

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE^{*}

MasterSeries® LF876V

Double Check Detector Assembly (Type II)

2½" – 12"

FEBCO MasterSeries LF876V Double Check Detector assembly is specifically designed to protect against possible backpressure and backsiphonage conditions for non-health hazard (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.

The iron components of the backflow preventer are coated with ArmorTek®, a patented three-part advanced epoxy system engineered to reduce microbial-induced corrosion (MIC) and protect exposed metal substrate.

Features

Main Valve

- In-line serviceable assembly
- Horizontal N-pattern installations
- Vertical-Up Z-pattern installations
- No special tools required for servicing
- Captured modular spring assembly
- Reversible and replaceable discs
- Field replaceable seats
- Ductile iron valve body design
- Stainless steel check components
- ArmorTek coating technology to resist corrosion of internals
- Winterization feature with disc retainers and valve body drain ports
- Clapper check assembly
- Commonality between 1st and 2nd check components
- Captured O-ring design

Auxiliary Bypass

- Compact bypass design; remains in main valve assembly profile
- In-line serviceable ¾" check assembly
- No special tools required for servicing
- Field replaceable seat and disc
- Detect potential underground water leaks
- Detect unauthorized water usage



Specifications

The Double Check Detector assembly shall be installed on the potable water supply and at each point of cross-connection to protect against possible backpressure and backsiphonage conditions for non-health hazard (pollutant) applications. The assembly shall consist of a main line valve body composed of two (2) independently acting approved clapper style check modules with replaceable seats and disc rubbers. Servicing of both check modules shall not require any special tools and shall be accessed through independent top entry covers. This assembly shall be fitted with approved UL Classified/FM Approved inlet/outlet resilient seated shutoff valves and contain four (4) properly located resilient seated test cocks as specified by AWWA Standard C510. The auxiliary bypass line shall contain a ½"x¾" Water Meter that complies with ANSI/AWWA Standard C700 coupled with an approved check assembly. The bypass line shall be designed to detect leaks or unauthorized water usage of the water system while protecting against possible backpressure and backsiphonage conditions for non-health hazard (pollutant) application. Iron components of the backflow preventer shall incorporate ArmorTek coating technology, delivering integrated protection against electrochemical corrosion and microbial-induced corrosion. The assembly shall be approved for horizontal and/or vertical-up installations while meeting the requirements of AWWA Standard C510 flow and pressure loss performance parameters. The assembly shall be FEBCO MasterSeries LF876V.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

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.



Model/Option

- OSY: UL/FM Approved OS&Y Gate Valves (ANSI/AWWA C515 Compliant)
- DNRS: Domestic Non-Rising Stem Gate Valves (ANSI/AWWA C509 Compliant)
- CFM: Totalizing Cubic Feet/Min $\frac{5}{8}$ "x $\frac{3}{4}$ " Water Meter (ANSI/AWWA C700 Compliant)
- GPM: Totalizing Gallons/Min $\frac{5}{8}$ "x $\frac{3}{4}$ " Water Meter (ANSI/AWWA C700 Compliant)
- LG: Less Shutoff Valves; NOT an approved assembly

Example Ordering Description

- 4" LF876V-OSY-GPM - Valve Assembly fitted with OS&Y Shutoff Valves & Gallons per Minute Water Meter
- 4" LF876V-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

- Main Valve Body: Ductile iron Grade 65-45-12
- Coating: ArmorTek powder coating, applied to internal and external surfaces
- 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** (U.S. & Canada)
- FM Approved**
- IAPMO/cUPC
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA Class D Flange

