Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE*

MasterSeries® LF850

Double Check Valve Assembly

2½" – 10"

ArmorTek® ADVANCED COATING SYSTEM

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

Features

- In-line serviceable assembly
- 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

Specification

The 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 (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 shall be are accessed through independently 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 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. Iron components of the backflow preventer shall incorporate ArmorTek coating technology, delivering integrated protection against electrochemical corrosion and microbial-induced corrosion. Flow and pressure loss performance parameters shall meet the requirements of AWWA Standard C510. The assembly shall be FEBCO MasterSeries LF850.

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.

FEBCO®

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Model/Option

OSY: UL Classified/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; 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

Assembly Flow Orientation

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

Approvals – Standards

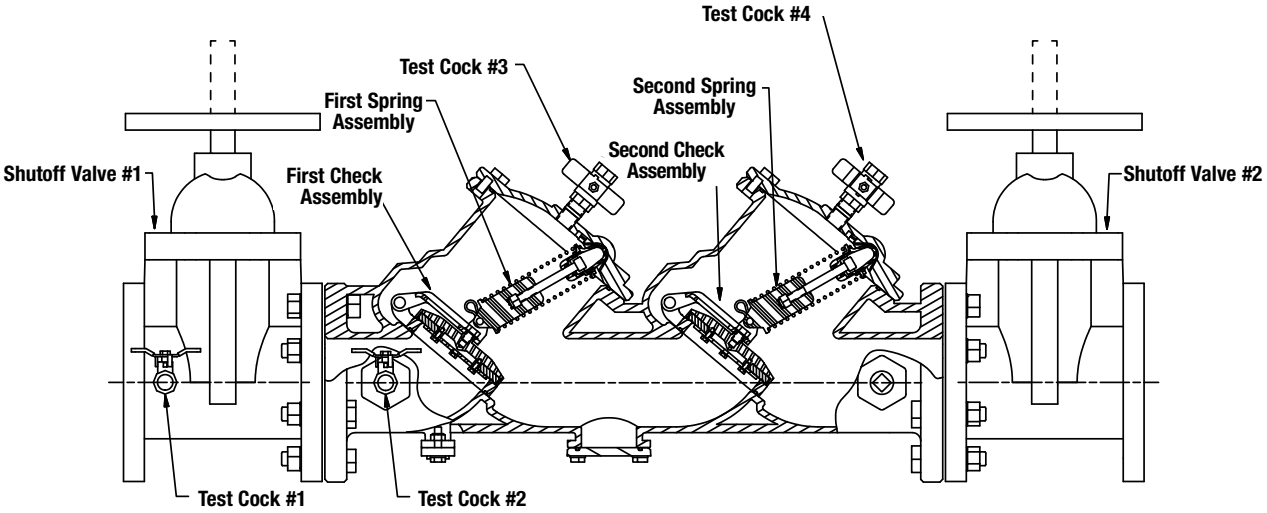
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCHR-USC)
- ASSE 1015 Listed
- UL Classified** (U.S. & Canada)
- FM Approved**
- IAPMO
- CSA Listed
- AWWA Standard C510 Compliant
- End Connections: Compliant to ASME B16.1 Class 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:	NRS resilient wedge gate valves AWWA C509 (Standard) OSY resilient wedge gate valves AWWA C515 (UL Classified/FM Approved)
Check Seats:	Stainless steel
Disc Holder:	Stainless steel
Elastomer Disc:	Silicone
Spring:	Stainless steel
Clamp:	AWWA C606 (10" only)

