

Engineering Specification

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

LEAD FREE*

Series LF850 Small Double Check Valve Assembly

½" – 2"

⚠ WARNING

Freeze sensor solely provides alerts about a possible freeze event and cannot prevent a freeze event from occurring. User action is required to prevent freeze conditions from causing product and/or property damage.

FEBCO Series LF850 Small Double Check Valve assemblies are designed for non-health hazard applications. This backflow preventer protects against polluted water entering the potable water supply due to backsiphonage and or backpressure. The series features Lead Free* construction to comply with Lead Free* installation requirements. The Lead Free* Double Check Valve assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content.

The series includes a freeze sensor that can indicate when temperature nears the freezing point. The sensor relays a signal that triggers notification to facility personnel to take preventive action, thus reducing or eliminating equipment replacement or repair.

NOTICE

An add-on connection kit is required to activate the freeze sensor. Without the connection kit, the sensor is a passive component that does not communicate with any other device. (For more information download RP/IS-F-850S.)

*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.



LF850-FZ

Features

- Constructed with Lead Free cast copper silicon alloy
- Standard assembly with ball valves
- Optional union ball valves
- Top-mounted test cocks
- Replaceable seats and seat discs
- Two in-line independent positive seating check modules
- Compact modular design facilitates maintenance with a single access cover for in-line repairs
- End connections NPT ANSI/ASME B1.20.1
- Tee handles, sizes ½" to 1"; lever handles, sizes 1¼" to 2"
- Sensor included to indicate temperature at freeze threshold when activated with add-on connection kit, compatible with building and irrigation management systems

NOTICE

Use of the freeze sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide protection against a freeze event.

Watts® is not responsible for the failure of alerts due to connectivity issues, power outages, or improper installation.

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.



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Specification

FEBCO LF850 Small Double Check Valve assembly backflow preventer shall consist of two independently operating, spring-loaded check valves. The pressure drop across the first check valve shall be approximately 1.0 psig with no flow. The pressure drop across the second check valve shall also be 1.0 psig with no flow. A complete assembly shall include two shutoff valves and four test cocks. End connections shall be NPT ANSI/ASME B1.20.1. The assembly shall be a Lead Free construction to comply with Lead Free installation requirements, and shall comply with state codes and standard, where applicable, requiring reduced lead content. The assembly shall be a FEBCO Series LF850 Small, and shall include a freeze sensor mounted to one of the test cocks.

Model/Option

FZ Freeze sensor
U Union ball valve

Materials

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

Pressure – Temperature

Max. Working Pressure: 175 psi (12.1 bar)
Hydrostatic Test Press: 350 psi (24.1 bar)
Temperature Range: 32°F to 140°F (0°C to 60°C)

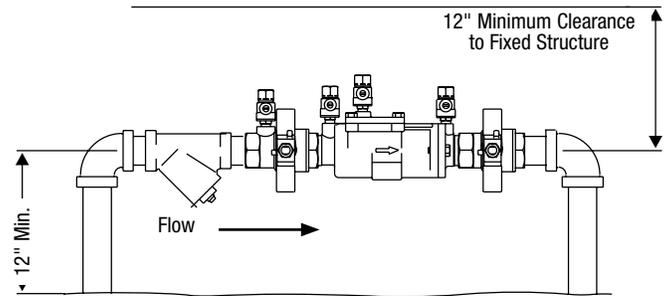
Approvals – Standards



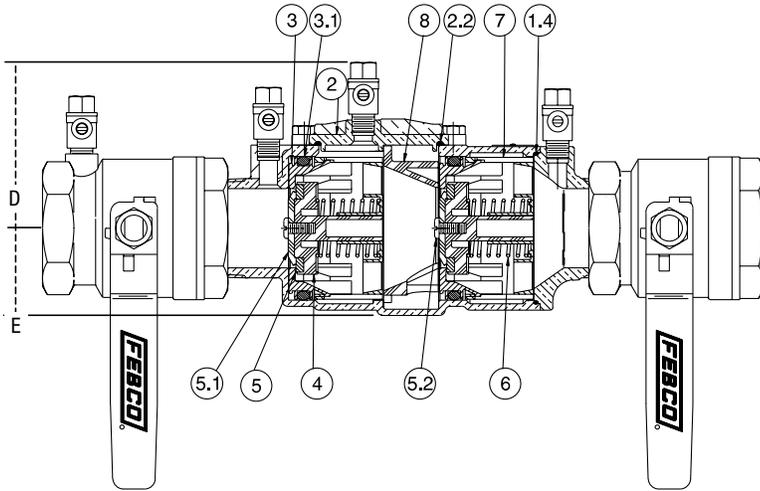
ANSI/AWWA Conformance (C510-92)

