The following is the relevant information about the Y416 adjustable pressure reducing valve and the Y43X proportional pressure reducing valve:

Y416 Adjustable Pressure Reducing Valve

- **Product Introduction**: The Y416 adjustable pressure reducing valve adopts a post-valve pressure feedback mechanism and is composed of a main valve and its attached conduits, pilot valves, needle valves, ball valves, pressure gauges, etc. It relies on its own energy to keep the outlet pressure stable at the set value, that is, the outlet pressure will not change due to the changes in the inlet pressure and flow rate. It is suitable for the water supply of equipment systems with small calibers and small flow rates, with a maximum caliber of DN150. It can be applied to the hot and cold water supply systems of high-rise buildings, the water supply systems of pressure tanks and variable frequency pumps. It can also be applied to other pressure-reducing occasions in industrial production, such as compressed air, steam, oil products, etc. after replacing some parts.
- **Typical Installation Schematic Diagram**:
    - It can be installed vertically or horizontally. Pay attention to the water inlet direction and do not reverse it.
    - A filter should be installed in front of the valve, and a stop valve or a soft-sealing gate valve should be set, generally in front of the filter for easy maintenance and water source cutoff. To ensure normal maintenance and uninterrupted water supply, parallel installation can be adopted. In this case, stop valves should be set before and after the pressure reducing valve.
    - If pressure gauges are installed before and after the valve, the distance between the pressure gauge and the inlet or outlet end of the pressure reducing valve should be more than 5DN. A flexible joint can be set at the outlet end for easy installation and maintenance.
- **Maintenance**:
    - Do not drop or hit the valve forcefully during transportation and installation. Since there are rubber materials inside, it should be kept away from hot environments to prevent the rubber from aging prematurely.
    - If it is found that the pressure reducing valve does not reduce the static pressure, the stop valve in front of the valve can be opened and closed several times continuously to flush the throttling port. If it is ineffective, check whether the diaphragm, sealing gasket and "O" ring are damaged.
    - When installed in a pipeline system that is not frequently used, the water pressure test should be carried out once every three months.
- **Troubleshooting**:
    - **No pressure reduction**: First, check whether the valve is leaking. If the pressure during the pressure test is too high, it may damage the rubber film (diaphragm) in the valve cavity. If there is no leakage, loosen the screw on the top of the valve to the bottom, and then debug it again after the pipeline is supplied with water. If it still doesn't work, consider the water quality problem. For example, the water transported in the pipeline should be clean water (tap water), and poor water quality may also affect the pressure reduction effect.

- **Performance Characteristics**:
    - It is a self-operated normally open type, and the post-valve pressure can be adjusted on-site.
    - It has a large flow rate, is suitable for installation at any angle, has an internal feedback control mechanism, and is convenient for maintenance.
    - It can reduce both dynamic pressure and static pressure, has reliable sealing performance and a long service life.

Y43X Proportional Pressure Reducing Valve

- **Product Introduction**: It is mainly composed of parts such as the valve body, inlet flange, piston, large cylinder liner, small cylinder liner, outlet flange, O-ring, and sealing gasket. Under the action of the inlet pressure, the floating piston is pushed open, and the medium passes through. The pressure difference caused by the different cross-sectional areas at both ends of the piston is used to change the pressure behind the valve. No matter how the inlet pressure changes, the static pressure and dynamic pressure behind the valve can be reduced to the corresponding pressure values in proportion. It is suitable for media such as water and gas, and is suitable for a temperature ≤ 90°C, a pressure error ≤ 8%, a minimum opening pressure of 0.2MPa for 2:1 and 0.3MPa for 3:1. The connection forms include flanges and internal threads.
- **Typical Installation Schematic Diagram**: It is usually installed on a horizontal pipeline. The installation direction should be correct so that the direction of the medium flow is consistent with the arrow direction on the valve body. When installing, it is necessary to ensure that there is a certain straight pipe section before and after the valve to stabilize the pressure. At the same time, referring to the general valve installation requirements, corresponding maintenance valves can be set on the front and rear pipelines for convenient maintenance.
- **Maintenance**:
    - Regularly check the sealing performance of the valve. If leakage is found, replace the sealing parts in time.
    - Check the wear condition of the moving parts such as the piston and the cylinder liner. If there are parts with serious wear, replace them in time.
    - Clean the impurities and dirt inside the valve to prevent key parts such as the damping holes from being blocked.
- **Troubleshooting**:
    - **Unstable pressure fluctuation**: It may be that air is mixed into the oil, and the air in the oil needs to be removed; the damping hole is sometimes blocked, and the damping hole needs to be cleaned; the roundness of the spool and the inner hole of the valve body exceeds the specified value, causing the spool to get stuck, and the valve hole and the spool need to be ground and repaired; the spring is deformed or stuck in the spool, making it difficult for the spool to move, or the spring is too soft, and the spring needs to be replaced; the steel ball is not round, the fit between the steel ball and the valve seat is not good, or the cone valve is installed incorrectly, and the steel ball needs to be replaced or the cone valve needs to be disassembled

and adjusted.

- **The secondary pressure cannot rise to a high level**: It may be external leakage, and the sealing parts should be replaced, the screws should be tightened and the torque should be ensured to be uniform; it may also be that the cone valve does not contact the valve seat well, and it needs to be repaired or replaced.
- **No pressure reduction effect**: It may be that the oil drain port is blocked, the oil drain pipe is connected to the return oil pipe and there is return oil pressure. The oil drain pipe should be separated from the return oil pipeline and returned to the oil tank separately; it may also be that the main spool is stuck in the fully open position, and the parts need to be repaired and replaced and the oil quality needs to be checked.

- **Performance Characteristics**:
  - It is controlled and adjusted by using the hydraulic principle, with a simple structure.
  - The pressure reduction ratio is accurate, it has a large flow rate, runs stably without noise and vibration, and can reduce water hammer and protect the pipeline network.
  - It is suitable for installation at any angle, is light in weight, small in size, and convenient for installation and maintenance.


DN50