



PRODUCT DESCRIPTION

Pressure reducing hydraulic control valves are hydraulic control valves which are used in irrigation networks and distribution lines for the purpose of reducing the high pressure to a lower pressure at the required value.

PROPERTIES

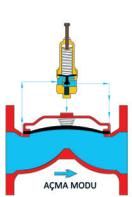
- 1- Pressure reducing hydraulic control valve could operate full-automatically with the line pressure without requiring any external power supply.
- 2- 2 way pressure reducing pilot valve used on the control valve could decrease the outlet pressure to the required pressure value without

3- Once the inlet pressure in the line reduces to an outlet pressure below the required value, the valve opens itself fully so as to operate at a minimum pressure loss

4- In the event that there is no water in the line, valve closes itself automatically.

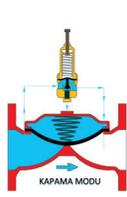
Pressure reducing hydraulic control valve could easily operate both in horizontal and vertical position in operation.

WORKING PRINCIPLE



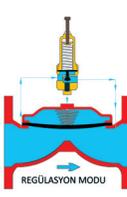
OPENING MODE

If the line pressure is less than the outlet pressure value being adjusted, 2 way pressure reducing pilot valve on the control valve discharges the pressurized water in the valve actuator by opening the discharge port fully and automatically and switches the main valve to full open position.



CLOSED MODE

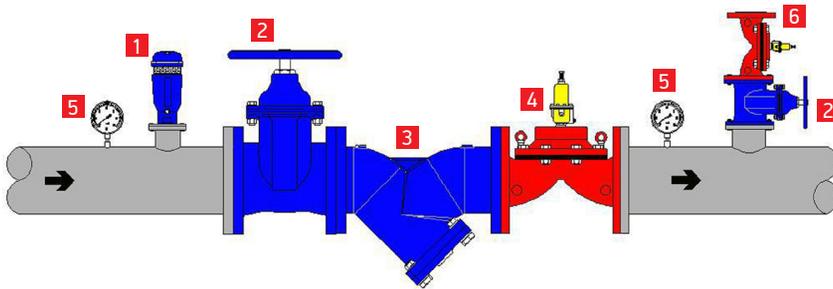
If the spring adjustment of 2 way pressure reducing pilot valve on the hydraulic control valve is in the fully unloaded position, pilot valve enables the pressurized water in the line to arrive at the valve actuator by means of closing the discharge port. Pressurized water arriving at the valve actuator closes the valve with a full-sealing by pushing the diaphragm of the valve with the help of the spring's force..



REGULATION MODE

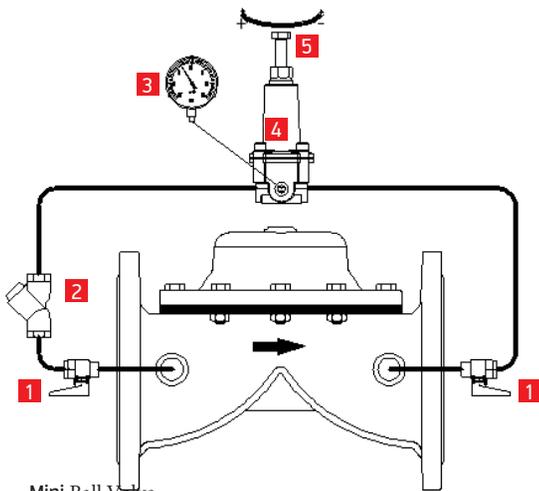
The diaphragm in the 2 way pilot valve operates sensitively to the outlet pressure of the valve. Owing to the adjusting bolt of the pilot valve, spring force determines the position of the valve diaphragm according to the desired outlet pressure. This adjustment could be made easily via a pressure gauge (manometer) on the 2 way pilot valve. Pilot valve, in itself, adjusts automatically the pressure difference between the high pressure and low pressure in the line and enables the main valve to operate in the regulation mode by reflecting that pressure difference to the actuator of the main valve.

SAMPLE MOUNTING AND APPLICATION SCHEME



- 1-Air Discharge Valve (Vacuum Lifter)
- 2-Isolation Valve (Gate Valve Butterfly Valve , etc.)
- 3-strainer Valve
- 4-Pressure Reducing Control Valve
- 5-Manometer
- 6-Pressure Relief Control Vave

APPLICATION SCHEME



1. Mini Ball Valve
2. Strainer
3. Manometre
4. Pressure reducing Pilot Valve
5. Pilot Adjusting Bolt

Install the valve according to the flow direction arrow on it.

For the sake of simplicity in case of service maintenance, it is recommended to mount isolation valves (gate, butterfly or ball etc. valves) to close the water in the inlet direction of the line.

For enabling the valve to operate efficiently, it is recommended a vacuum lifter to be placed before the valve.

To avoid frosting in the winter, discharge the water in the valve actuator into atmosphere.

The adjustment of the pressure reducing hydraulic control valve is made by means of adjusting bolt of pilot valve on the valve. If the pilot adjusting bolt is turned clockwise, outlet pressure increases. When turned counterclockwise, then, outlet pressure decreases.

Before starting the pressure adjustment on the valve, switch the mini ball valve at the exit of the valve to closed position. Manometer on the pilot valve will indicate a certain value. By means of adjusting bolt of pilot valve, adjust the desired outlet pressure value by looking at the manometer. In this position, main valve is closed. After the desired outlet pressure value is adjusted, switch the mini ball valve to open position.

To avoid cavitation, adjust outlet pressure value of the valve to 1/3 of maximum inlet pressure. (Please refer to cavitation table.) If the outlet pressure is desired to be set to a lower value, pressure should be reduced gradually by means of mounting 2 pressure reducing control valve in the line.

Outlet pressure value of the valve should be measured