SINGER VALVE
Result-Based Solutions. Globally.™

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MODEL 106/206-F-IV

Modulating Float Valve Schematic A0608D (Sizes 2-1/2" to 24" 106 / 4" to 36" 206)
Installation, Operating and Maintenance Instructions

DESCRIPTION:

Model 106/206-F-IV is a pilot operated modulating float valve. The Main Valve (106-PG OR 206-PG with Internal Needle Stem Valve) is installed in the supply line to the reservoir. The Float Pilot is installed above the reservoir and connected to the main valve by a pilot line. The Float Pilot (Robert 400R, Model 34 or Model 35) positions the Main Valve to keep the flow into the reservoir equal to flow out.

Unless otherwise specified, the valve is built for maximum temperature of 100ºF (40ºC).

DESCRIPTION OF OPERATION:

Main Valve (1) is normally open when pressure is applied to the valve inlet. When this same pressure is applied to the Main Valve bonnet, the Main Valve closes tight because the area of the diaphragm is greater than the seat area. Pressure above the diaphragm determines the position of the Main Valve - whether it is open, closed or in an intermediate position.

The bonnet pressure is controlled by the Float Pilot (5) and the Internal Needle Stem Valve (INSV) in the Main Valve.

Refer to INSV Drawing.

The INSV and the Float Pilot are designed to position the Main Valve in proportion to the reservoir level.

INSTALLATION:

Main Valve: See 106/206-PG "Installation".

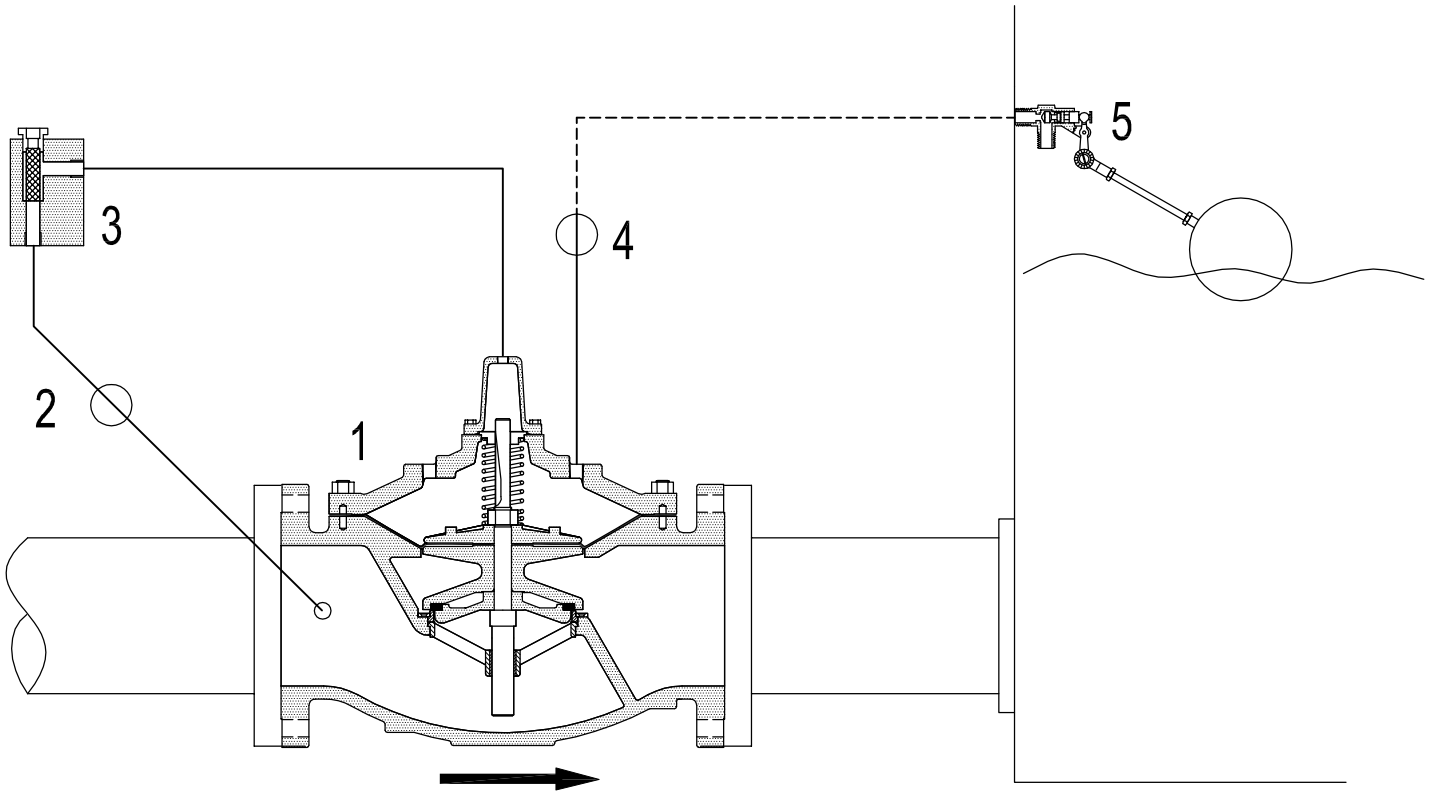
PILOT VALVE:

1. Check the end connection of the float pilot. Roberts R400 has a 3/8" MALE N.P.T. end connection, Model 35 has 1/4" FEMALE N.P.T. end and Model 34 has 1/2" FEMALE N.P.T. ends. Roberts R400 and Model 35 require a horizontal fitting about 4" above the water level. Model 34 has a vertical float rod. See drawing and description of the Float Pilot in this manual.
2. Install Float Pilot (5) in a convenient location. The float should be located in a place where the surface is relatively undisturbed since turbulence on the surface of the liquid can cause the Main Valve to pulsate and interfere with accurate control.
3. Connect Float Pilot (5) to the Main Valve as shown on Schematic A-0608D. Use 1/2" or larger copper tubing.
4. Check operation of float:

- Float must move in a vertical plane.
- Make sure that the float does not go close to or past vertical in its lowest position.

Pilot Piping: Use 1/2" I.D. copper up to 50 ft., 3/4" I.D. copper up to 100 ft.

A-0608D



1. Main Valve - Model 106/206-PG c/w INSV stem valve.
2. Isolating Valve.
3. Strainer - 40 mesh - J0098A.
4. Isolating Valve .
5. Float Pilot - Roberts R400.
   (Model 34 Float Pilot with vertical float rod OPTIONAL).

----- connected in field

Pilot Operated Modulating Float Valve .
(2 1/2" to 24" 106 / 4" to 36" 206).

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Drawn By:	Approved By:
Kari Oksanen	Kari Oksanen
Date:	Drawing:
March 23, 2005	A-0608D

Model 106 or 206-F-IV