

## For Non-Health Hazard Applications

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

Contractor \_\_\_\_\_

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

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

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

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## MasterSeries® LF860

### Reduced Pressure Zone Backflow Prevention Assemblies

Size: 2½" - 10" (65mm - 250mm)

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 low lead 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

MASTER  
series®



Series LF860 Reduced Pressure Zone Assembly

#### Specifications

The FEBCO MasterSeries LF860 Reduced Pressure Zone 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 high hazard [i.e., toxic] applications. The assembly shall consist of a main line valve body composed of a pressure differential relief valve located in a zone between two (2) independently acting approved clapper style check modules with replaceable seats and disc rubbers. Servicing of the pressure differential relief valve and both check modules does not require any special tools; both check modules 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 approved UL/FM inlet/outlet resilient seated shutoff valves and contain four (4) properly located resilient seated test cocks as specified by AWWA Standard C511. Flow and pressure loss performance parameters shall meet the requirements of AWWA Standard C511.

#### 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 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

## 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.



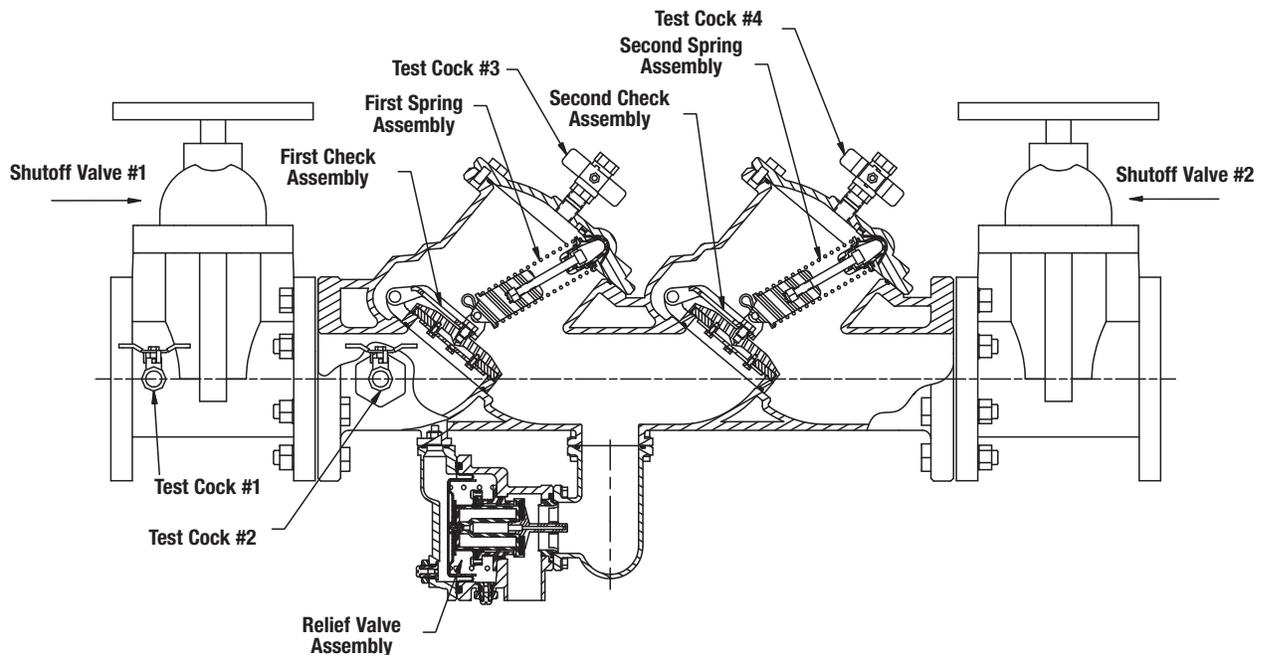
## Materials

Below is a general materials list of the Series LF860. 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
- 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 (10" Only)

