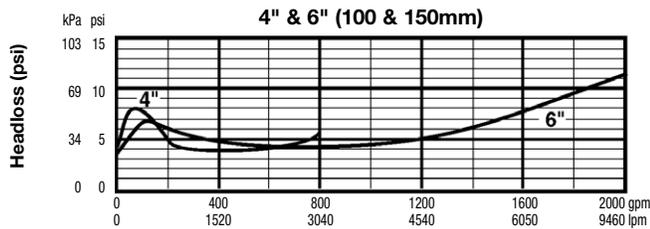
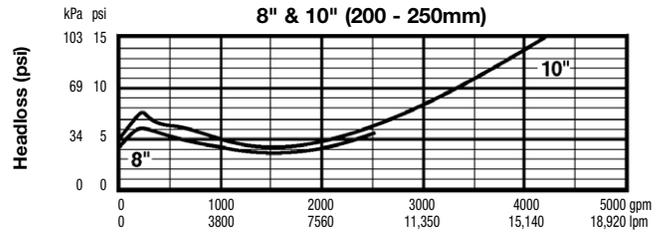
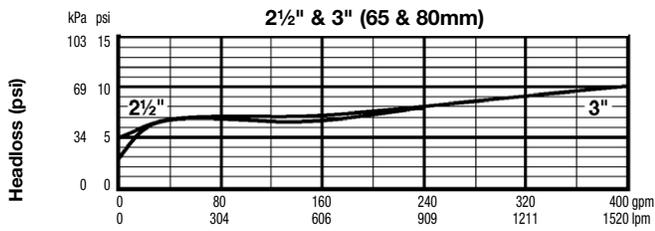
Flow Charts

Series LF870V

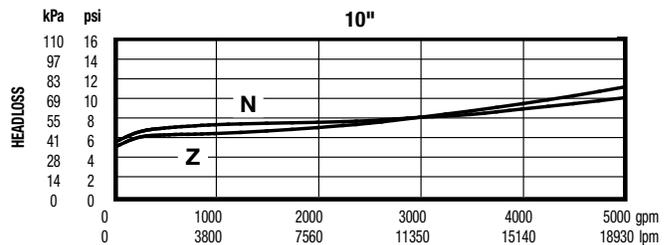
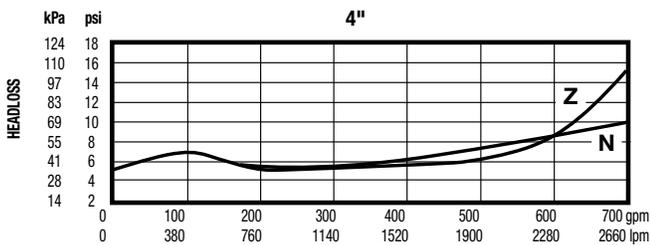
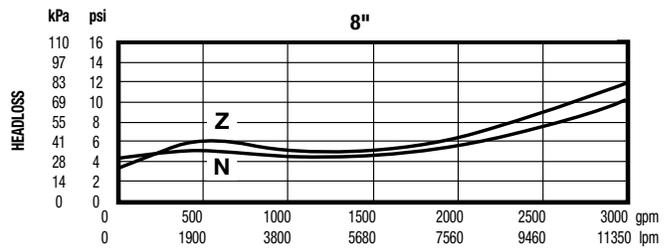
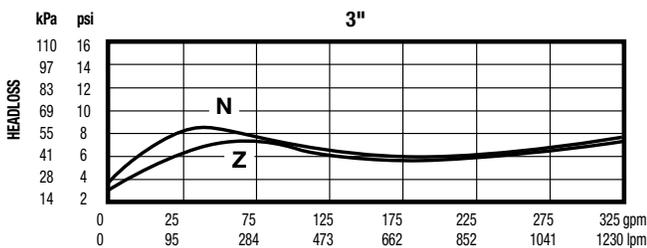
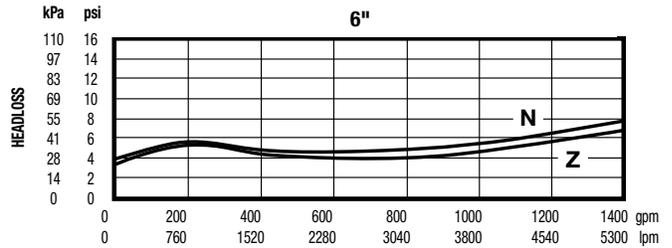
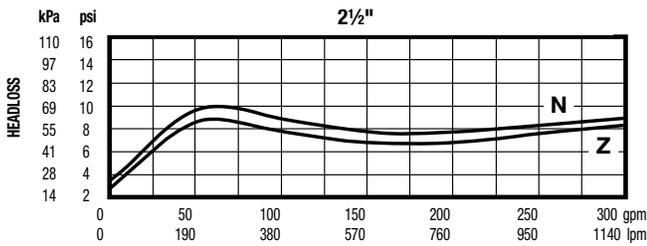


The 6" curves (N-standard orientation) include the FEBCO valve setter Series 611.

