

## **FLOVAL PHOENIX PRESSURE REDUCING**

### **1. INTRODUCTION**

The FLOVAL PHOENIX PRESSURE REDUCING VALVE INSTALLATION & OPERATING INSTRUCTIONS.

### **2. DESCRIPTION**

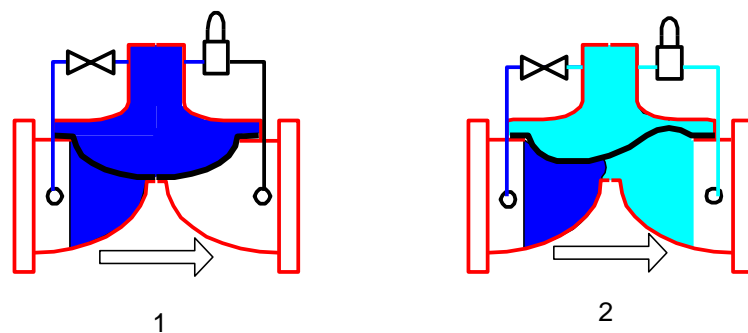
The Floval Phoenix Pressure Reducing valve with pilot continuously monitors the downstream pressure regardless fluctuations in the upstream pressure. When the downstream pressure drops below the pre-set pressure, the valve will partially open to restore the pressure. When the downstream pressure increases, the valve will partially close to restore the pre-set pressure.

### **3. PRESSURE REDUCING VALVE:**

#### **3.1 OPERATION PRINCIPAL**

The standard pressure reducing valve is fitted with the following:

- X Upstream to needle valve and valve control chamber.
- X Valve control chamber to pilot inlet port, pilot outlet port to downstream and pressure gauge



The Floval Pressure Reducing Valve operates as follows:

1. The downstream pressure exceeds the pre-set pressure: The pilot valve passages are closed and the main valve closes and the main valve closes.
2. The pilot valve controls the downstream pressure: Any increase in the downstream pressure will result in the partial closure of the pilot valve passages. This will create a corresponding pressure increase in the valve bonnet and the valve will close to reduce the downstream pressure.

Any decrease in the downstream pressure will result in the partial opening of the pilot valve passages. This will create a corresponding pressure decrease in the valve bonnet and the valve will open to increase the downstream pressure.

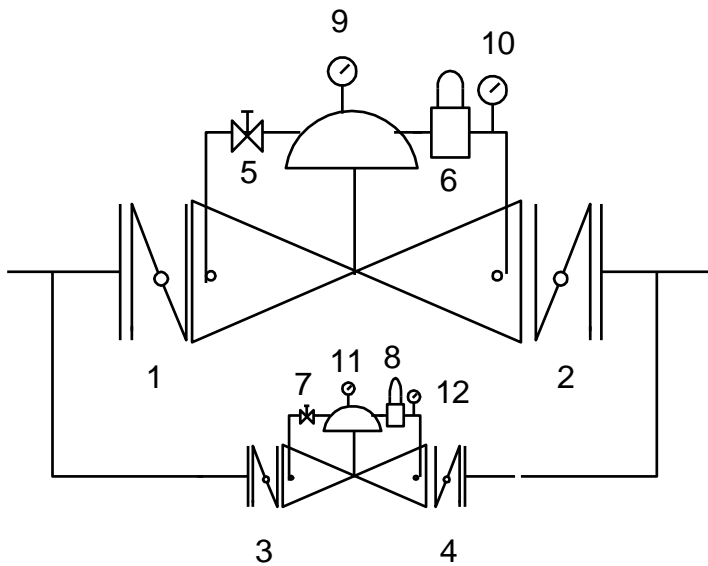
### 3.2 VALVE SETTING PROCEDURE

- X Needle valve: Fully closed and 1 – 1 ½ turns open.
- X Pilot valve: Clockwise adjustment will increase downstream pressure
- X Pressure adjustment: 1 – 10 Bar or 10 – 20 Bar

### 4. FAULT FINDING LIST:

SYMPTOM	PROBABLE CAUSE	REMEDY
VALVE WILL NOT OPEN:	1. DOWNSTREAM PRESSURE TO HIGH  2. PILOT LINES BLOCKED / DAMAGED / FROZEN	1.1 ADJUST PILOT CLOCKWISE 1.1 CHECK DOWNSTREAM PIPING SYSTEM (RING FEED) 2. CLEAN BLOCKAGE / REPAIR
VALVE WILL NOT REDUCE PRESSURE:	1. NEEDLE VALVE CLOSED 2. PILOT LINES BLOCKED / DAMAGED / FROZEN 3. PRESSURE REDUCING PILOT FAULTY 4. VALVE DIAPHRAGM BURST  5. ZERO FLOW DOWN STREAM  6. PILOT INSTALLED WRONG WAY	1. OPEN NEEDLE VALVE 1 - 1 1/2 TURNS 2. CLEAN BLOCKAGE / REPAIR 3. REPLACE PRESSURE REDUCING PILOT 4. REPLACE VALVE DIAPHRAGM 5. OPEN SYSTEM DOWNSTREAM VALVES 6. ARROW ON PILOT MUST SHOW AWAY FROM VALVE BONNET

Fault finding procedure as requested:



- Close 1,2,3,4
- Open 5,7 100%
- Screw 6 and 8 out until no tension on spring

Smaller valve

- Start on smaller valve and open 4 100%
- Open 3 slowly
- Gauge 11 should read 10 bar and gauge 12 zero or very low
- The valve should close (you will hear it is closed)
- Close 7 100% and open 1 ½ turns
- Screw pilot no 8 inward (clockwise)
- Valve will open
- Open 3 100%
- Adjust pilot 3 inward until downstream pressure required is restored.
- Close 3 and 4 again

Bigger valve

- Open 2 100%
- Open 1 slowly
- Gauge 10 should read 10 bar and gauge 9 zero or very low
- The valve should close (you will hear it is closed)
- Close 5 100% and open 1 ½ turns
- Screw pilot no 6 inward (clockwise)
- Valve will open
- Open 3 100%
- Adjust pilot 3 inward until downstream pressure is set at 0.5 Bar below smaller valve setting.

Open 4 and then 3 again.