

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

**LEAD FREE\***

## MasterSeries® LF870W/WZ Double Check Backflow Prevention Assemblies

Size: 4" – 10"

The FEBCO MasterSeries LF870W/WZ Double Check Assembly is specifically designed to provide drop-in replacement of competitor's valves in either the N-pattern (LF870W) or Z-Pattern (LF870WZ) orientation. It protects 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 coating on this backflow assembly uses ArmorTek™ technology to resist corrosion due to microbial induced corrosion (MIC) or exposed metal substrate. It features Lead Free\* construction to comply with low lead installation requirements. The Lead Free\* Double Check Assembly shall comply with state codes and standards, where applicable, requiring reduced lead content.

### Features

- Longer gate-to-gate length for drop-in replacement of longer valves
- Inline Serviceable Assembly
- Vertical Up/Vertical Down "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
- Utilizes advanced ArmorTek™ coating technology to resist corrosion of internals
- Winterization feature with disc retainers and valve body drain ports
- Clapper Check Assembly
- Commonality between 1st & 2nd Check Components
- Captured O-ring Design



MODEL LF870W DOUBLE CHECK ASSEMBLY

### Specifications

The FEBCO MasterSeries provide drop-in replacement of competitor's valves in either the N-pattern (LF870W) or Z-Pattern (LF870WZ) orientation. Double Check Valve 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 (i.e., 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 does not require any special tools and are accessed through independent top entry covers. This assembly shall be fitted with AWWA Compliant inlet/outlet resilient seated shutoff valves; when used on a Fire-Sprinkler application, the assembly shall be fitted with approved UL/FM inlet/outlet resilient seated shutoff valves and contain four (4) properly located resilient seated test cocks as specified by AWWA Standard C510. The valve body shall utilize a coating system with built in electrochemical corrosion inhibitor and microbial inhibitor. 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.

### 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.

### 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.

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.



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## 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" LF870W-OSY - Valve Assembly fitted with OS&Y Shutoff Valves

### Available Components

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

### Assembly Flow Orientation:

Horizontal (N-Pattern 4" – 10") - Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO

Vertical Up (Z-Pattern 4" – 10") - Approved by FCCCHR-USC, ASSE, cULus, FM, IAPMO

## Materials

Below is a general materials list of the Model LF870W/WZ.. All assemblies size 4" 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: 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 – Standards:

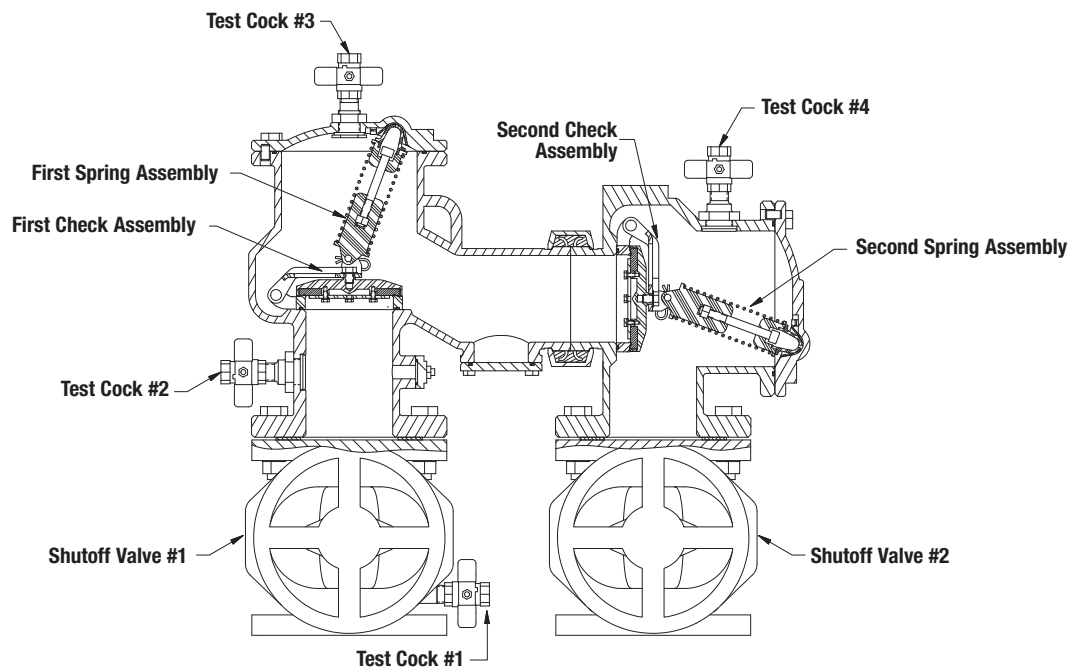
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California [FCCCHR-USC]
- ASSE 1015 Listed
- \*\*UL Classified [US & Canada]
- \*\*FM Approved
- IAPMO
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 125 & AWWA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