Series 856ST



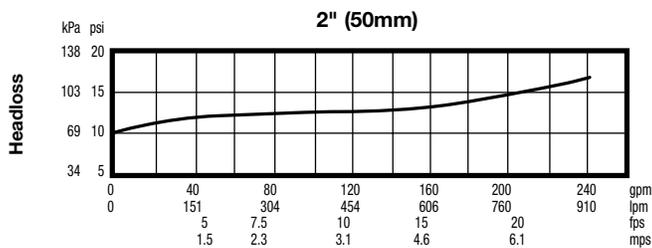
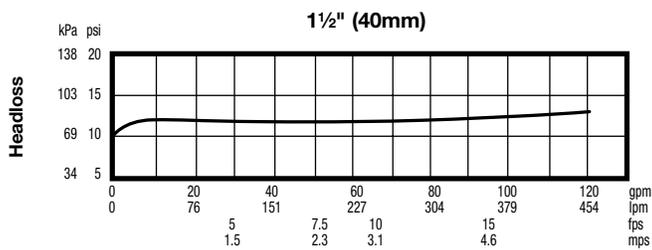
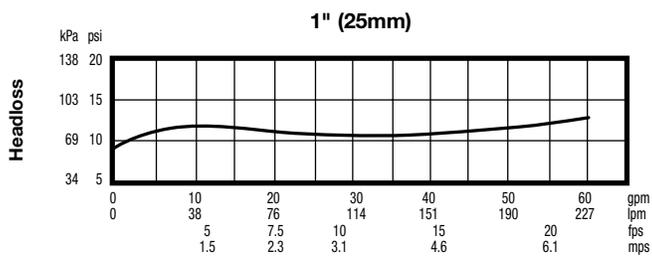
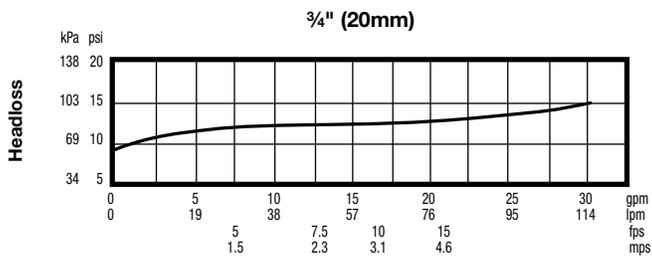
Series 876VST



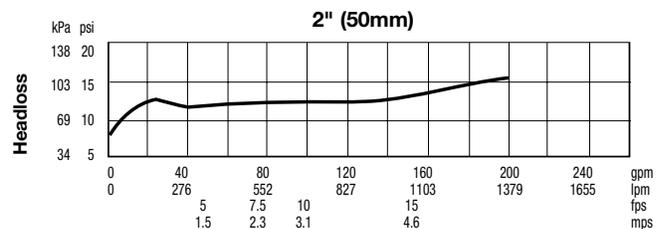
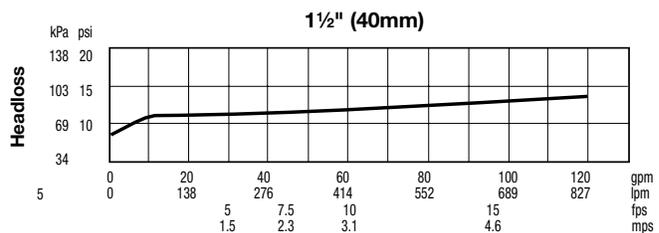
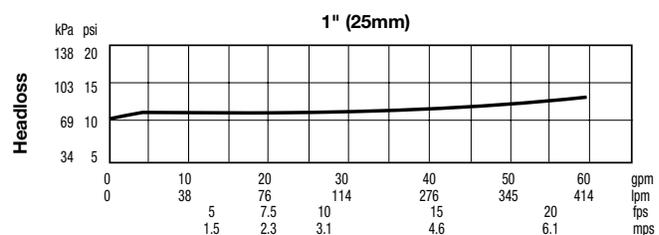
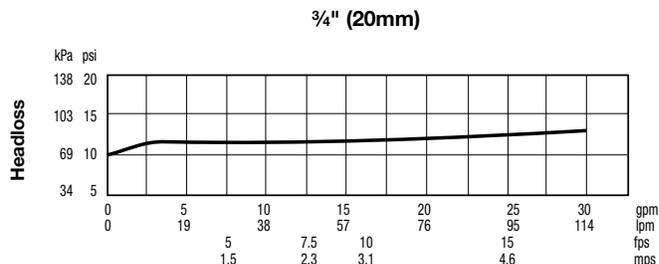
The 6" and 10" flow curves (N-standard orientation) include the FEBCO Valve Setter Series 611.

