SINGER VALVE
Result-Based Solutions. Globally.

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SINGER MODEL 81-RPD

Differential Pressure Relief Pilot Schematic A0662C
Installation, Operating and Maintenance Instructions

DESCRIPTION:

Model 81-RPD senses differential pressure and opens when the pressure below the diaphragm exceeds the pressure above the diaphragm by an amount that is sufficient to overcome the spring force.

INSTALLATION:

1. Flush system of all foreign matter before installing the valve.
2. The valve can be installed in any position.
3. Check direction of flow and install the valve accordingly. Refer to enclosed schematic and check the arrow in the valve body.
4. Connect control tubing from the sensing connection of the valve to the point of control. Refer to enclosed schematic.

ADJUSTING PROCEDURE:

1. Loosen the locknut. Lift the thread seal to avoid damaging it.
2. Turn the adjusting screw clockwise for increased setting, counterclockwise for reduced setting.
3. Lock adjustment by tightening adjusting screw locknut.

DISASSEMBLY:

1. Turn Adjusting Screw (8) counterclockwise until Spring (7) is free.
2. Remove Body Capscrews (10).
3. Remove Seat Ring (3).
4. Resilient part of Inner Valve can be inspected once the Seat Ring has been removed.
5. To remove Inner Valve (4), use a ¾" socket (not impact socket) to prevent the Inner Valve from turning when removing Inner Valve Nut (13).

SERVICE SUGGESTIONS:

FAILS TO OPEN

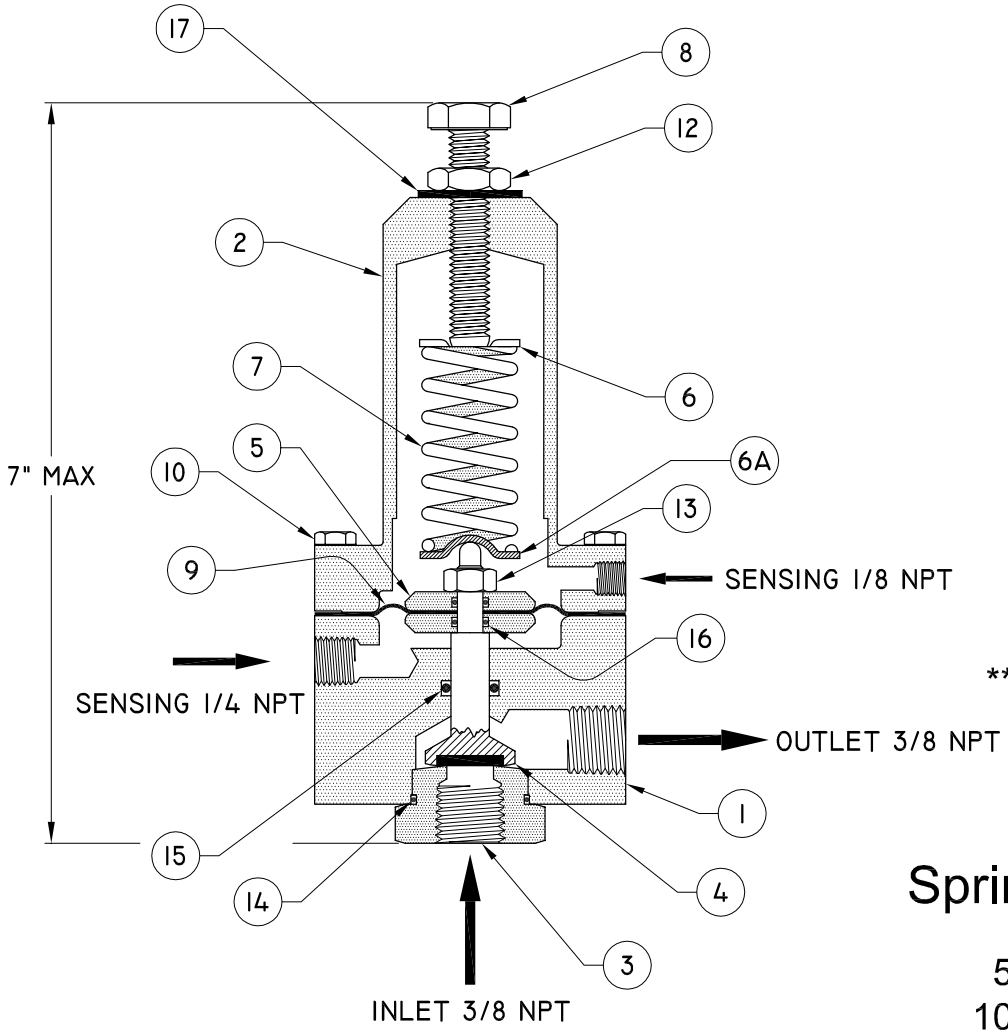
1. Spring overset.
2. Foreign material in valve.
3. Diaphragm ruptured.

FAILS TO CLOSE

1. Spring underset.
2. Foreign material in valve.

A0662C

Differential Pressure Relief Pilot



Item	Description	Material
1.	Body	Brass B-16
2.	Spring Casing	Brass B-16
3.	Seat Ring	Stainless Steel
4.	Inner Valve	Stainless Steel & Buna-N
5.	Clamp Plate (2)	Brass B-16
6.	Spring Step	Brass B-16
7.	Spring	Stainless Steel
8.	Adjusting Screw	Stainless Steel
9.	Diaphragm	Buna-N
10.	Body Capscrew	Stainless Steel
11.	Adjusting Screw Bearing	Stainless Steel
12.	Locknut	Stainless Steel
13.	Inner Valve Nut	Stainless Steel
14.	Seat Ring Seal	Buna-N
15.	Body Seal	Buna-N
16.	Clamp Plate Seal	Buna-N
17.	Thread Seal	Steel & Buna-N
** 18.	Spring Adapter	Brass B-16

Spring Ranges:

5 - 25 psid
10 - 80 psid
20 - 200 psid **
100 - 350 psid **

** Used in these spring ranges only.
Not shown in drawing.

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Date:	Drawing:
March 10, 1999	A0662C

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