Assembly Flow Orientation

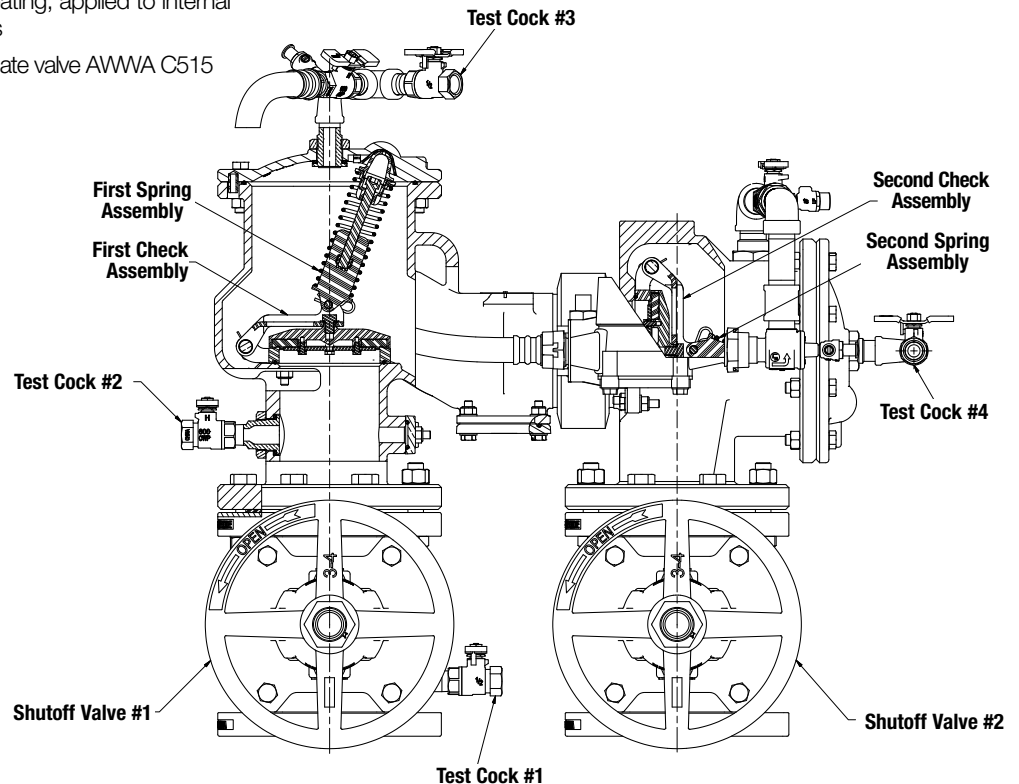
Horizontal (N-Pattern $2\frac{1}{2}$ " – 12") - Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO/cUPC

Vertical Up (Z-Pattern $2\frac{1}{2}$ " – 12") - Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO/cUPC



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

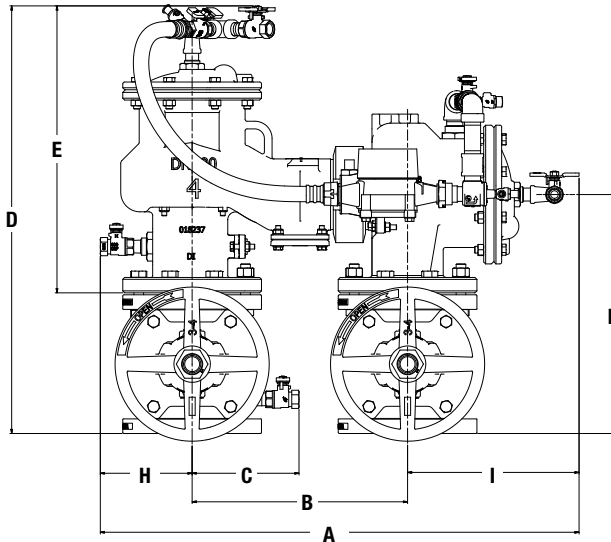


**Assembly configured with UL Classified/FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL Classified/FM Approved configurations.