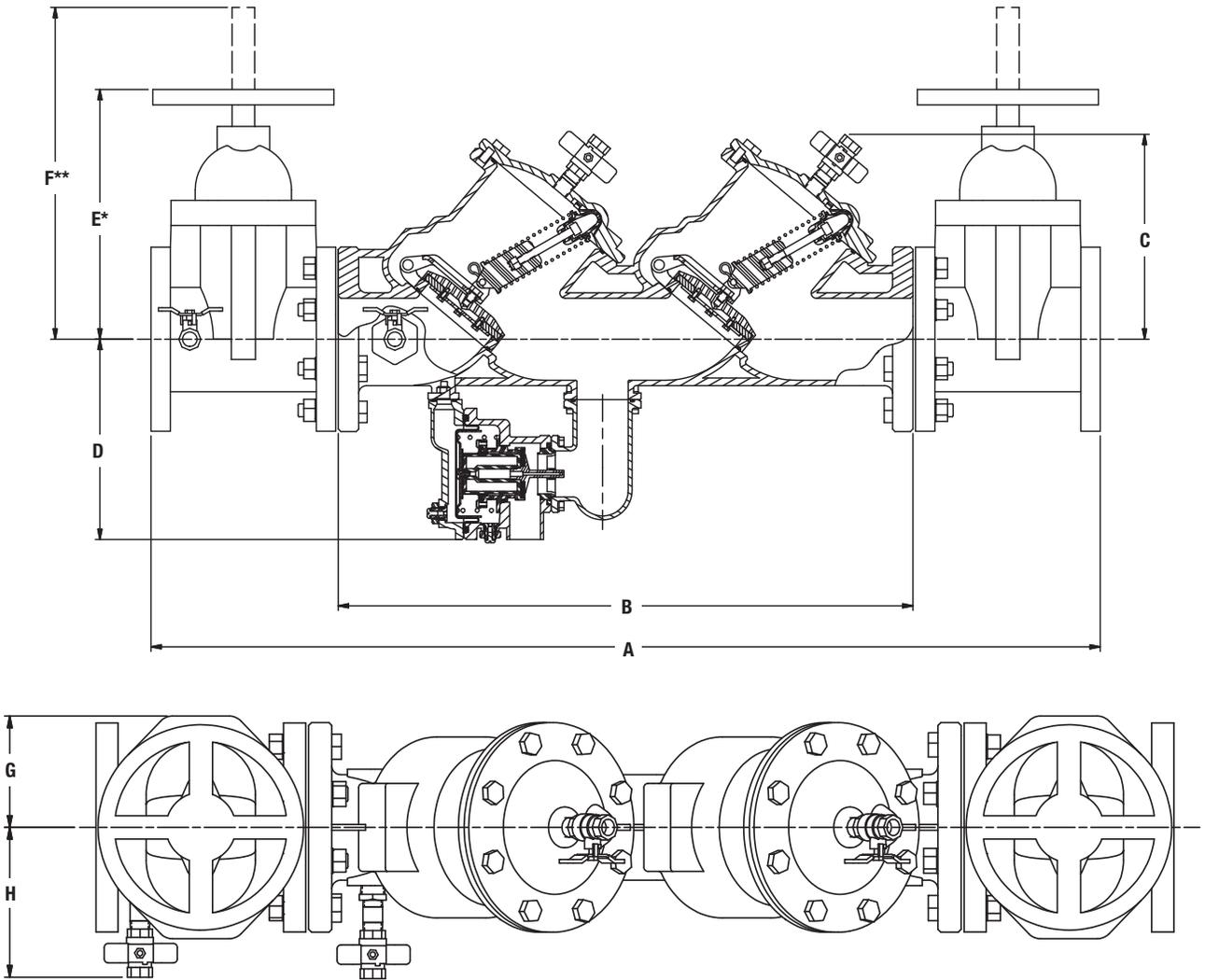
## Pressure - Temperature

Max. Working Pressure:	175 psi (12.1 bar)
Min. Working Pressure:	20 psi (1.4 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



## Dimensions & Weights

Below are the nominal dimensions and physical weights for the Series LF860 size 2½" 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	12⅝	321	16⅜	416	4½	114	7⅞	181	250	113	254	115
3	80	41⅞	1064	25⅝	651	10	254	10	254	12⅞	327	22¼	565	4½	114	7⅞	187	276	125	280	127
4	100	46¼	1175	28	711	10⅞	257	10⅞	257	14⅜	365	23¼	591	5½	140	8⅞	206	335	152	347	157
6	150	56	1422	34¾	883	12¾	324	11⅞	283	18⅞	479	30⅞	765	6½	165	9⅞	251	503	228	523	237
8	200	65	1651	41¾	1061	15⅝	397	12¼	311	23½	597	37¾	959	7	178	11⅞	283	807	366	835	379
10	250	72⅝	1845	46⅞	1178	15⅝	397	12⅝	314	27½	699	48	1219	9	229	12⅝	314	1205	547	1243	564

