

PRODUCT DESCRIPTION

Model designation 830 is an inline, modular style double check valve assembly with integral butterfly style shut-off valves, lever or gear operated. The check valves open and close as required by the flow demand. The integral shut-off valves are slow-close indicating types with a handwheel. Only the 830H-4" with DynaTorque DT1 gear operators is UL Classified/FM Approved.

Model designation 831 is an inline, modular style double check detector assembly with gear operated integral butterfly style shut-off valves. This assembly includes a low flow ¾" bypass with a standard water meter and a FEBCO model 850F-3/4" DC. All flow up to approximately 3 1/2 GPM is through the bypass line. Greater flows are through both the main line and bypass line. The integral shut-off valves are slow-close indicating types with a handwheel. Only the 831H-4" with DT1 gear operators is UL Classified/FM Approved.

The butterfly disks in the fully open position are within the flange to flange valve length dimensions. The end flange connections conform to ANSI B16.1 Class 125, ANSI B16.5 Class 150, and ANSI B16.24 Class 150; schedule 40 steel pipe. Refer to the PRODUCT SPECIFICATION SHEETS for specific dimensions and weights.

INSTALLATION

Consult local codes for specific installation requirements and restrictions applicable to your area. It is recommended that system supply pressure be at least 20 psi.

These instructions apply to models 830H and 831H, size 4" only. The valves may be installed only in the orientation/flow directions shown. Valves are rated for indoor / outdoor use.

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.

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.

Lift the assembly by the valve body. **DO NOT LIFT THE ASSEMBLY BY CONNECTING TO THE VALVE HANDLES, STEMS, OR BYPASS PIPING.**

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, and 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.**

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.

Since bronze plumbing products contain detectable amounts of lead, the State of California requires all manufacturers to issue the following notice: **"WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm."**

GENERAL SERVICE PROCEDURE

Notify local authorities of service interruption prior to working on valve.

Close the outlet shut-off valve, and then close the inlet shut-off valve.

Bleed residual pressure from the assembly by opening the #4, #3, and # 2 test cocks in this sequence.

Detailed maintenance manuals are available from your local Febco representative.

Rinse all parts with clean water prior to reassembly.

DO NOT USE ANY PIPE DOPE, OIL, GREASE OR SOLVENT ON ANY PARTS unless instructed to do so.

Do not force parts. Parts should fit together freely. Excess force may cause damage and render the assembly inoperable.

Carefully inspect seals and seating surfaces for debris or damage. After servicing, repressurize the assembly and test to ensure proper operation.

CHECK VALVE DISASSEMBLY

Remove the cover bolts and cover from the valve. Remove the spacer between the checks by grabbing the flanged end of the spacer and pulling straight up.

Remove the inlet check assembly by pulling it out from the body bore in the direction of flow.

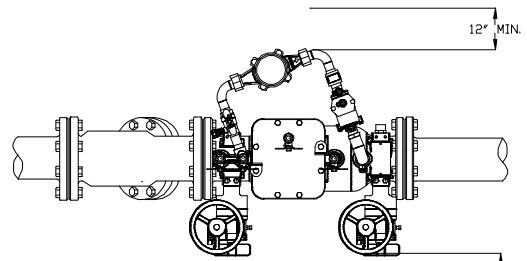
Remove the outlet check assembly by placing the tip of a medium sized flat nose screw driver in the slot of the seat and prying the check assembly back until the o-ring is exposed. Then, using your fingers, pull it out from the body bore until it is completely exposed. Lift it from the body.

Both check assemblies are disassembled and reassembled in the same manner. Refer to the Febco maintenance manual for detailed assembly instructions. **CAUTION:** Check assemblies are spring loaded.

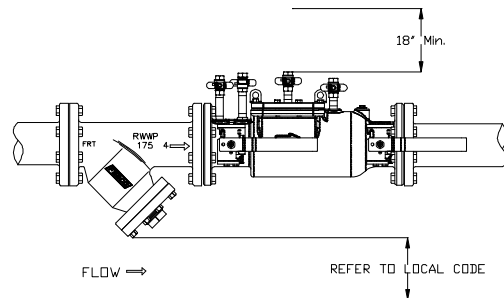
Inspect for debris, damage or fouling of the seat disc. Clean and/or replace parts as required.