Flow Charts

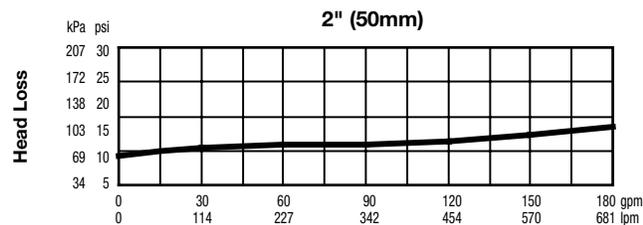
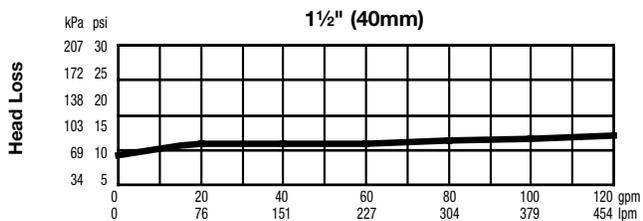
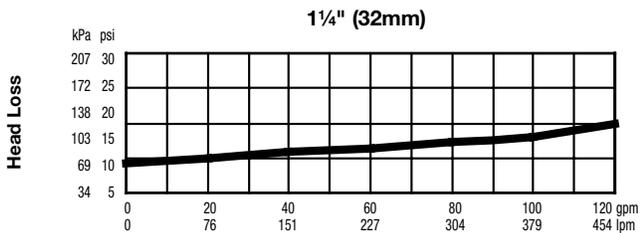
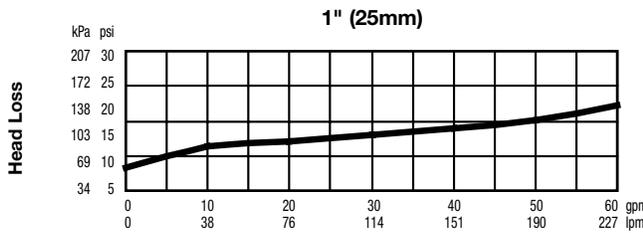
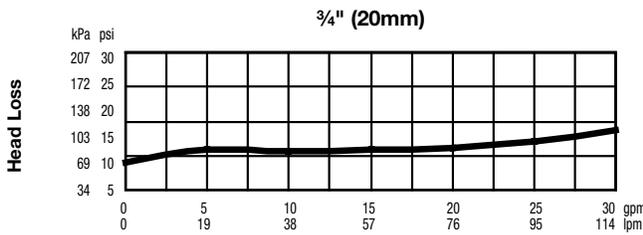
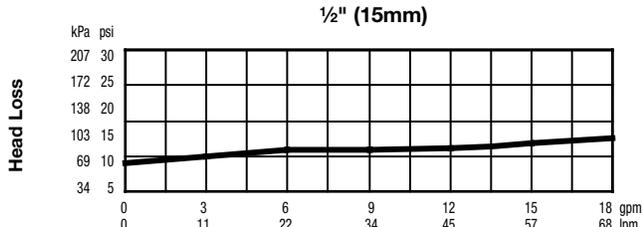
Series 825Y, LF825Y



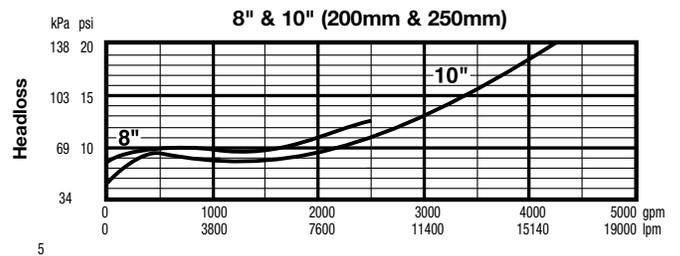
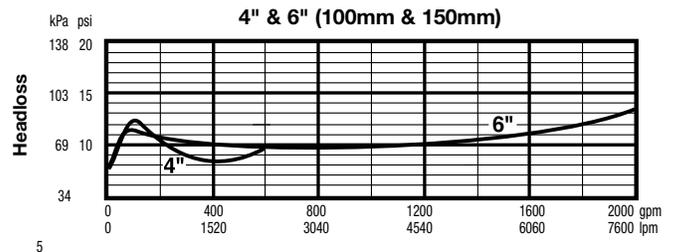
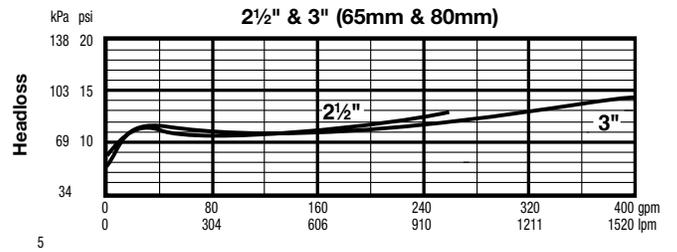
Series 825YA, LF825YA