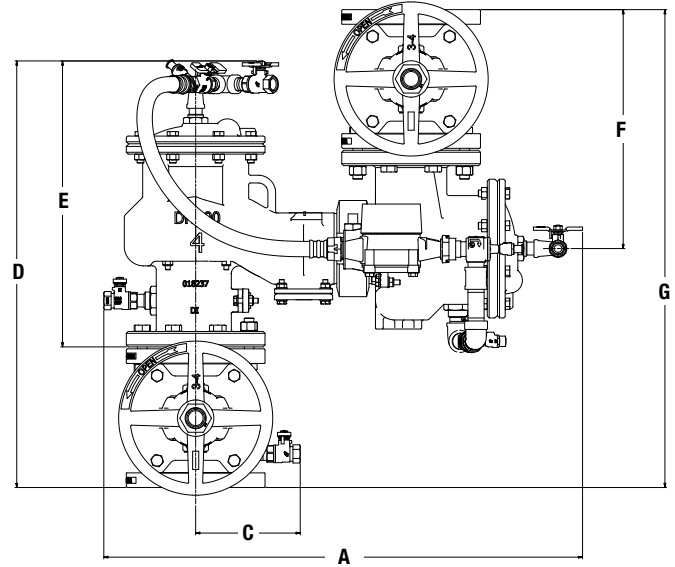
Dimensions – Weights

Below are the nominal dimensions and physical weights for LF876V, sizes 2½" to 12". Allowances must be made for normal manufacturing tolerances. Visit Watts.com to download the product manual, or speak with your local FEBCO representative for more information.

Standard Orientation (N-Pattern)

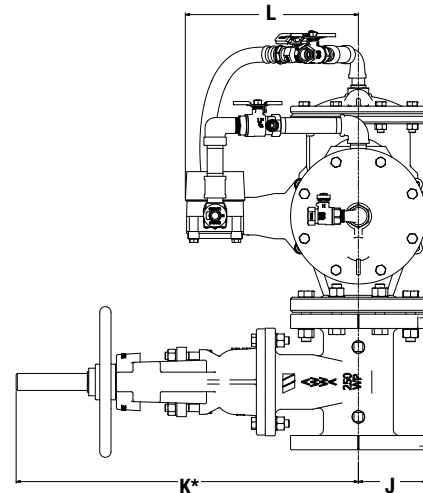


Vertical Orientation (Z-Pattern)



NOTE: MasterSeries LF876V is shipped in the standard (N-pattern) orientation.

**Gate Valve
Side View
Clearance**



SIZE	DIMENSIONS																WEIGHT**									
	A		B		C		D		E		F		G		H		I		J		K*		L		OSY	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
2½	29⅞	740	12½	318	6¼	159	25¼	642	17½	445	13⅝	346	27¼	692	5½	140	11⅞	283	3½	89	16⅝	416	11½	292	216	98
3	29⅞	740	12½	318	6¼	159	25¾	654	17¾	451	14⅞	359	28¼	718	5½	140	11⅞	283	3¾	95	18⅞	479	11½	292	242	110
4	31⅞	791	14	356	7	178	27¾	705	18¾	476	15½	394	31	787	6	152	11⅞	283	4½	114	22¾	578	13	330	347	157
6	35¾	908	16	406	8	203	32¾	831	22⅞	562	18⅞	473	37¼	946	7¼	184	12½	316	5½	140	30⅞	765	13	330	529	240
8	40¾	1035	18½	470	9¼	235	36¾	933	25⅞	638	20¾	527	41½	1054	8½	216	14	356	6¾	172	37¾	959	14½	368	827	375
10	46¼	1175	21	533	10⅞	264	41⅞	1047	28⅞	714	23⅞	601	47⅞	1202	9⅞	244	15⅞	398	8	203	45¾	1162	13⅞	333	1335	606
12	55¼	1402	30⅞	769	11⅞	289	56⅞	1432	28⅞	714	38⅞	985	NA	NA	9¼	235	15⅞	398	9½	241	53⅞	1350	13⅞	338	1928	867