Pressure – Temperature

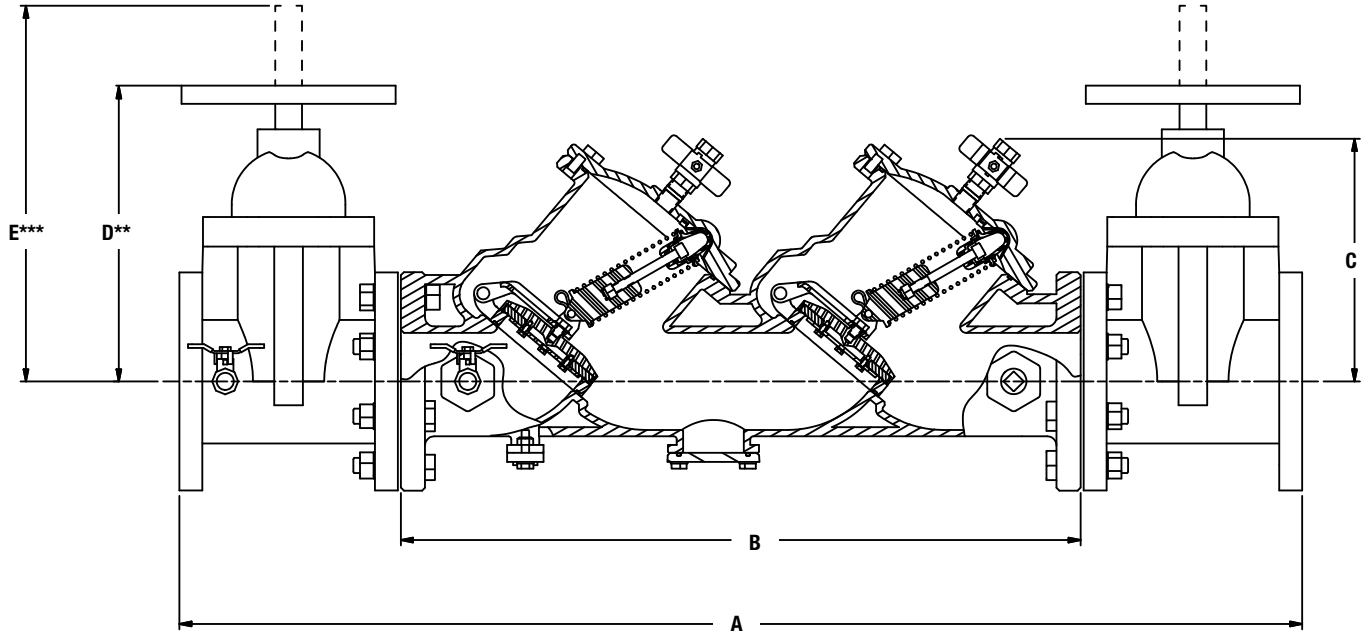
Max. Working Pressure:	175 psi (12.1 bar)
Min. Working Pressure:	10 psi (0.7 bar)
Hydrostatic Test Pressure:	350 psi (24.1 bar)
Hydrostatic Safety Pressure:	700 psi (48.3 bar)
Temperature Range:	33°F – 140°F (0.5°C – 60°C) Continuous

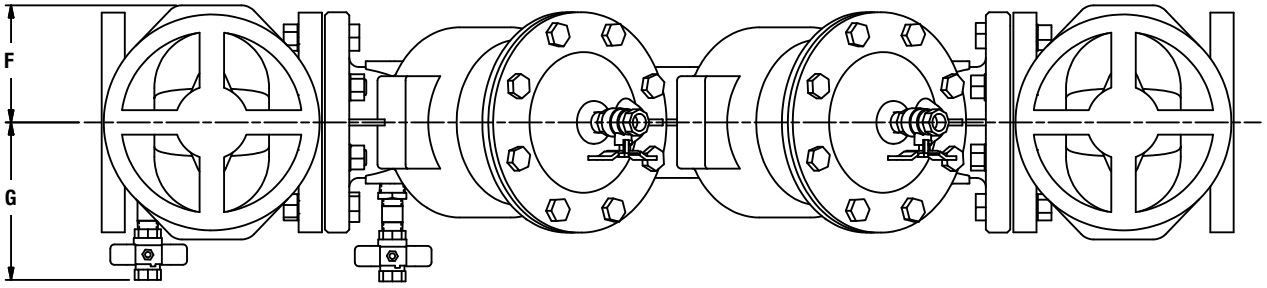


**Assembly configured with UL Classified/FM Approved OS&Y RW gate valves. Less gate valve assemblies are not UL Classified/FM Approved configurations.

Dimensions – Weights

Below are the nominal dimensions and physical weights for LF850, sizes 2½" to 10". 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.





SIZE	DIMENSIONS														WEIGHT****			
	A		B		C		D**		E***		F		G		NRS		OSY	
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*	*lb*	*kg*
2½	40¾	1035	25½	648	10	254	12⅝	321	16⅜	416	4½	114	7⅛	181	226	103	230	104
3	41⅞	1064	25⅝	651	10	254	12⅞	327	22¼	565	4½	114	7⅜	187	252	114	256	116
4	46¼	1175	28	711	10⅛	257	14⅜	365	23¼	591	5½	140	8⅛	206	311	141	323	147
6	56	1422	34¾	883	12¾	324	18⅞	479	30⅛	765	6½	165	9⅞	251	478	217	498	226
8	65	1651	41¾	1061	15⅝	397	23½	597	37¾	959	7	178	11⅛	283	781	354	809	367
10	72⅝	1845	46⅜	1178	15⅝	397	27½	699	48	1219	9	229	12⅜	314	1179	535	1217	552

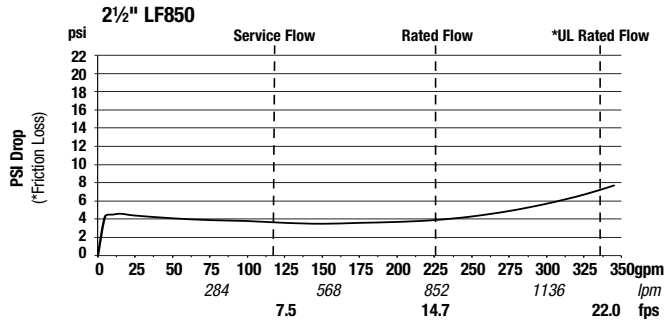
** Indicates nominal dimensions with NRS gate valves.
*** Indicates nominal dimensions with OSY gate valves (full open position).
**** Indicates weight of complete backflow assemblies with specified gate valves.