Series 860S, LF860S

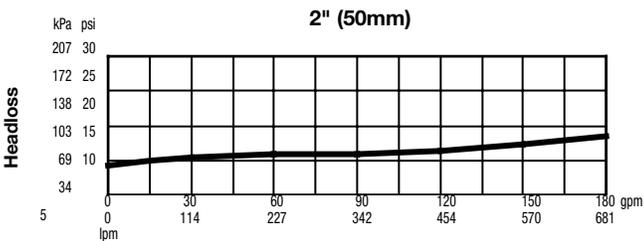
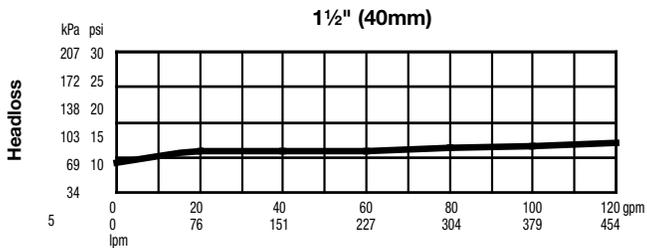
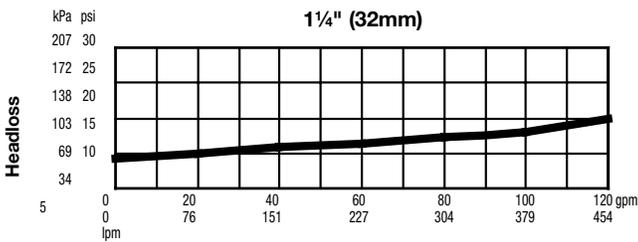
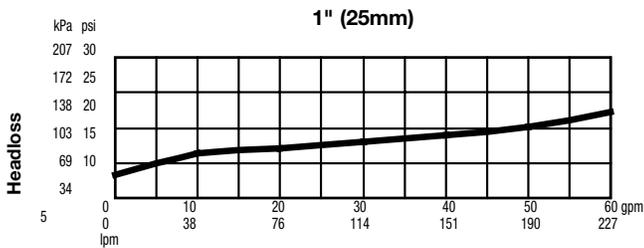
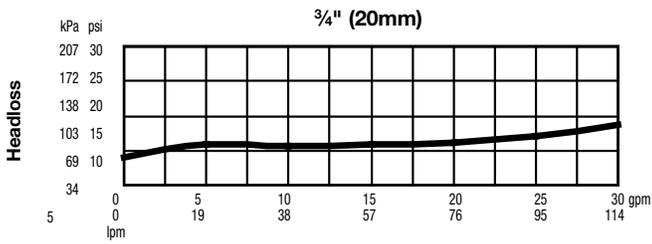
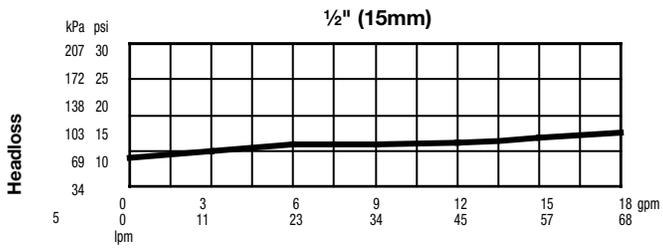


Series LF860L

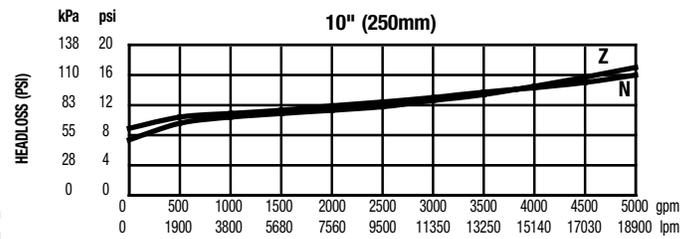
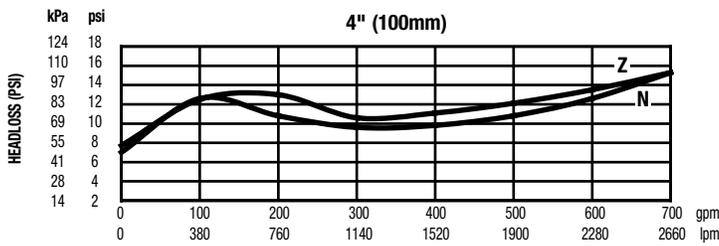
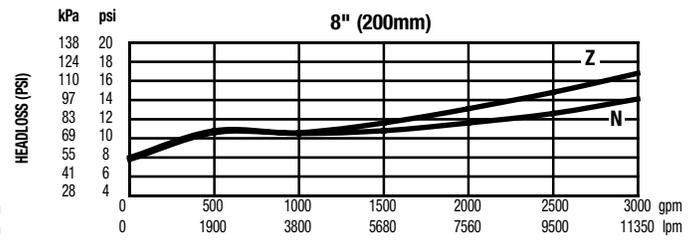
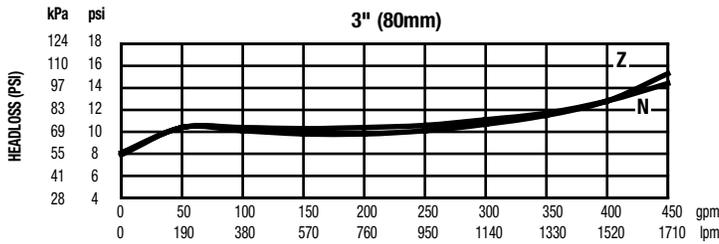
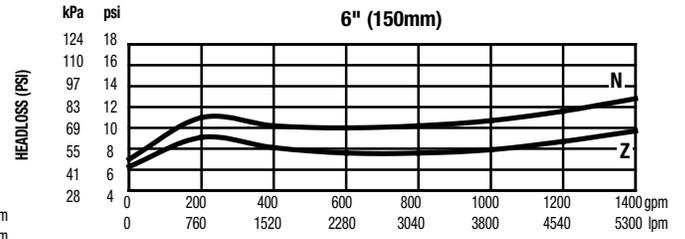
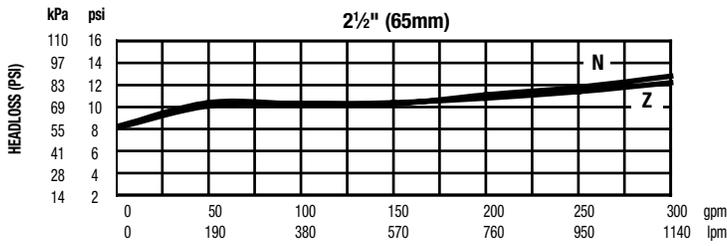