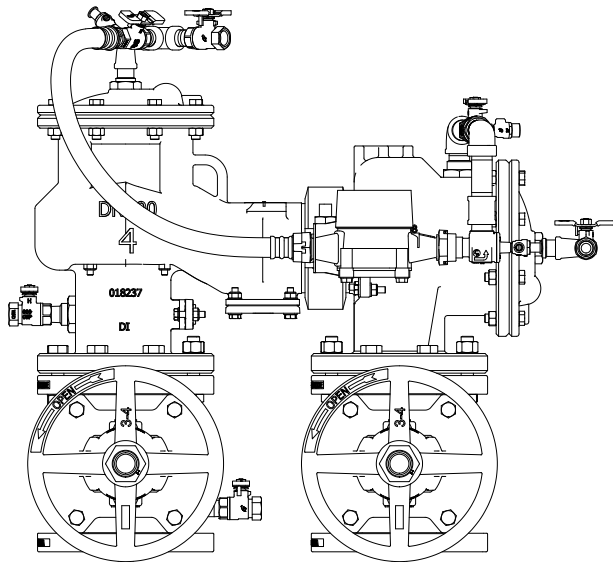
* Indicates nominal dimensions with gate valves (full open position).

** Indicates weight of complete backflow assemblies with specified gate valves.

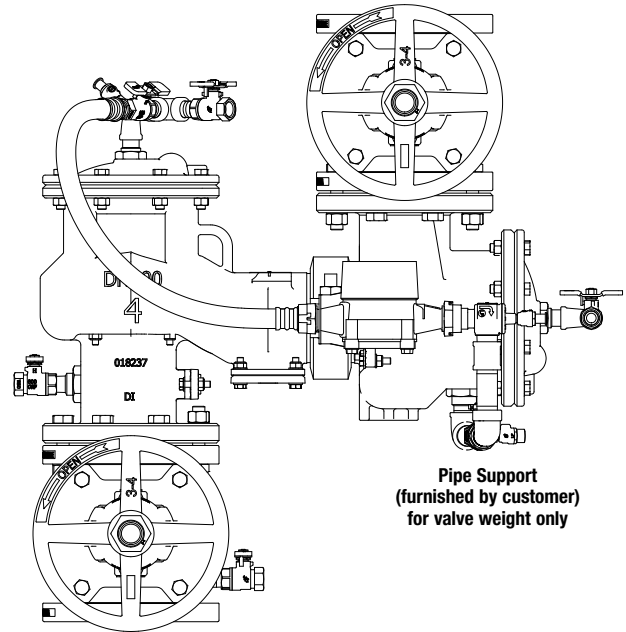
Performance

Flow capacity chart identifies valve performance based upon rated water velocity up to 20 fps.

- Maximum service flow rate is determined by maximum rated velocity up to 7.5 fps.
- AWWA Manual M-22 (Appendix C) recommends that the maximum water Velocity in the services be not more than 10 fps. UL flow rate is determined by typically rated velocity up to 15 fps.