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



## Pressure - Temperature

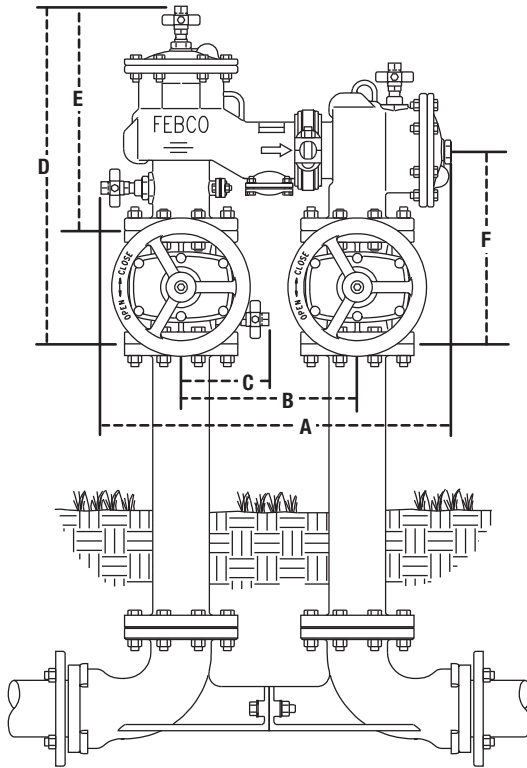
- Max. Working Pressure: 175psi (12.1 bar)  
 Min. Working Pressure: 10psi (0.7 bar)  
 Hydrostatic Test Pressure: 350psi (24.1 bar)  
 Hydrostatic Safety Pressure: 700psi (48.3 bar)  
 Temperature Range: 33°F - 140°F (0.5°C- 60°C)  
 Continuous



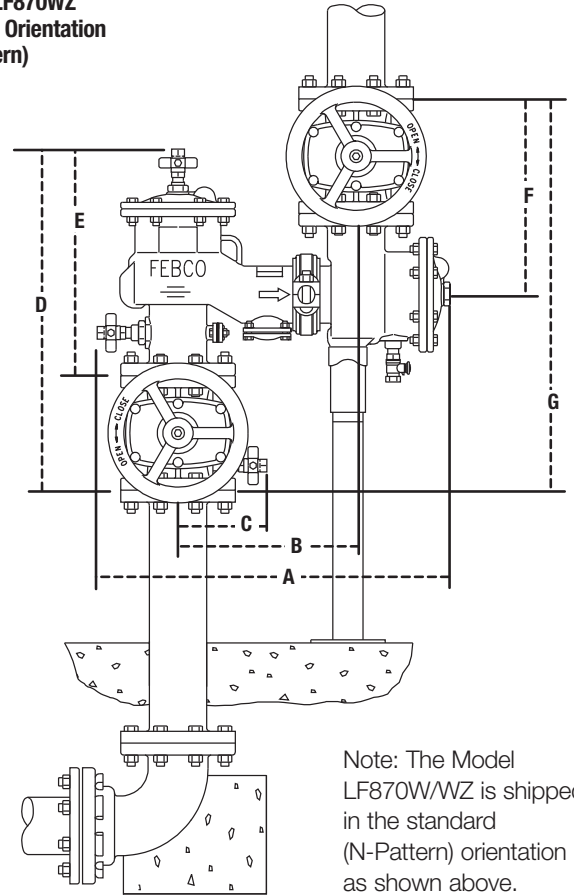
## Dimensions – Weights

Below are the nominal dimensions and physical weights for the Model LF870W/WZ size 4" 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.