Flow Charts

Series 860U/LF860U



Series LF880V

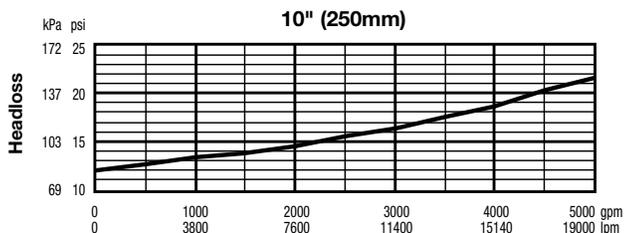
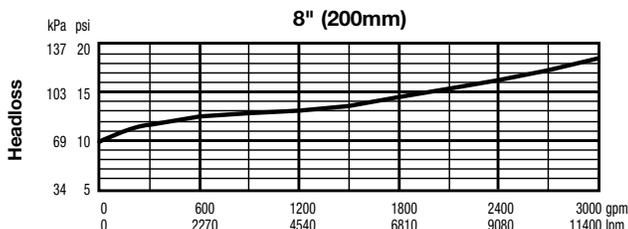
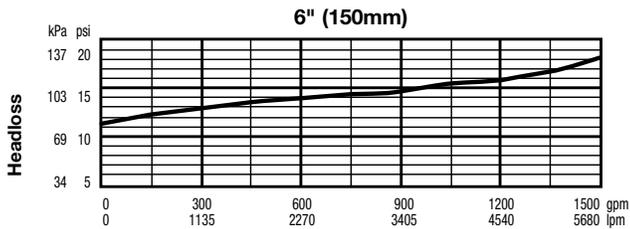
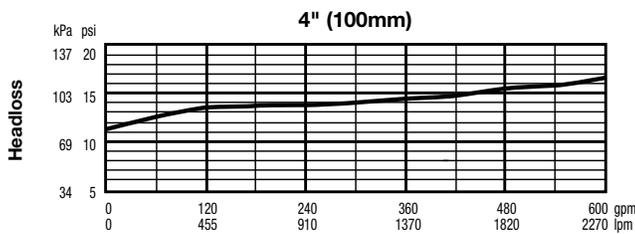
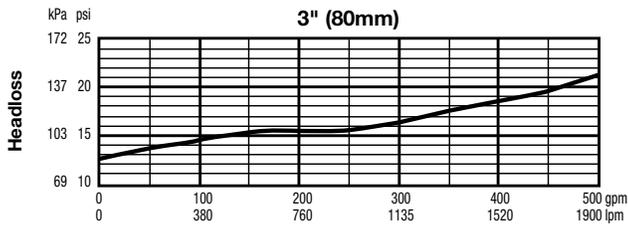
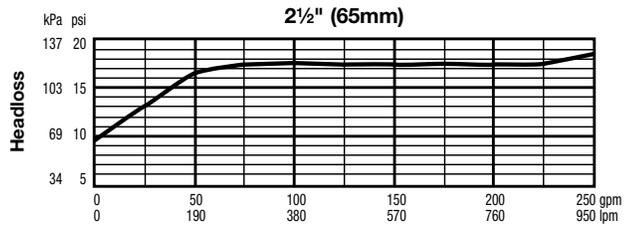


Z-Vertical orientation
N-Standard orientation

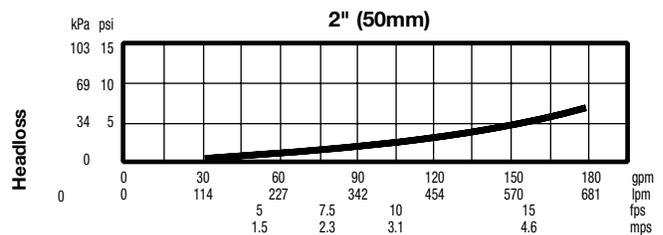
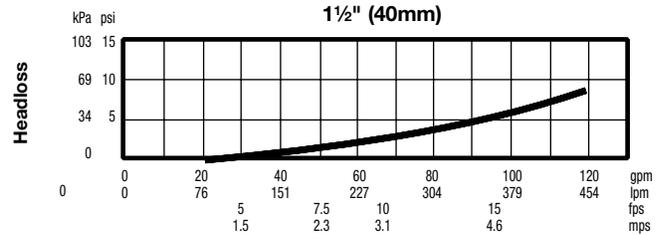
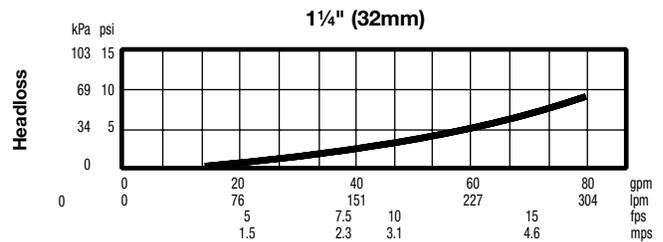
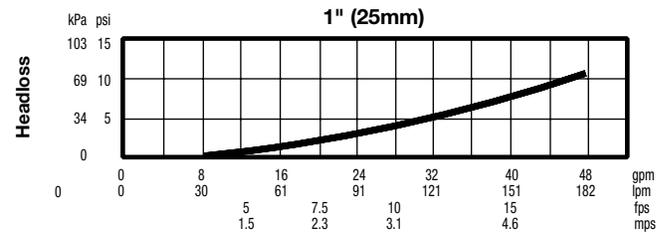
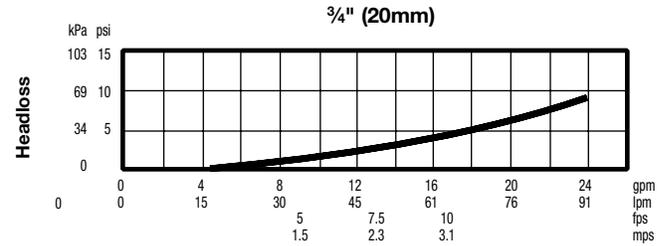
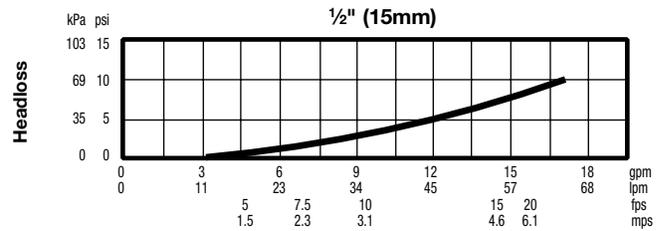
The 6" and 10" flow curves (N-standard orientation) include the FEBCO valve setter model 611.