Standard Orientation "N-Pattern" Flow Curve N

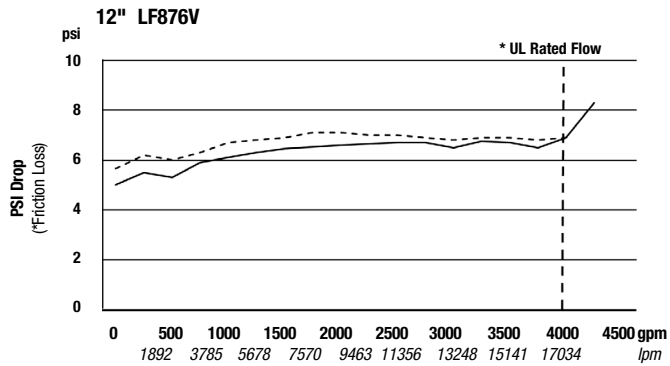
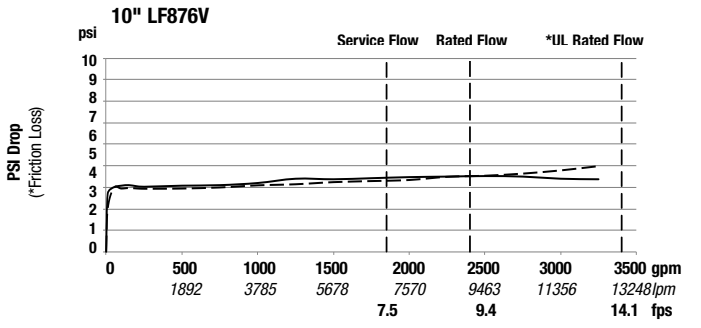
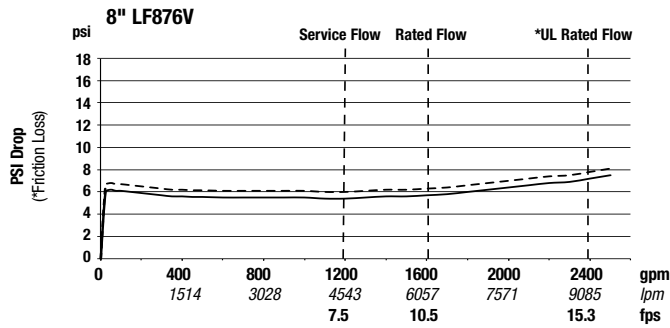
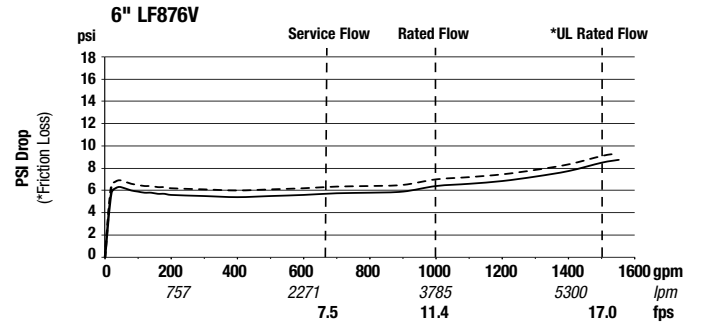
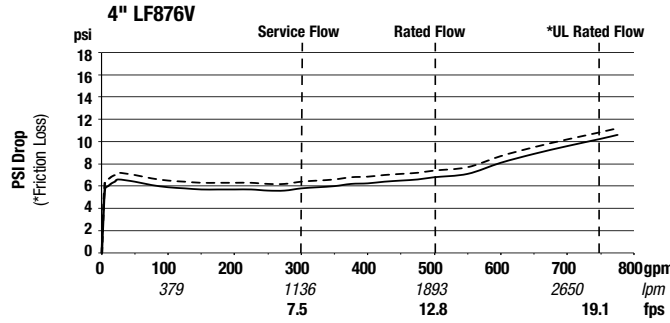
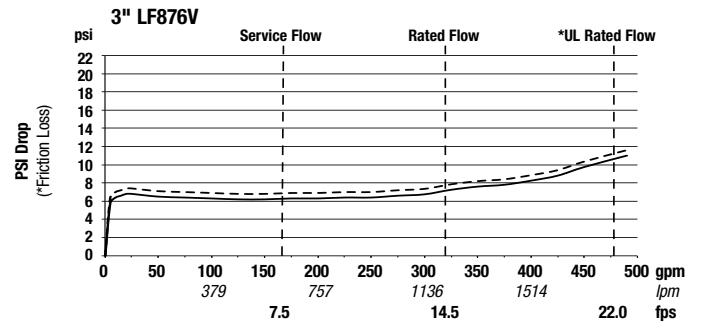
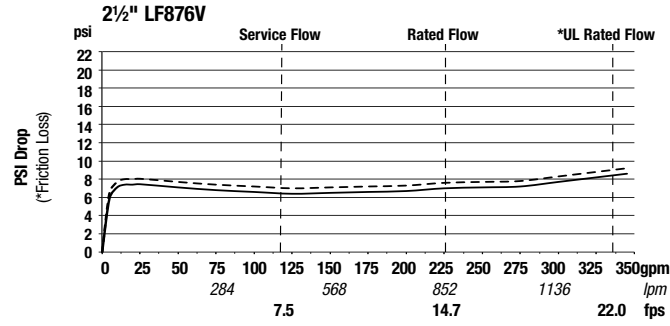


Vertical Orientation "Z-Pattern" Flow Curve Z

Capacity

N-Pattern

Z-Pattern



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