Reassemble the valve in the reverse order of disassembly.

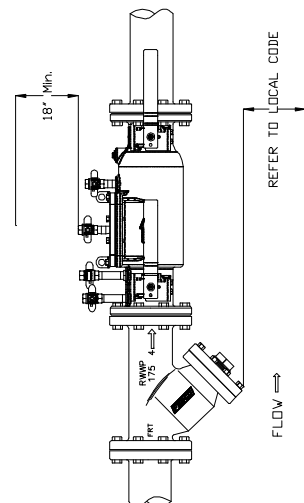
<u>Problem</u>	<u>Trouble Shooting Guide Cause</u>	<u>Solution</u>
Check valve leaking	a) Debris on seating area. b) Leaking shut-off valve.	Disassemble and clean.
Low flows passing through mainline valve.	a) Mainline check fouled. b) Bypass line plugged.	Disassemble and clean.



HORIZ. INSTALLATION OF THE DCDA MODEL 831H TOP VIEW, (SHOWN WITH STRAINER) (UL CLASSIFIED / FM APPROVED ASSEMBLY)



HORIZ. INSTALLATION OF THE DC MODEL 830H (SHOWN WITH STRAINER)

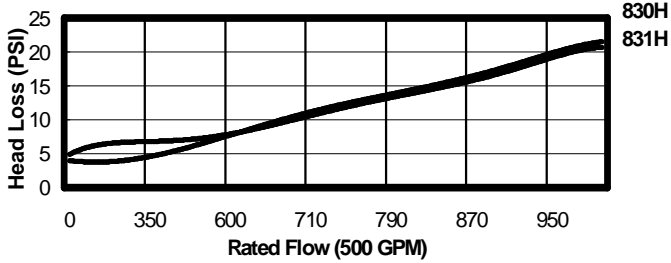


VERTICAL UP INSTALLATION OF THE DC MODEL 830H (SHOWN WITH STRAINER)

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980105	B	CMJ	1/17/03		2/06/03	1 of 2

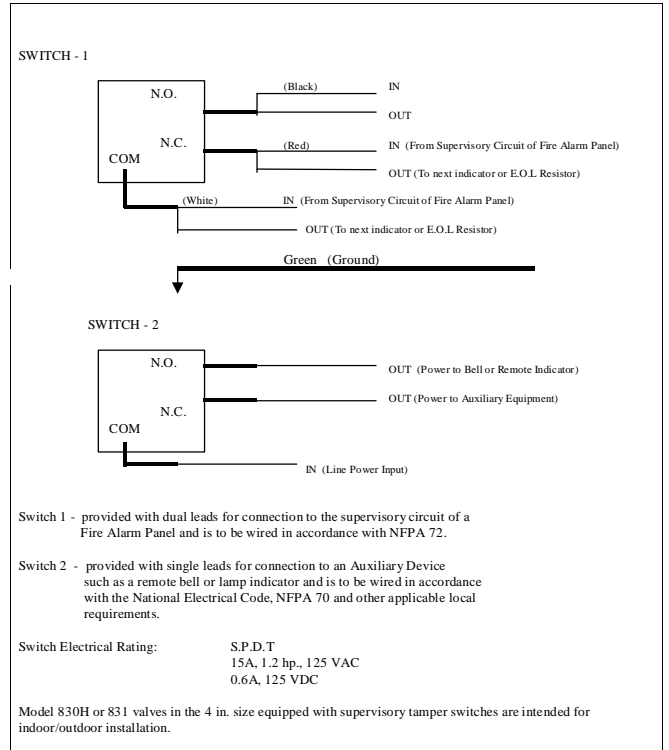
FLOW CURVES

4"



Rated Pressure – 175 PSIG
Rated Flow – 500 GPM

THE FOLLOWING IS THE WIRING DIAGRAM FOR THE DYNATORQUE DT1. GROUND WIRE (GREEN) IS ANCHORED TO SWITCH PLATE.



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