

**INSTALLATION INSTRUCTIONS****Series 850, 856****Double Check Valve Assemblies  
Double Check Detector Assemblies**

Sizes: 2½" – 10" (65 – 250mm)

**MASTER  
series®****Installation Instructions**

1. Consult local codes for specific installation requirements and restrictions applicable to your area. It is recommended that system supply pressure be at least 20psi (133kPa).
2. These instructions apply to Series 850 (DC) and 856 (DCDA), sizes 2½" to 10" only (65 – 250mm). The valves may be installed only in the orientation/flow direction as shown. The gate valves may be rotated as permitted by the flange bolt pattern on vertical installations only.
3. The valve assembly must be installed where it is accessible for periodic testing and maintenance. Clearances shown in the installation views apply to exterior, interior and pit/vault installations and are only recommendations. These minimums do not apply to removable protective enclosures. Refer to local codes for actual requirements in your area.
4. PRIOR TO INSTALLING THE VALVE INTO THE LINE, FLUSH THE SUPPLY LINE OF ALL FOREIGN MATERIAL. Failure to flush the supply line may cause the check valves to become fouled and require disassembly and cleaning.
5. Lift the assembly by connecting lift hooks to the lift rings cast into the valve body. DO NOT LIFT THE ASSEMBLY BY CONNECTING TO THE GATE VALVE HANDWHEELS OR STEMS.
6. After installation SLOWLY fill the assembly with water and bleed air from the body using the # 3 and # 4 test cocks. Test the valve assembly to ensure correct operation.

**NOTE:** All assemblies are tested at the factory for proper operation and leakage. If the valve does not pass the field test, it is most likely due to a fouled check valve. This is not covered by the factory warranty. The valve cover(s) must be removed and the check seats inspected and cleaned. Any damage or improper operation caused by pipeline debris or improper installation/start-up is not included in the factory warranty.

In case of a possible warranty claim, contact your local supplier or FEBCO Representative. DO NOT REMOVE THE VALVE ASSEMBLY FROM THE PIPELINE.

7. The assembly must be protected from freezing and excessive pressure increases. Thermal expansion or water hammer can cause pressure increases. These excessive pressure situations must be eliminated to protect the valve and system from possible damage.

**Typical Installation**

Figure 1

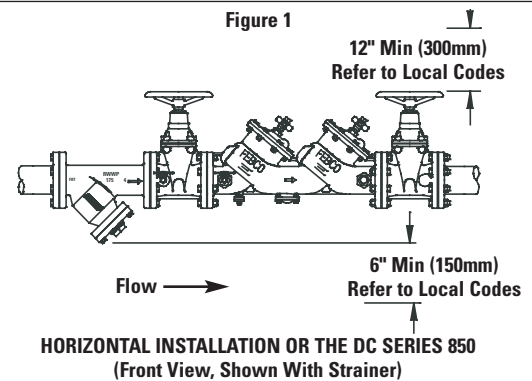


Figure 2

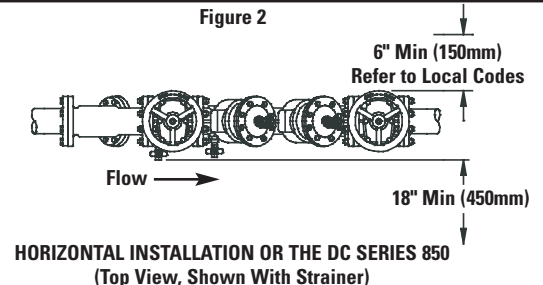
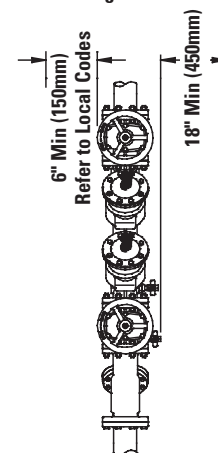


Figure 3



**VERTICAL INSTALLATION OR THE DC SERIES 850  
(Shown With Strainer)**

**FEBCO®**

# Servicing Check Valve Assemblies

## General

1. Detailed maintenance manuals are available from your local FEBCO representative.
2. Rinse all parts with clean water prior to reassembly.
3. DO NOT USE ANY PIPE DOPE, OIL, GREASE OR SOLVENT ON ANY PARTS unless instructed to do so.
4. Do not force parts. Parts should fit together freely. Excess force may cause damage and render the assembly inoperable.
5. Carefully inspect seals and seating surfaces for debris or damage.
6. After servicing, repressurize the assembly and test to ensure proper operation.

## Disassembling the Check Valve

1. Close the outlet shutoff valve, then close the inlet shutoff valve. Bleed residual pressure from the assembly by opening the #4, #3, and # 2 test cocks in this sequence.
2. Remove the cover bolts/nuts and lift the cover from the body. The springs are retained and the cover should be pushed away from the body approximately 1/4 inch.
3. Inspect/clean debris from the disc and seat ring. Replace worn or damaged parts as required.
4. Replace the cover, ensure the spring assembly is positioned in the pivot socket. If necessary, apply FDA approved grease to the O-ring groove in the body to keep the O-ring in position while installing the cover.
5. Install the bolts and nuts and tighten.

## Test Procedure

FEBCO recommends the use of the appropriate test method presented in the ASSE Series 5000 manual that is consistent with your local codes.

## Troubleshooting for Double Check Assemblies

PROBLEM	CAUSE	SOLUTION
1. Check valve leaking	a. Debris on seating surface b. Leaking shutoff valve.	Disassemble and clean Disassemble and clean
2. Low flows passing through	a. Mainline check fouled b. Bypass line plugged	Disassemble and clean Disassemble and clean

### CALIFORNIA PROPOSITION 65 WARNING

**WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning to be given to customers in the State of California.)

For more information: [www.watts.com/prop65](http://www.watts.com/prop65)

**Limited Warranty:** FEBCO warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge. This shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication or improper installation of the product. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** Any implied warranties that are imposed by law are limited in duration to one year.

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights that vary from State to State. You should consult applicable state laws to determine your rights.