### Model LF870W Standard Orientation (N-Pattern)

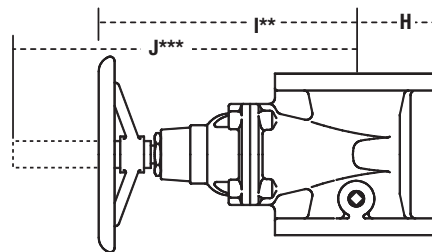


### Model LF870WZ Vertical Orientation (Z-Pattern)



Note: The Model LF870W/WZ is shipped in the standard (N-Pattern) orientation as shown above.

### Gate Valve Side View Clearance



### LF870W/WZ

SIZE	DIMENSIONS												WEIGHT****															
	A (W)		A (Z)		B (W)		B (Z)		C		D		E		F		G		H		J**		J***		NRS		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	lbs.	kg.	lbs.	kg.
4	32 <sup>1</sup> / <sub>16</sub>	818	32 <sup>3</sup> / <sub>16</sub>	833	18 <sup>5</sup> / <sub>16</sub>	465	18 <sup>1</sup> / <sub>16</sub>	481	7	178	26 <sup>3</sup> / <sub>16</sub>	680	17 <sup>1</sup> / <sub>2</sub>	451	15 <sup>1</sup> / <sub>2</sub>	394	31	787	4 <sup>1</sup> / <sub>2</sub>	114	14 <sup>3</sup> / <sub>8</sub>	365	22 <sup>3</sup> / <sub>4</sub>	591	320	145	332	151
6	34 <sup>1</sup> / <sub>16</sub>	887	37 <sup>1</sup> / <sub>4</sub>	946	18 <sup>1</sup> / <sub>16</sub>	475	21	533	8	203	32 <sup>1</sup> / <sub>4</sub>	819	21 <sup>1</sup> / <sub>8</sub>	548	18 <sup>5</sup> / <sub>16</sub>	473	37 <sup>1</sup> / <sub>4</sub>	946	5 <sup>1</sup> / <sub>2</sub>	140	18 <sup>1</sup> / <sub>8</sub>	479	30 <sup>1</sup> / <sub>8</sub>	765	492	223	512	232
8	48	1219	49 <sup>9</sup> / <sub>16</sub>	1253	29	737	30 <sup>9</sup> / <sub>16</sub>	770	9 <sup>1</sup> / <sub>4</sub>	235	36 <sup>3</sup> / <sub>8</sub>	324	24 <sup>7</sup> / <sub>8</sub>	632	20 <sup>3</sup> / <sub>4</sub>	527	41 <sup>1</sup> / <sub>2</sub>	1054	6 <sup>3</sup> / <sub>4</sub>	172	23 <sup>1</sup> / <sub>2</sub>	597	37 <sup>3</sup> / <sub>4</sub>	959	782	355	810	367
10	50 <sup>1</sup> / <sub>16</sub>	1272	51 <sup>1</sup> / <sub>8</sub>	1304	29	737	30 <sup>9</sup> / <sub>16</sub>	533	10 <sup>1</sup> / <sub>16</sub>	264	40 <sup>3</sup> / <sub>8</sub>	1032	27 <sup>1</sup> / <sub>2</sub>	699	23 <sup>1</sup> / <sub>16</sub>	601	47 <sup>3</sup> / <sub>16</sub>	1202	8	203	27 <sup>1</sup> / <sub>8</sub>	699	45 <sup>3</sup> / <sub>4</sub>	1162	-	-	1318	598

