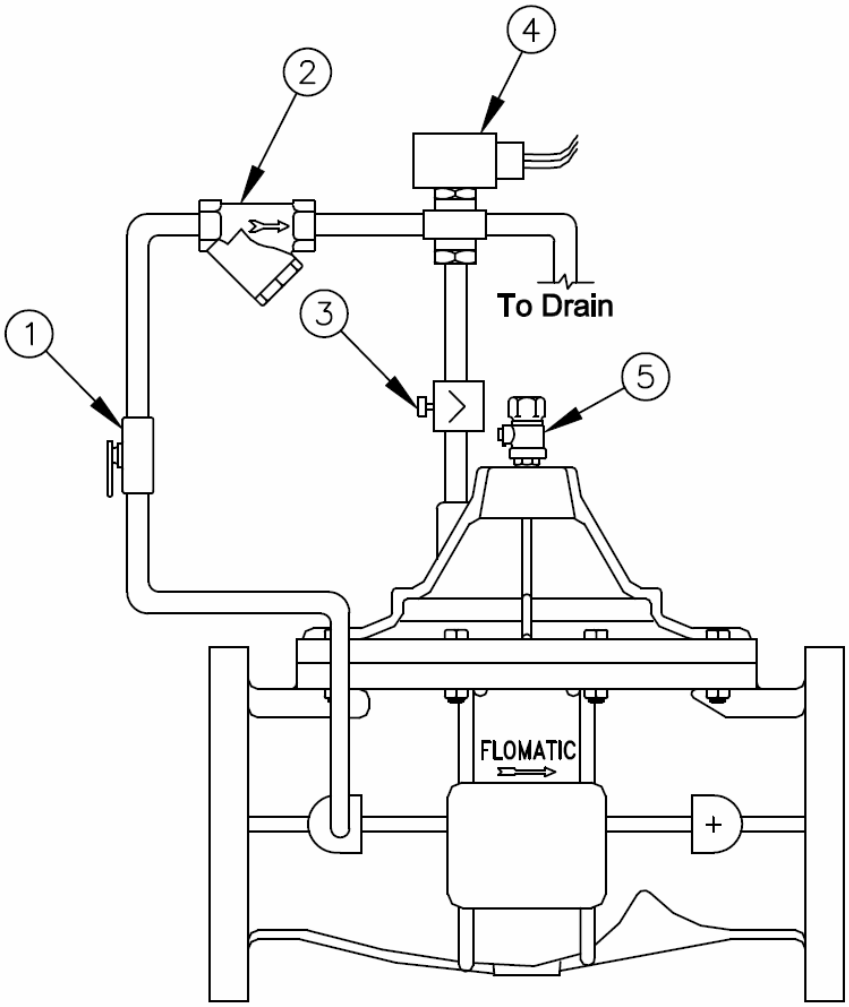
Operation & Maintenance Manual

Place this manual with the valve or person responsible for maintenance of the valve

Part List

1. Isolation Valve
2. Y-Strainer
3. Needle Valve
4. Solenoid Valve
5. Air Bleeder



Model C/CA/CF/CFA 801 & 802 Solenoid Control Valve (On/Off Non-throttling)

YOUR PRODUCT INFORMATION:

Model Number: _____

Date: _____

Serial Number: _____

Valve Size: _____

Solenoid: _____ ***volts***

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REV: 3

SOLENOID CONTROL VALVE (ON/OFF NON-THROTTLING)

The Model 801 Normally closed Solenoid Control Valve opens full when the three-way solenoid control is energized and closes drip tight when de-energized.

The Model 802 Normally open Solenoid Control Valve opens full when the three-way solenoid control is de-energized and closes drip tight when energized.

The solenoid pilot valve introduces control water to the diaphragm chamber of the main valve for closure and exhausts control water from the diaphragm chamber to open the valve. The control fluid is usually water from the pipeline, however a separate source of higher pressure may be used when desired.

SHIPMENT:

When shipped, controls are usually mounted on the main valve. If control subassemblies are shipped separately, all connections are tagged to insure correct assembly.