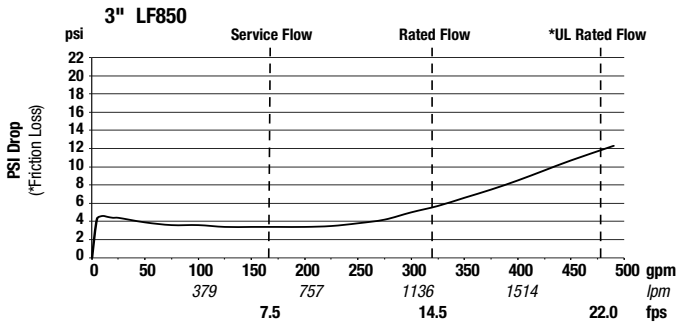
Performance

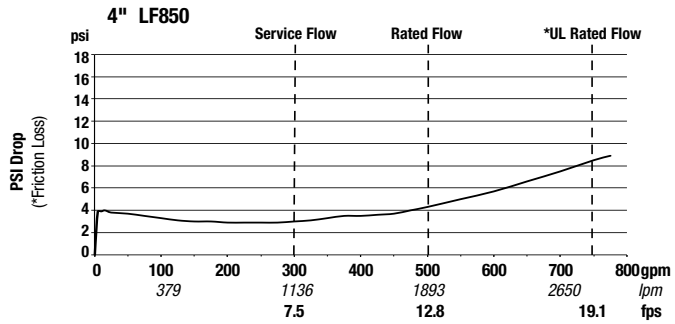
Flow capacity chart identifies valve performance based upon rated water velocity up to 20 fps.

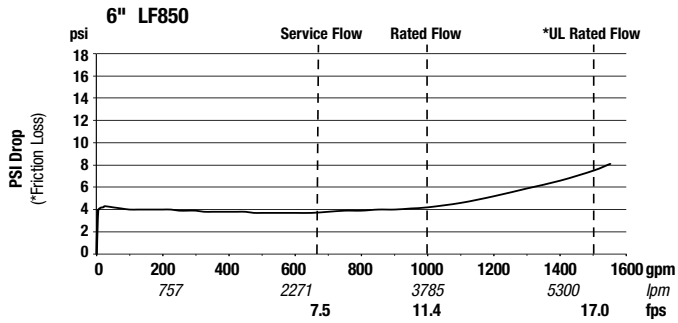
- Maximum service flow rate is determined by maximum rated velocity up to 7.5 fps.
- AWWA Manual M-22 (Appendix C) recommends that the maximum water Velocity in the services be not more than 10 fps.
- UL flow rate is determined by typically rated velocity up to 15 fps.

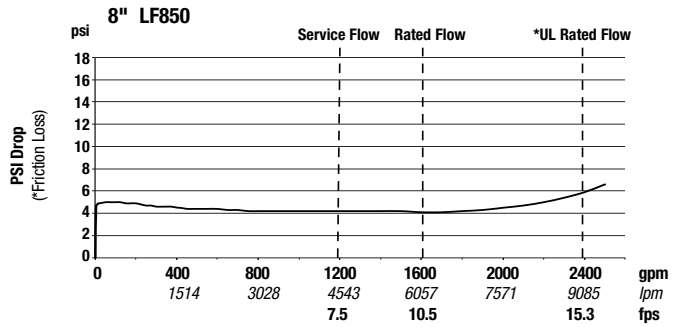
Capacity

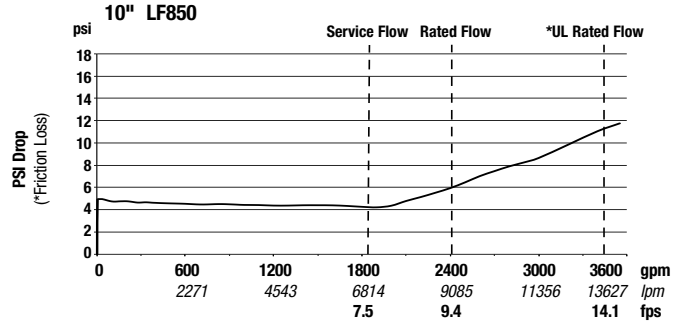












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