#### Notes:

\*\* Indicates nominal dimensions with NRS Gate Valves

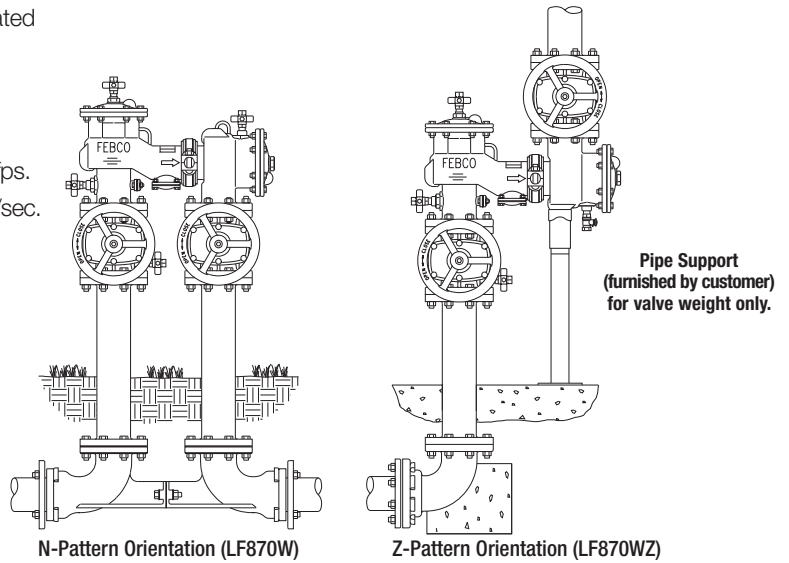
\*\*\* Indicates nominal dimensions with OSY Gate Valves (Full Open Position)

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

# Performance

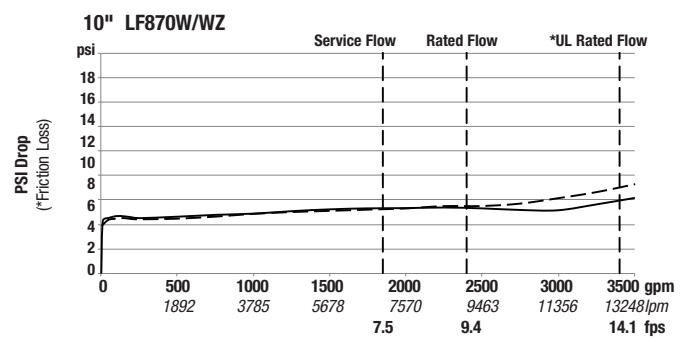
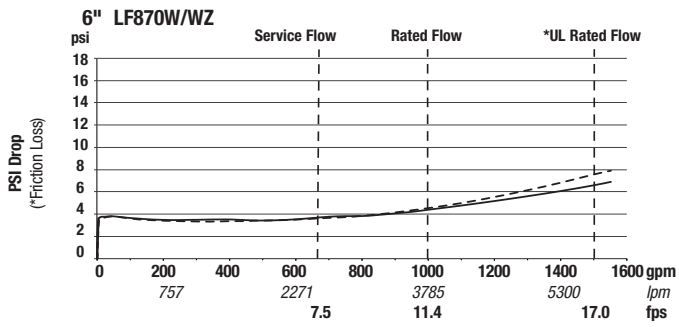
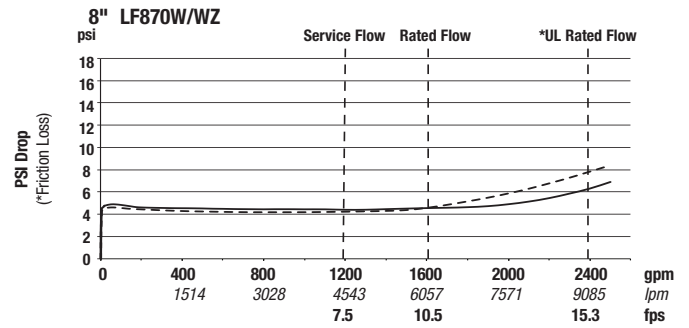
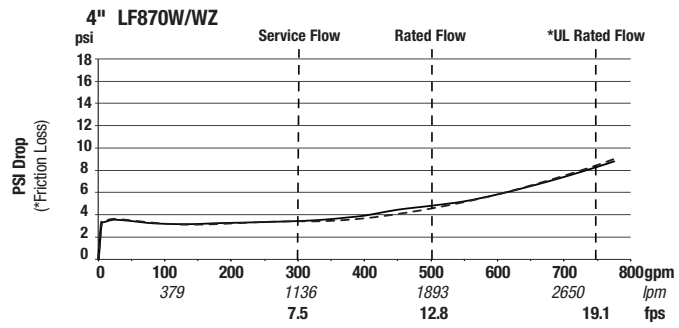
Flow capacity chart identifies valve performance based upon rated water Velocity up to 20fps

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



# Capacity

LF870W (N-Pattern)      LF870WZ (Z-Pattern)



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



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 Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • FEBCOonline.ca  
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