Flow Charts

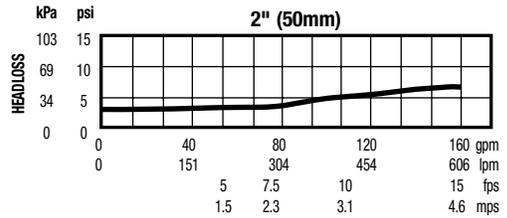
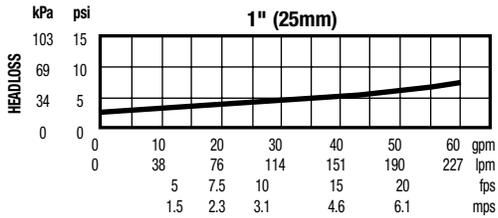
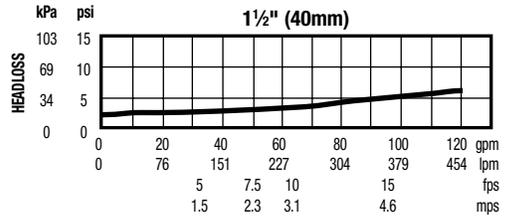
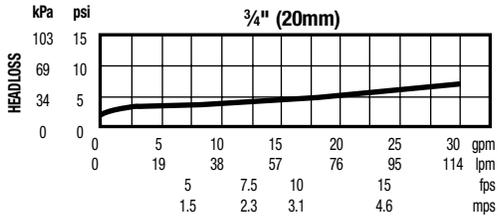
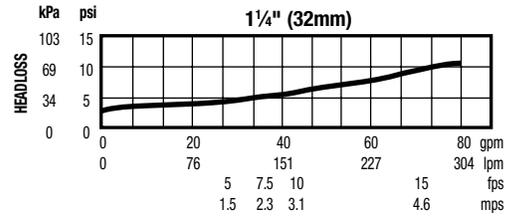
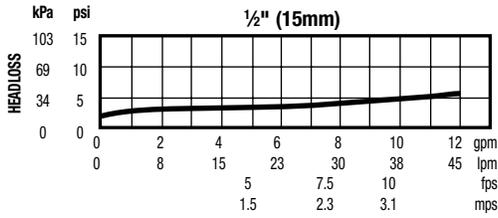
826YD



