The following is the relevant information about the YX741X adjustable pressure reducing and stabilizing valve:

Product Introduction

- **Structural Composition**: It is composed of a main valve, a needle-type regulating valve, a pilot valve, a ball valve, and a connecting pipe system. The main valve body adopts a full-channel, direct-flow, and streamlined design, and there are two types of structures: diaphragm type and piston type.
- **Working Principle**: When the pipeline supplies water from the inlet end, the water flows through the needle valve into the main valve control chamber, and the outlet pressure acts on the pilot valve through the conduit. When the outlet pressure is higher than the set value of the pilot valve, the pilot valve closes, and the control chamber stops draining. The pressure in the main valve control chamber increases and closes the main valve, and the outlet pressure no longer rises. When the outlet pressure drops to the set pressure of the pilot valve, the pilot valve opens, and the control chamber drains water to the downstream. Since the drainage volume of the pilot valve is greater than the water inflow of the needle valve, the pressure in the main valve control chamber decreases, and the inlet pressure makes the main valve open. In a stable state, the water inflow and drainage in the control chamber are the same, the opening degree remains unchanged, and the outlet pressure remains unchanged. The outlet pressure can be set by adjusting the spring of the pilot valve.
- **Function and Purpose**: It is mainly installed on the pipelines of high-rise buildings, fire protection water supply systems, and other water supply systems to reduce the high pressure upstream to the downstream working pressure that meets the requirements. It is widely used in industrial and mining enterprises, high-rise buildings, living areas, or fire protection water supply and drainage systems in occasions where dynamic pressure and static pressure need to be reduced, and can replace the intermediate water tank.

Typical Installation Schematic Diagram

- **Installation Position**: The best installation method for the main valve is to install it on a horizontal pipeline with the valve cover facing upward. When installing, pay attention to the water flow indication arrow outside the valve body and install it following the indicated direction.
- **Surrounding Facilities**: A gate valve and a filter should be installed before the valve, and a gate valve should also be installed after the valve for easy maintenance. The copper filter should be cleaned regularly.

Maintenance

- **Daily Maintenance**: Keep the valve clean to avoid the accumulation of impurities; check whether the connection parts are loose and tighten them in time; check whether the operating mechanism is flexible and eliminate any jamming phenomenon in time.
- **Regular Inspection**: Regularly inspect the valves that have been stored for a long time, remove the dirt, and apply anti-rust oil to the machined surfaces. The installed valves also need to be inspected regularly. Mainly check the wear condition of the sealing surface, the wear condition of the trapezoidal thread of the valve stem and

the valve stem nut, and whether the packing is aged and ineffective. If there is any damage, replace it in time. After the valve is overhauled and assembled, a sealing performance test should be carried out.

Troubleshooting

- **Inaccurate pressure control**: It may be that the spring of the pilot valve is damaged or the opening degree of the needle valve is set improperly. It is necessary to replace the spring of the pilot valve or readjust the opening degree of the needle valve; it may also be that the main valve is not tightly sealed and there is a leakage phenomenon. It is necessary to check the sealing surface of the main valve and repair or replace it if it is damaged.
- **The valve cannot be opened or closed**: It may be that the control pipeline is blocked, and it is necessary to clean the control pipeline; it may also be a fault of the pilot valve, such as the pilot valve core being stuck or the electromagnetic coil of the pilot valve being damaged, and it is necessary to repair or replace the pilot valve; it may also be that the main valve core is stuck, and it is necessary to disassemble the main valve for inspection and cleaning.
- **Valve leakage**: It may be that the sealing surface is damaged, and it is necessary to repair or replace the sealing surface; it may also be that there is leakage at the stuffing box, and it is necessary to replace the packing; it may also be that the connection parts of the valve are loose, and it is necessary to tighten the connection bolts.

Performance Characteristics

- **Stable and reliable pressure control**: The pilot valve and the main valve work continuously, and the downstream pressure changes continuously and smoothly, with little influence from the inlet pressure.
- **Convenient operation**: After the working pressure is set, when the upstream pressure or flow rate changes, the main valve automatically adjusts to stabilize the downstream pressure.
- **Small hydraulic loss**: The valve adopts a full-channel, direct-flow, and streamlined design, with good energy-saving effect.
- **System stability**: It has smooth operation, high strength, and a long service life. The control system of the valve is equipped with a self-cleaning filter at the inlet to ensure the smooth circulation of the system and the safe and reliable operation.
- **Simple maintenance**: It uses the needle-type regulating valve and the pilot valve for self-control of the water pressure, without the need for additional devices and energy, and the maintenance is simple.


DN65
16
CF8
BALL VALVES