SINGER VALVE
Result-Based Solutions. Globally.™

12850-87th Avenue
Surrey, BC. Canada. V3W 3H9
Ph: 604-594-5404
Fx: 604-594-8845
www.singervalve.com

Model 106/206-EF-8837BX

EXCESS FLOW VALVE

Schematic A-8837BX

DESCRIPTION:

Model 106/206-EF-8837BX is normally open an adjustable amount. The valve senses the pressure drop across itself and closes when the pressure drop reaches a pre-set value (typically 5 psi). Once closed, the valve requires a minimum inlet pressure of 10 psi to remain closed until re-set by equalizing the pressure on both sides of the valve. Since the pressure drop on a partially open valve is related to the flow through the valve, the valve trips (closes) at a pre-determined flow.

DESCRIPTION OF OPERATION:

Main Valve (1) is held partially open by a spring under the diaphragm, a Stroke Limiting Screw and by the inlet pressure acting on the unbalanced area of the stem.

Normally Closed Pilot (3) senses the pressure differential between the inlet and the outlet of Main Valve (1). When this pressure differential reaches the set-point of Pilot (3), Pilot (3) opens. The inlet pressure of Main Valve (1) is connected to the bonnet of the Main Valve to close the valve. Closing is positive even with low inlet pressure because the underside of the diaphragm is at atmospheric pressure.

Check Valve (5) assures that the valve closes and remains closed in installations where the outlet pipe runs downhill. There will be continuous flow through Fixed Restriction (4A) to drain as long as Pilot (3) is open. This acts as an indication of tripping conditions and also makes the valve operation more predictable because the Main Valve closes at a positive flow through Pilot (3), not at a non-predictable leakage.

INSTALLATION:

See 106/206-PT-EF 'Installation'.

START-UP AND ADJUSTMENT:

To check operation of the valve and the flow at which the valve trips, a high flow must be generated and some means of measuring the flow must be available.

This valve closes fast. Observe inlet surge caused by valve closing. Closing surge is proportional to flow change. Start by closing from low flow. If closing surge is too high, install a Closing Speed Restrictor.

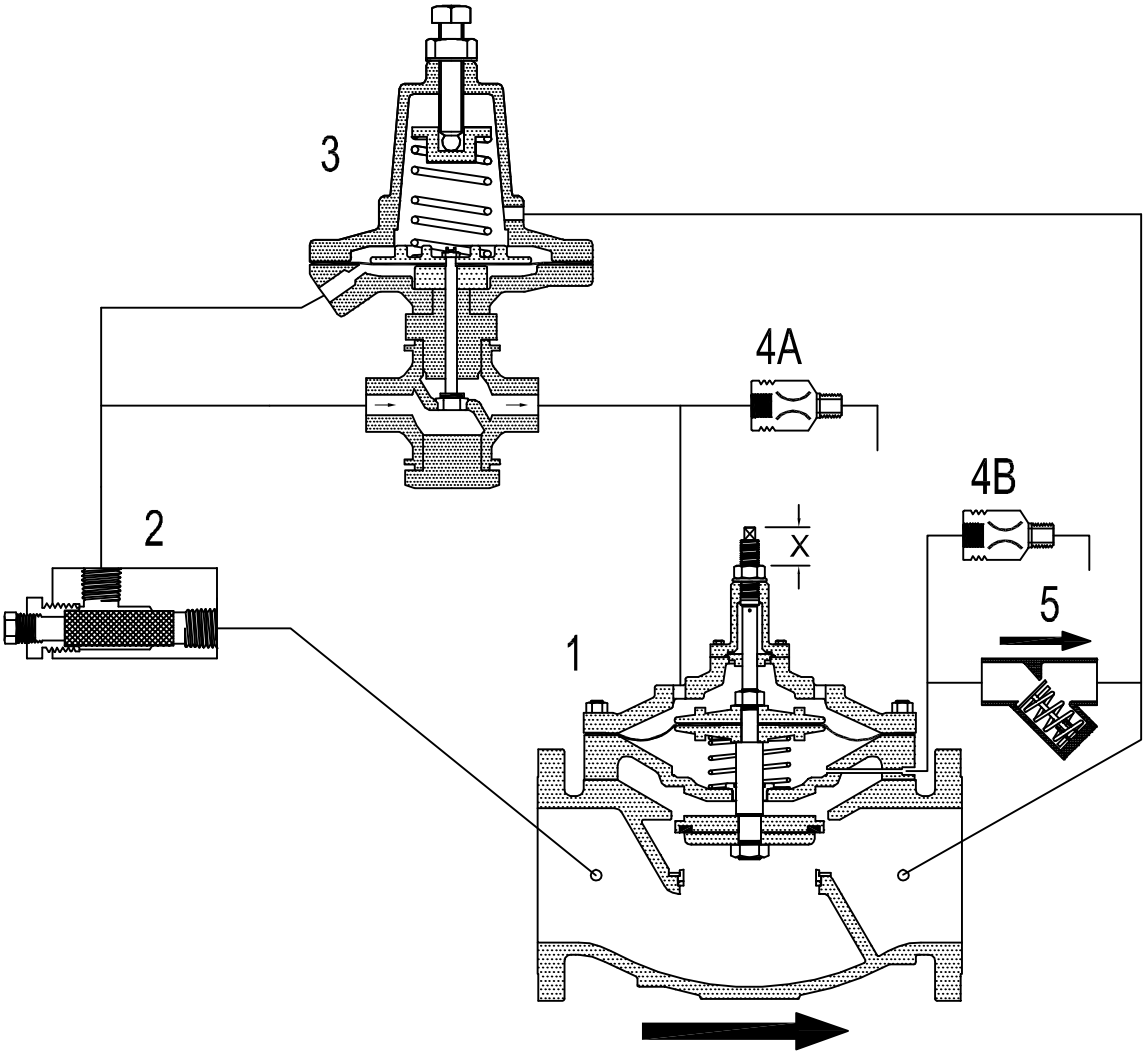
When the flow increases, the pressure drop on the Main Valve increases exponentially. When the pressure drop reaches the set point of Pilot (3), the Pilot opens. There will be flow to drain from Fixed Restriction (4) and the Main Valve will close.

Pilot (3) can be adjusted to trip at a pressure drop from 3 psi to 8 psi. Any attempt to set the pilot outside of this range will result in unreliable operation.

Important Safety Notice:

X102 Stroke Limiter is limited in the safe pressure drop that it can handle. **Make sure that under no circumstance will the pressure drop exceed the rating of the X102 Stroke Limiter.** This means that the X102 Stroke Limiter will not be used to close the valve past the point where the maximum pressure drop caused by the valve at maximum flow is higher than the rating of the X102 of that particular size.

A-8837BX



1. Main Valve - Model 106 or 206-PT-EF c/w X102 Stroke Limiter.
2. Strainer - J0098A.
3. Model 625-RPD Normally Closed Pilot.
4. Fixed Restriction - 1/16".
5. ASCO Model V0122 Check Valve.

Excess Flow Valve

SINGER VALVE
Result-Based Solutions. Globally.
www.singervalve.com 12850-87th Avenue. Surrey, B.C. V3W 3H9

Drawn By:	Approved By:
Kari Oksanen	
Date:	Drawing:
July 4, 2004	A-8837BX

Model 106 or 206-EF-8837BX

Rev 1: Main valve renamed PT-NO -> PT-EF, June 2009.