710, 715

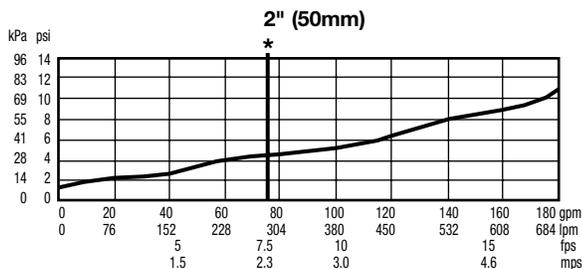
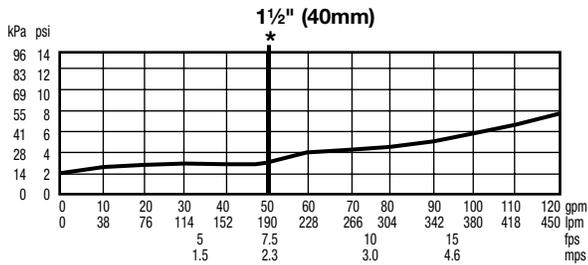
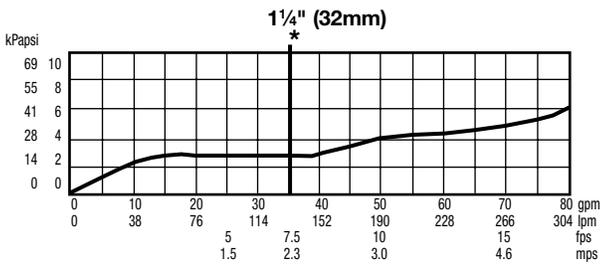
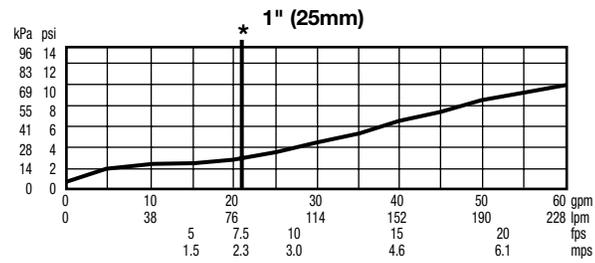
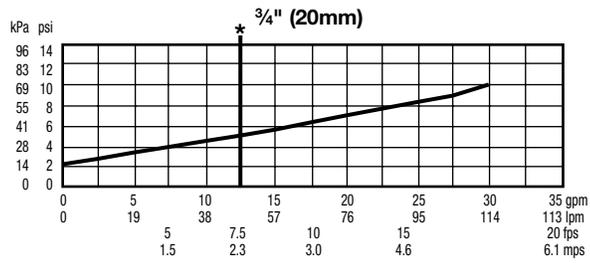
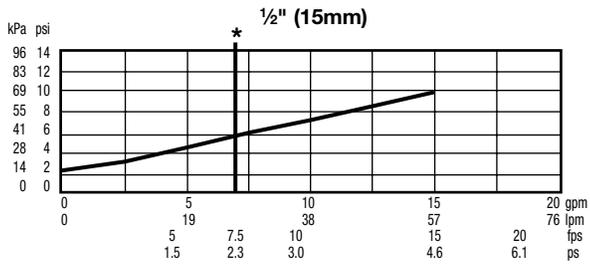