\* 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

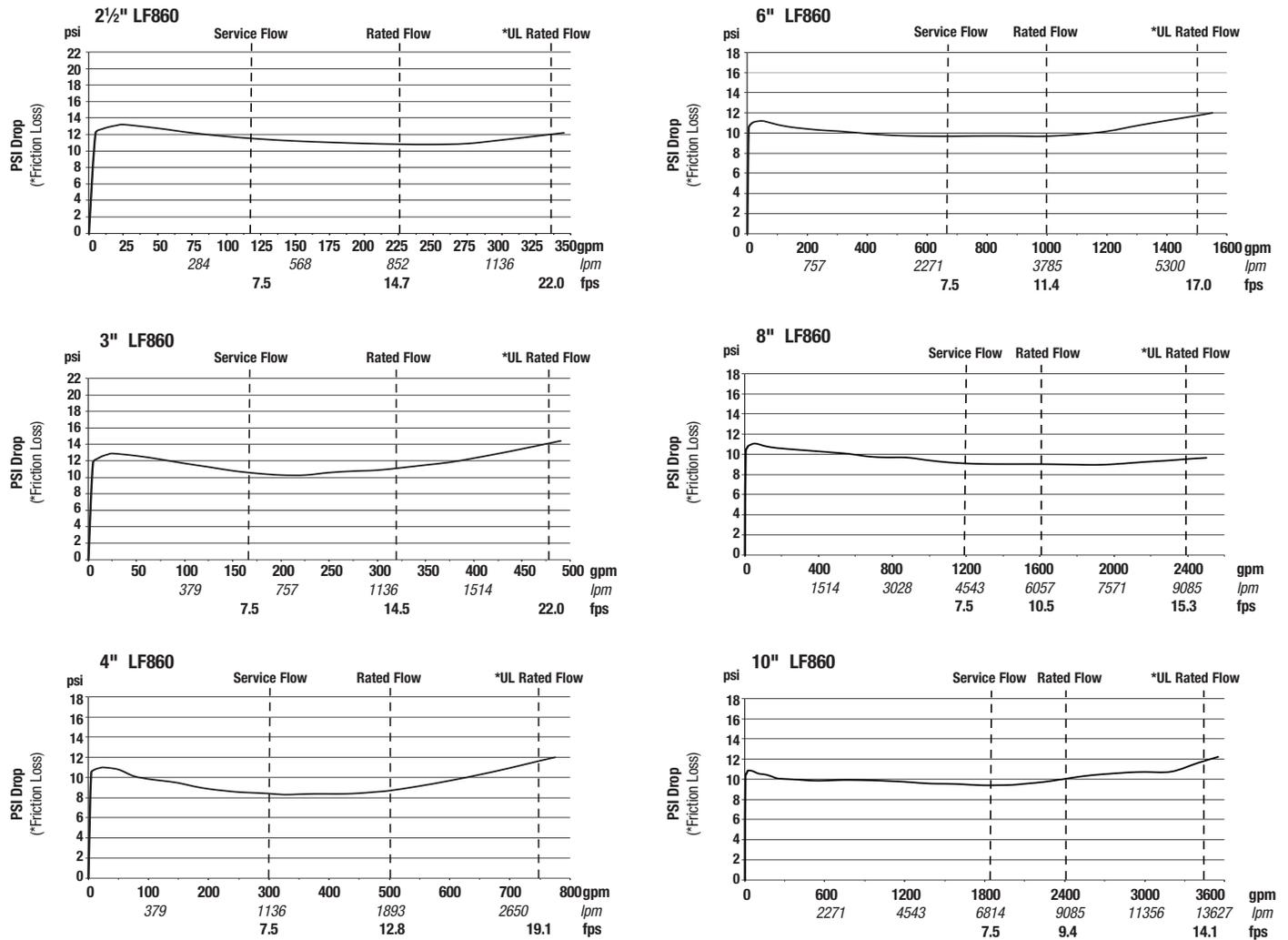
The gap drain is not designed to catch the maximum discharge possible from the relief valve. The installation of the FEBCO air gap with the drain line terminating above a floor drain will handle any normal discharge or nuisance spitting through the relief valve. However, floor drain size may need to 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.

## 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



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