

SINGER MODEL 106/206-A-Type 2

Altitude Valve, One Way Flow

Schematic A-0413C

Installation, Operating and Maintenance Instructions

DESCRIPTION:

Model 106/206-A-Type 2 controls water level in elevated tanks, stand pipes and storage reservoirs. The valve senses the hydrostatic head of the reservoir to close on high water level. When the reservoir level drops below the set point of the pilot valve, the valve opens to fill the reservoir.

This valve does not prevent reverse flow.

DESCRIPTION OF OPERATION:

When the bonnet (top of diaphragm) of Main Valve (1) is vented to atmosphere, the Main Valve opens fully. When the inlet pressure is directed to the bonnet, the Main Valve closes. Refer to 106/206-PG 'Description of Operation'.

Altitude Pilot (3) connects port 'K' to drain (port 'E') when the reservoir head is low. This vents the bonnet of Main Valve (1) and opens the Main Valve. When the reservoir head is high enough to overcome the spring force, Altitude Pilot (3) connects port 'K' to port 'X'. This connects the inlet pressure of Main Valve (1) to its bonnet and closes the Main Valve. Closing speed is determined by the setting of Closing Speed Control (4).

NOTE: This valve does not act as a check valve to prevent reverse flow.

INSTALLATION:

1. Refer to 106/206-PG 'Installation'.
2. Connect pilot sensing line (9) to reservoir as shown on schematic A-0413C. For best control, the sensing line should be connected directly to the reservoir. If this is inconvenient, it may be possible to connect to the pipe between the valve and the reservoir.
3. Connect pilot exhaust to drain. It is recommended that the pilot exhaust be connected in a manner that makes the flow visible. This helps in adjusting the pilot.

ADJUSTING PROCEDURE:

1. Open Isolating Valve (6) and pilot Isolating Valves (8) and (10).
2. Crack open the main line isolating valve on the system side of the valve to **PRESSURIZE THE VALVE SLOWLY**. Bleed air from the bonnet of the Main Valve. Use bleed valve on top of the Position Indicator.
3. When all air has been bled from the bonnet of the Main Valve, open main line isolating valves to allow the valve to fill the reservoir. Observe Altitude Gauge (5) and note the level where the Main Valve closes.
4. To increase reservoir level, turn adjusting nut of Altitude Pilot (3) clockwise. To decrease reservoir level, turn the adjusting nut counterclockwise.

SERVICE SUGGESTIONS:

In addition to service suggestions listed under individual components, following points should be considered:

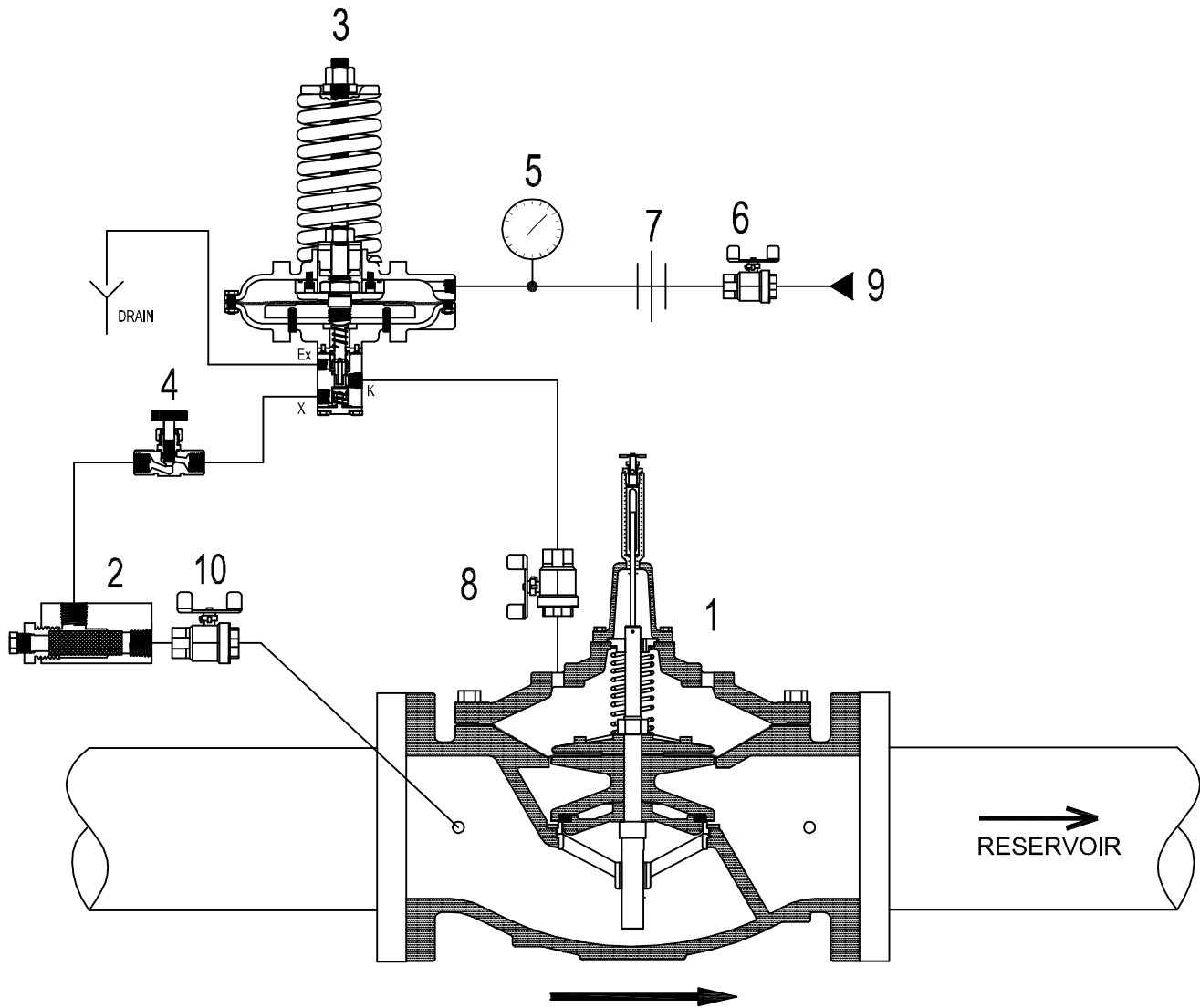
PROBLEM: Valve fails to close on high water level.

Possible Cause / Remedy

1. Pilot (3) set too high. / Lower setting. See 'Adjusting Procedure' above and Model 301-4 instructions.
2. Isolating Valve (8) or (10) closed. / Open valve.
3. Closing Speed Control (4) closed tight. / Open 1/2 turn or as required.
4. Pilot sensing (9) not connected or Isolating Valve (6) closed. / Check connection and make sure that sensing line isolating valve is open.

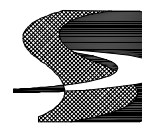
PROBLEM: Valve fails to open.

1. Pilot set too low. / Adjust as required. See 'Adjusting Procedure' above and 301-4 instructions.
2. Isolating Valves (10) or (6) closed. / Open valves.



1. Main Valve - Model 106/206-PG c/w X107 Position Indicator.
2. Strainer - 40 mesh - J0098A.
3. Altitude Pilot - Model 301-4.
4. Closing speed Control - Model 852-B.
5. Altitude Gauge.
6. Isolating Valve.
7. Union.
8. Isolating Valve.
9. CONNECTION TO RESERVOIR.
10. Isolating Valve.

One-Way Flow Altitude Valve.
Does not prevent reverse flow.



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Drawing:

A-0413C

Model 106 or 206-A-Type 2