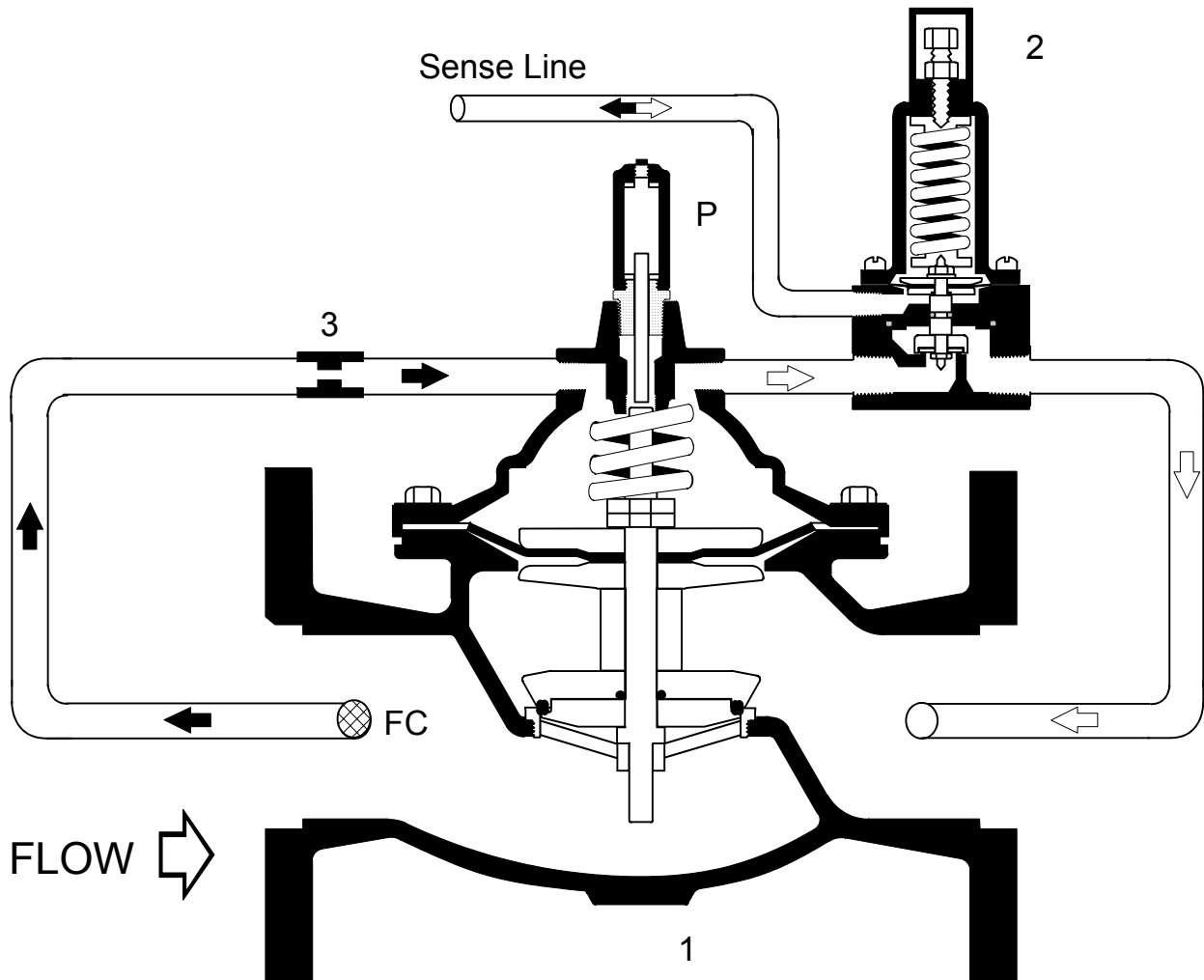


VALVE FUNCTION

- Maintain constant upstream pressure (inlet to valve) by relieving excess pressure based on a remote signal (adjustable).



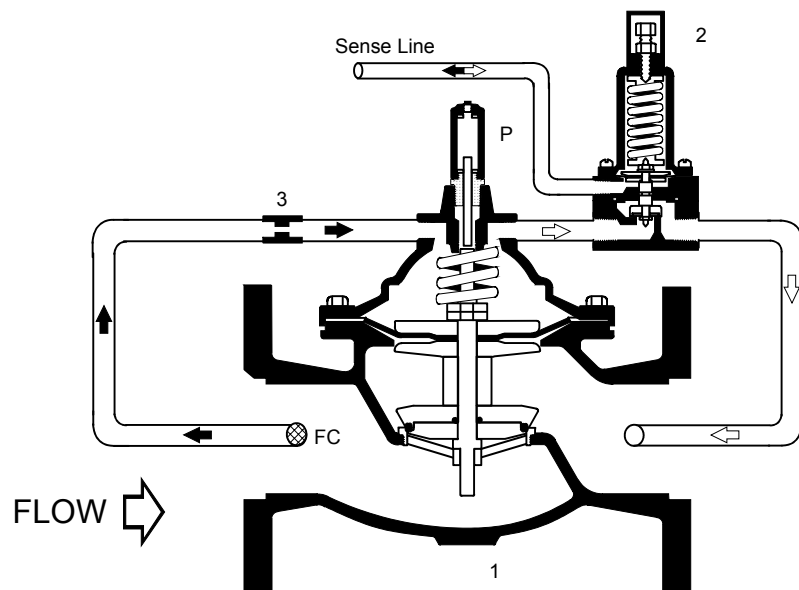
Flow Direction Shown: Under the Seat

COMPONENTS

- 1 - Main Valve
- 2 - PV20 Sustaining Control
- 3 - Fixed Orifice - Closing Speed Restriction
- P - Position Indicator
- FC - Flow Clean Strainer

