Here is the introduction of the wafer - type butterfly valve, including its product details, typical installation diagrams, maintenance and troubleshooting methods, and performance characteristics:

Product Introduction

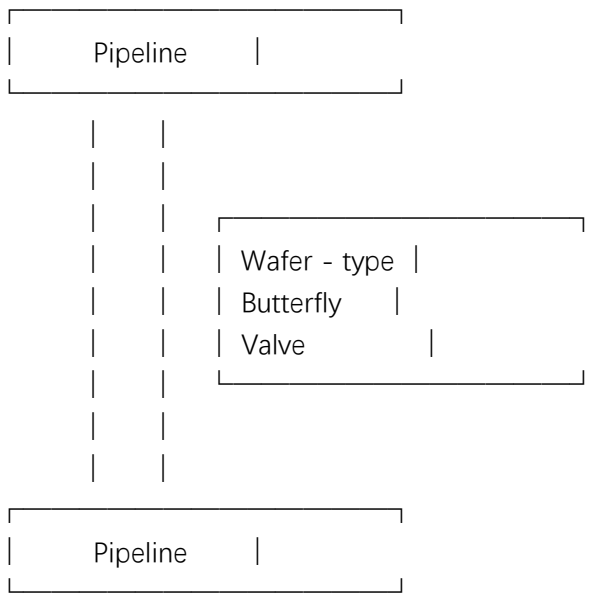
The wafer - type butterfly valve is a kind of quarter - turn rotary valve, mainly composed of valve body, disc, valve stem, and sealing seat.

- **Valve Body**: Usually made of cast iron, ductile iron, or stainless steel. It has a compact structure with a short axial dimension, which can save installation space. The inner cavity of the valve body is smooth to reduce fluid resistance.
- **Disc**: Commonly made of metal materials such as carbon steel or stainless steel, with a circular plate - like structure. The disc is connected to the valve stem and rotates around the axis of the valve stem to control the opening and closing of the valve and the flow of the medium.
- **Valve Stem**: Generally made of stainless steel, which has high strength and corrosion resistance. It is used to transmit torque to the disc to drive the disc to rotate, and at the same time, it supports the disc to ensure the normal operation of the disc in the valve body.
- **Sealing Seat**: Usually made of rubber or other elastic materials, which is installed on the inner wall of the valve body. When the disc rotates to the closed position, the sealing seat and the disc fit closely to achieve a sealing effect and prevent the leakage of the medium.

Typical Installation Schematic Diagram

The following is a simple schematic diagram of the installation of the wafer - type butterfly valve:

plaintext



When installing the wafer - type butterfly valve, note the following points:

- The valve should be installed in a straight section of the pipeline, and there should be a certain length of straight pipe before and after the valve to ensure the stability of the fluid flow.
- The installation direction of the valve should be consistent with the flow direction of the medium in the pipeline. There is usually an arrow mark on the valve body to indicate the flow direction.
- The valve is clamped between two flanges of the pipeline by bolts. It is necessary to ensure that the bolts are evenly tightened to avoid uneven force on the valve body, which may cause leakage.

Maintenance and Troubleshooting

- **Maintenance**
    - Regularly check the sealing performance of the valve. If there is leakage, check whether the sealing seat is damaged or worn. If so, replace the sealing seat in a timely manner.
    - Lubricate the valve stem regularly to ensure its flexible rotation. Clean the surface of the valve stem and apply an appropriate lubricant to prevent rust and wear.
    - Check the connection parts of the valve, including bolts and flanges, to see if there is looseness. Tighten the loose bolts in a timely manner to ensure the tight connection of the valve and the pipeline.
    - Clean the valve regularly to remove the dirt and impurities attached to the surface of the valve and in the pipeline to prevent them from entering the valve and affecting its normal operation.
- **Troubleshooting**
    - **Valve Leakage**: The possible reasons include damage to the sealing seat, scratches or deformation of the disc surface, and insufficient tightening force of the flange bolts. The solutions are to replace the sealing seat, repair or replace the disc, and evenly tighten the flange bolts.
    - **Difficulty in Opening or Closing the Valve**: This may be due to rust - stuck of the valve stem, lack of lubrication, damage to the driving device, or blockage of the valve by foreign objects. The corresponding solutions are to remove rust and lubricate the valve stem, repair or replace the driving device, and clean the foreign objects in the valve.
    - **Abnormal Vibration and Noise of the Valve**: It may be caused by unstable fluid flow, improper installation of the valve, or loose internal components. It is necessary to check the flow state of the fluid, re - check the installation of the valve, and tighten the loose components.

Performance Characteristics

- **Compact Structure and Light Weight**: The wafer - type design makes the valve have a small volume and a light weight, which is convenient for installation and transportation, and is especially suitable for occasions where space is limited.

- **Good Sealing Performance**: The elastic sealing seat and the disc can achieve a good sealing effect, which can effectively prevent the leakage of the medium and meet the requirements of different working conditions for sealing.
- **Small Fluid Resistance**: When the valve is opened, the disc is almost parallel to the fluid flow direction, and the fluid resistance is small, which can ensure the smooth flow of the medium in the pipeline and reduce energy loss.
- **Quick Opening and Closing**: The disc rotates 90° to complete the opening and closing action, which has a fast response speed and can meet the requirements of rapid switching of the pipeline medium.
- **Wide Range of Applications**: It can be used in various fluid media, such as water, steam, gas, oil, and chemical media. It has a wide range of applications in petroleum, chemical, water supply and drainage, and other industries.