765

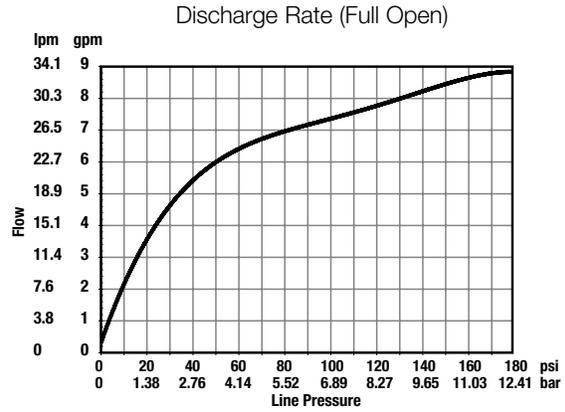


Flow Charts

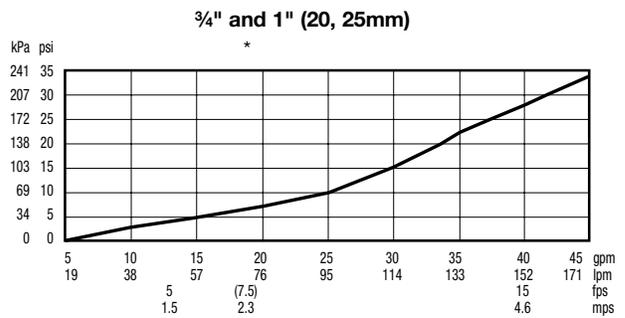
Series LF767FR



FPTC-1

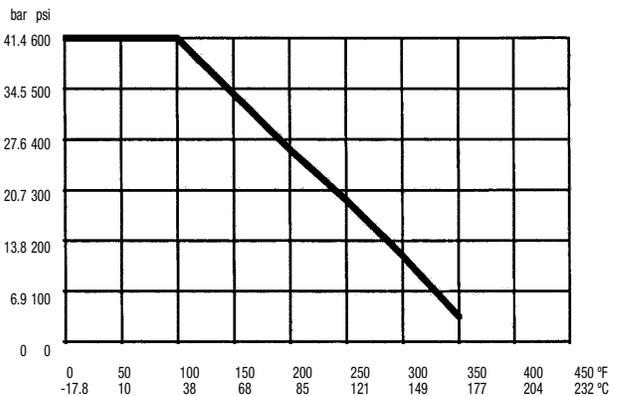


Series FPHB-1

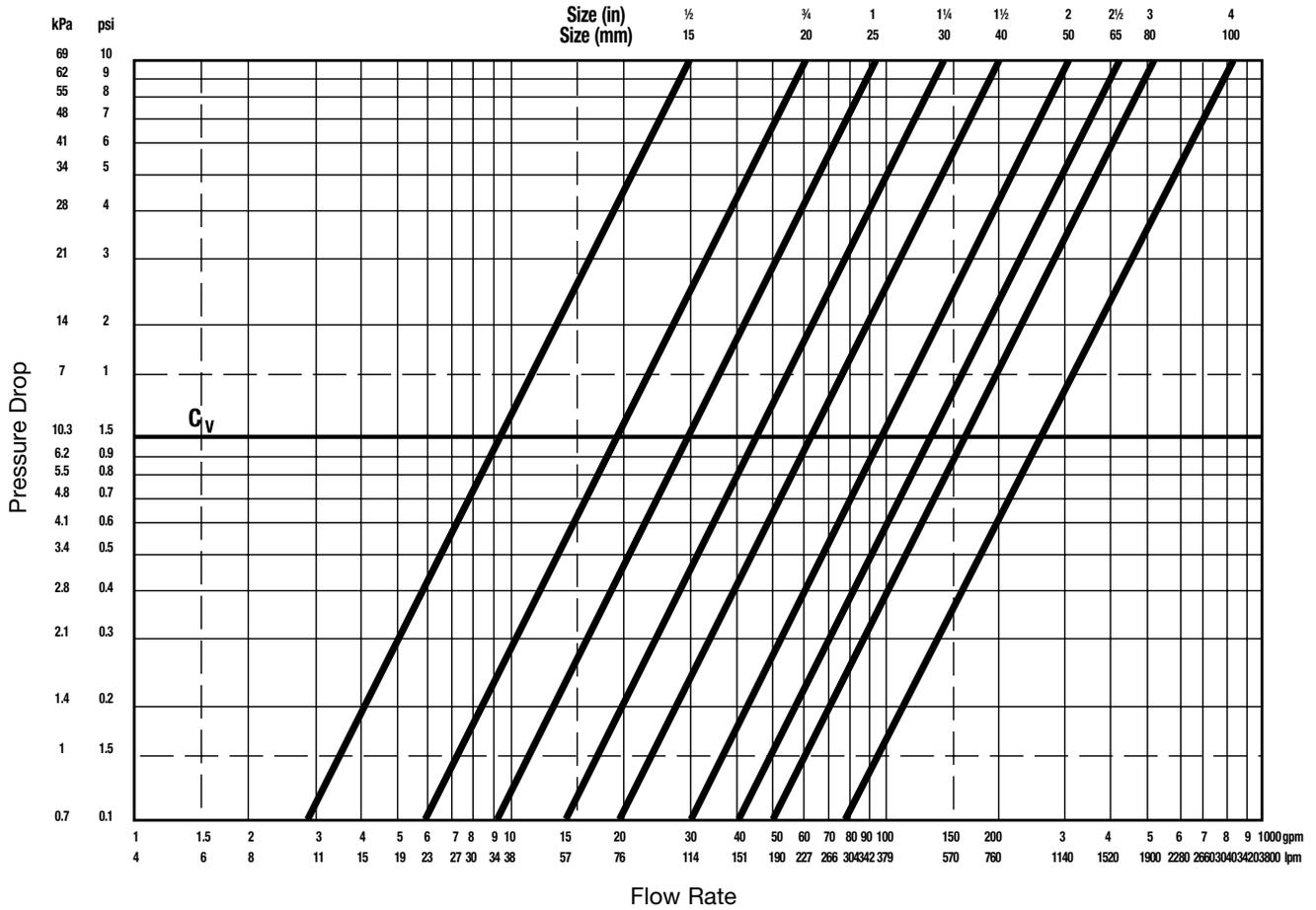


Series LF622

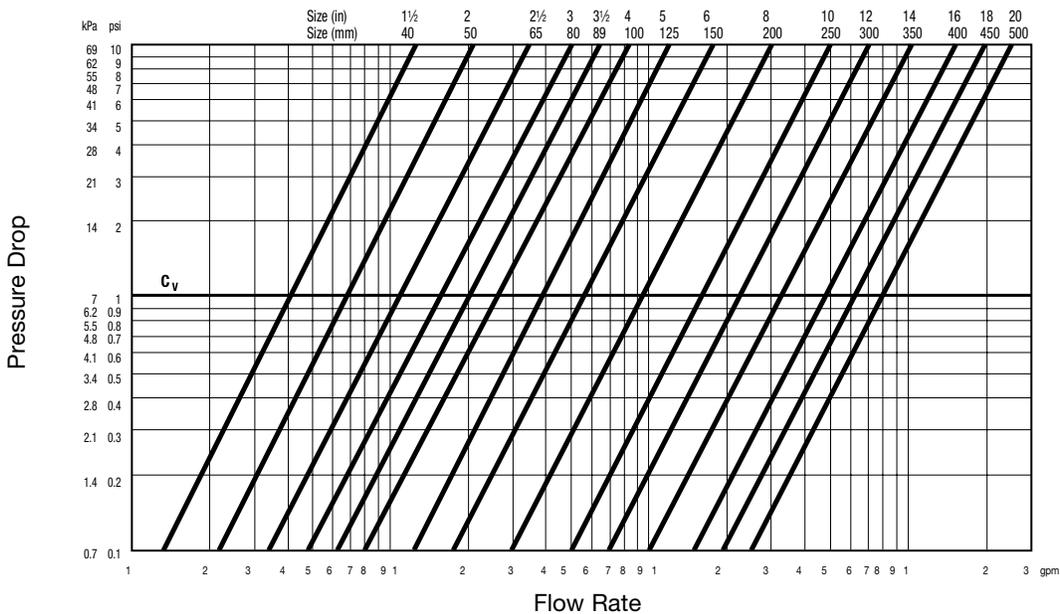
Seat Rating



Series LF650A "Y" Strainer



Series LF758A Screwed End "Y" Type Strainer



Above based on flow of clean water through unplugged screens.
Some sizes listed on flow charts are not available from FEBCO.



A WATTS Brand

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