INSTALLATION:

1. Flush the pipeline before inserting the valve.
2. **Exercise caution to prevent dirt/debris from entering valve and control piping.**
3. Install the valve with the "arrow" on body pointing in the direction of flow.
4. Attach sub-assemblies to main valve if necessary.
5. Allow enough clearance above valve for removal of diaphragm assembly.
6. Wire solenoid valve to control system.
7. Pipe solenoid exhaust to drain. When main valve opens the water from the top cover of the diaphragm will be released for the solenoid exhaust.

START-UP:

1. Install pressure gauges to inlet and outlet (optional).
2. Open the isolation valve on the control assembly.
3. Open 1/4" air bleeder at the top of the main valve.
4. Open main line shut-off valve (usually a gate or butterfly valve) on the outlet side of the main valve about 1/4 open.
5. Slowly open main line shut-off valve on the inlet side.
6. Close ¼" air bleeder when **all air has been removed** from valve cover.
7. Slowly open the main line shut-off valve on the outlet side the remainder of the way.

OPERATION:

The Model C/CA/CF/CFA 801 normally closed Solenoid Control Valve opens full when the solenoid control is energized and closes drip tight when de-energized.

The Model C/CA/CF/CFA 802 normally open Solenoid Control Valve opens full when the three-way solenoid control is de-energized and closes drip tight when energized.

When the solenoid valve is energized (C801) or de-energized (C802), it will allow for the water on top of the main valve diaphragm to be released through the exhaust port on the solenoid valve. This will open the main valve fully and allow water to flow through the main valve body.

When the solenoid valve is de-energized (C801) or energized (C802) the exhaust port of the solenoid will close and the upstream water pressure will be directed to the top cover of the main valve supplying pressure to the diaphragm thus closing the main valve drip tight.

TROUBLE SHOOTING GUIDE

A. PROBLEM : Valve opens and will not close.	
CAUSE	CORRECTION
1. Main valve is air bound.	1. Open 1/4" air bleeder at the top of valve to release air.
2. Isolation valve on control tubing is closed.	2. Open isolation valve.
3. Indicator stuffing box or sight glass is leaking (if equipped).	3. Tighten packing nut or replace packing seals.
4. Fouled needle valve.	4. Open needle valve several turns (counter clockwise) to flush seat, & after 4 or 5 seconds return to original setting.
5. Fouled Y-strainer.	5. Disassemble, clean or replace screen.
6. Ruptured diaphragm in main valve.	6. Disassemble and replace diaphragm.
7. Sticks or stones lodged under seat of main valve.	7. Disassemble and remove. Replace damaged parts.
8. Worn seat packing and/or seat ring in main valve.	8. Disassemble and replace damaged parts.
9. Leakage from one or more fittings in the controls.	9. Tighten or replace fitting.
10. Damaged O-ring stem seal.	10. Disassemble and replace O-ring.
11. Solenoid valve not working properly.	11. Check solenoid valve/control system. Confirm differential pressure does not exceed rating of solenoid valve.
12. Insufficient upstream line pressure.	12. Investigate cause of decreased system pressure.
B. PROBLEM: Valve is closed and will not open.	
1. Solenoid valve not working properly.	1. Check solenoid valve/control system. Confirm differential pressure does not exceed rating of solenoid valve.
2. Solenoid exhaust plugged.	2. Clear obstruction from solenoid exhaust.

Test To Isolate Source Of Problem
(After visual inspection of external leaks)

1. With the main line gate valves open and the control valve pressurized, force the main valve closed by closing the solenoid valve with the control system. THE MAIN VALVE SHOULD CLOSE.

If the valve remains fully open the source of the problem could be:
(A) fouled needle valve; (B) fouled Y-strainer; (C) control isolation valve at inlet is closed; (D) ruptured main valve diaphragm.

If the valve is partially closed the source of the problem could be:
(A) damaged main valve seat packing or seat ring; (B) debris under seat; (C) main valve is air-bound; (D) damaged stem O-ring.

If the valve closes fully, the source of the problem could be:
(A) partially fouled Y-strainer or needle valve.

2. With the main line gate valves open and the control valve pressurized, close the control isolation valve and open the air bleeder on the top cover to release water out of the power chamber above the diaphragm of the control valve. Water will flow from the air bleeder as the valve moves to the full open position.

If water continues to flow, the source of the problem could be:
(A) damaged main valve diaphragm or stem seal O-ring; (B) loose locknut.