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
Option FZ not listed

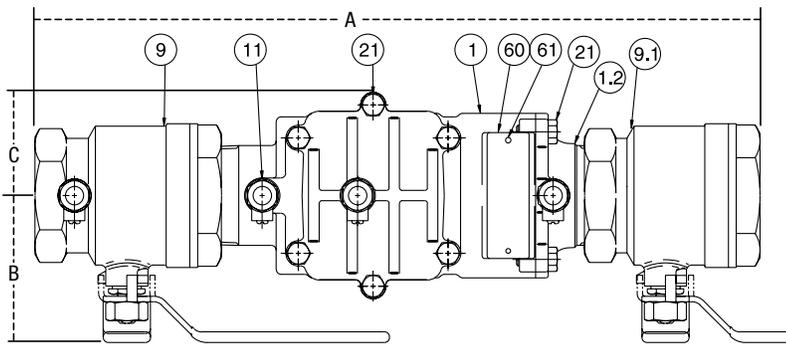
Typical Installation



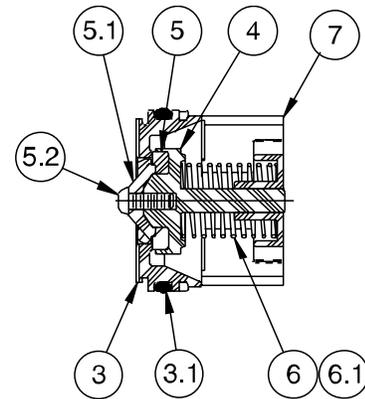
Valve Components



| Item | Description | Material |
|------|----------------------|--------------------------------------|
| 1 | Body | Lead Free* cast copper silicon alloy |
| 1.2 | Tailpiece | Lead Free* cast copper silicon alloy |
| 1.4 | O-ring | Silicone |
| 2 | Cover | Lead Free* cast copper silicon alloy |
| 2.2 | O-ring | Silicone |
| 3 | Seat | Noryl® |
| 3.1 | O-ring | Silicone |
| 4 | Poppet | Noryl |
| 5 | Seat Disc | Silicone |
| 5.1 | Disc Retainer | Noryl |
| 5.2 | Rnd HD Screw | Stainless steel |
| 6 | Spring | Stainless steel |
| 7 | Guide | Noryl |
| 8 | Retainer Spacer | Noryl |
| 9 | Ball Valve (w/tap) | Lead Free* cast copper silicon alloy |
| 9.1 | Ball Valve | Lead Free* cast copper silicon alloy |
| 11 | Test Cock | Lead Free* cast copper silicon alloy |
| 21 | Hex HD Capscrew | Stainless steel |
| 60 | Identification Plate | Brass |
| 61 | Drive Screw Stick | Stainless steel |



Check Assembly



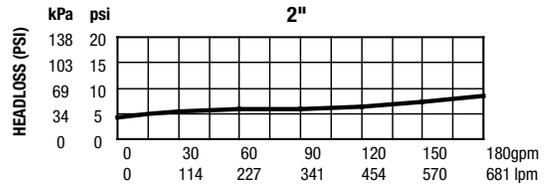
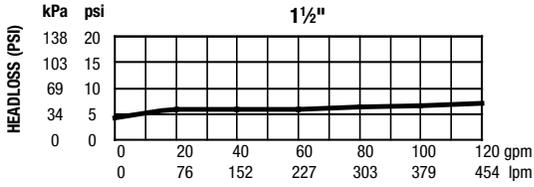
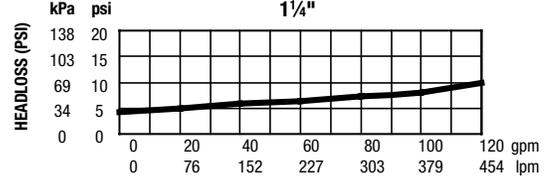
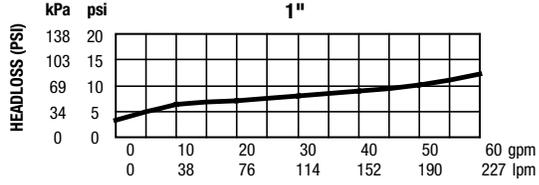
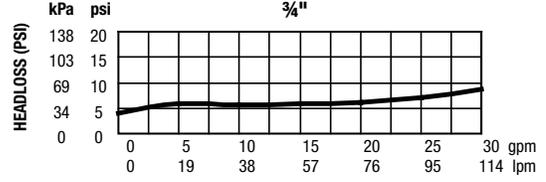
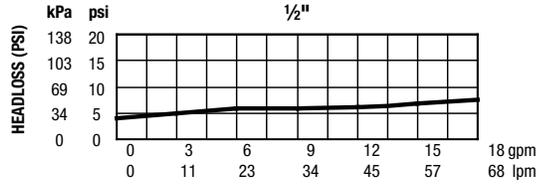
Dimensions and Weights

Call customer service if you need assistance with technical details.

| SIZE | DIMENSIONS | | | | | | | | | | WEIGHT | | |
|------|------------|-----|-----|-----|----|-----|----|-----|-----|-----|--------|------|-----|
| | A | | B | | C | | D | | E | | lb | kg | |
| in. | mm | in. | mm. | in. | mm | in. | mm | in. | mm | in. | mm | | |
| ½ | 15 | 10 | 254 | 1½ | 38 | 1½ | 38 | 3/8 | 79 | 1¼ | 32 | 4.2 | 1.9 |
| ¾ | 20 | 10¾ | 273 | 1½ | 38 | 1½ | 38 | 3/8 | 79 | 1¼ | 32 | 4.4 | 2.0 |
| 1 | 25 | 12½ | 318 | 1⅞ | 48 | 1⅝ | 41 | 3/8 | 86 | 1½ | 38 | 6.8 | 3.1 |
| 1¼ | 32 | 15⅞ | 403 | 3 | 76 | 2½ | 64 | 4/8 | 108 | 2¼ | 57 | 15.8 | 7.2 |
| 1½ | 40 | 16⅞ | 416 | 3 | 76 | 2½ | 64 | 4/4 | 108 | 2¼ | 57 | 16.2 | 7.4 |
| 2 | 50 | 17⅞ | 450 | 3½ | 89 | 2½ | 64 | 4/4 | 108 | 2¼ | 57 | 21.1 | 9.6 |

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Capacity



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