VALVE DESCRIPTION

Installed in a by-pass line, mainline pressure is accurately controlled by relief of excess pressure. Installed in a mainline it prevents upstream pressure from dropping below a preset minimum.

**COMPONENTS**

- 1 - Main Valve
- 2 - PV20 Sustaining Control
- 3 - Fixed Orifice - Closing Speed Restriction
- P - Position Indicator
- FC - Flow Clean Strainer

FUNCTIONAL DESCRIPTION**PV20 Pressure Sustaining Function
(Remote Sensing)**

The pressure sustaining function is controlled by the PV20 control. The PV20 is a normally closed, adjustable control, set to maintain a remotely sensed minimum pressure. An increase in pressure above the control set point throttles the control open. The main valve modulates towards the open position.

If the control circuit is equipped with any additional hydraulic controls, these take control of the main valve while the PV20 is open.

When sensed pressure lowers to the PV20 set point, the control throttles towards closed, modulating the main valve towards the closed position. The minimum sensed pressure is maintained. The control closes when pressure is below the set point, closing the main valve.

Turning the adjustment screw clockwise (IN) increases, the minimum pressure, counterclockwise (OUT) decreases, the minimum pressure.

Fig. 50 Position Indicator Feature

An indicator stem is attached to the main valve stem for visual indication of the main valve position.

Strainers

The control circuit is equipped with a strainer to protect the control components from damaging debris. This may be a flow-clean, in-line, non-serviceable strainer or a y-strainer, externally mounted, which requires periodic clean out of screen.

QUICK SIZING

Valve size same as line. Consult Watts ACV representative for additional flow information.

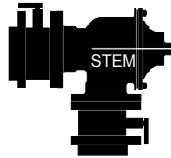
VERTICAL MOUNTING

Avoid mounting valves 6" and larger in a vertical discharge position or stem horizontal. Valves mounted in this orientation are subject to slower response under most hydraulic conditions, wear of the upper and lower stem guides, and are difficult to disassemble/assemble during maintenance.

Should your installation require this mounting position, consult the factory prior to purchase.

MAIN VALVE - DESCRIPTION

WATTS Automatic Control Valves are hydraulically operated, diaphragm actuated, pilot controlled, globe or angle valves of packless design. The stem assembly is the only moving part in the main valve and is guided top and bottom. Positive, drip-tight, closure is accomplished by a quad seal and non-edged seat. The basic valve is available in a wide range of materials, sizes, end connections, and options. For further information contact your ACV representative or WATTS ACV - 8550 HANSEN ROAD, HOUSTON, TX. 77075 - PHONE (713)943-0688 FAX (713)944-9445





INSTALLATION / START-UP

Start-up of an automatic control valve requires that proper procedures be followed. Time must be allowed for the valve to react to adjustments and the system to stabilize. The objective is to bring the valve into service in a controlled manner to protect the system from damaging over-pressure.

- Clear the line free of slag and other debris.
- Install the valve so that the FLOW ARROW marked on the valve body/tag corresponds to flow through the line.
- Close upstream and downstream isolation valves.
- Open ball valves or isolation cocks in the control tubing, if the main valve is so equipped. Failure to open these will prevent the valve from functioning properly.
- Install pressure gauge at a location upstream of valve.
- Connect Sustaining Control sense line to necessary pressure source.

STEP 1

Pre-set pilots as noted:

Pressure Sustaining - Turn Sustaining Control adjustment screw OUT, counterclockwise, backing pressure off the spring, to allow it to stay open during while adjusting the other controls.

STEP 2

Loosen a tube fitting or cover plug at the main valve to allow air to vent during start-up.

STEP 3

Pressure the line, opening the upstream isolation valve slowly. Air is vented through the loosened fitting. Tighten the fitting when liquid begins to vent.

SETTING THE SUSTAINING CONTROL

STEP 4

Slowly open downstream isolation valve to establish flow through the system.

STEP 5

Setting the Sustaining Control requires lowering the upstream pressure to the desired minimum sustained pressure.

STEP 6

Leave the downstream isolation valve full open and close the upstream isolation valve until the inlet pressure drops to the desired setting.

STEP 7

Adjust the Sustaining Control screw IN, clockwise, until the inlet pressure begins to increase, or OUT, counterclockwise, to decrease, stopping at the desired pressure.

STEP 8

Allow pressure to stabilize.

STEP 9

Fine-tune the sustaining setting as required as detailed in STEP 7.

STEP 10

Open upstream isolation valve to return to normal operation.