Here is the introduction of the bidirectional soft - sealing double - eccentric manual flanged butterfly valve, including its product details, typical installation diagrams, maintenance and troubleshooting methods, and performance characteristics:

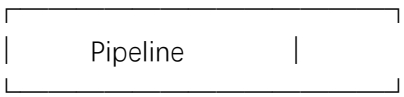
Product Introduction

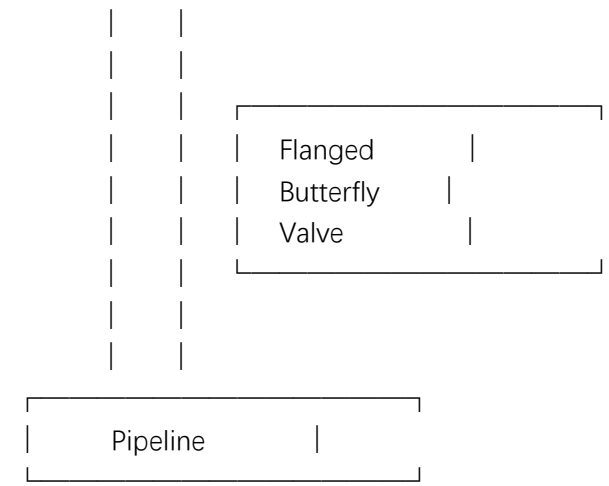
The bidirectional soft - sealing double - eccentric manual flanged butterfly valve is a high - performance valve designed for various pipeline systems.

- **Structure and Components**
  - **Valve Body**: Usually made of high - quality cast iron, cast steel, or stainless steel, providing excellent strength and corrosion resistance. The flanges at both ends of the valve body are designed in accordance with relevant standards, facilitating convenient and reliable connection to pipelines.
  - **Butterfly Disc**: Composed of a metal disc with a special surface treatment, which is connected to the valve stem. The disc is the key component for controlling the flow of the medium.
  - **Valve Stem**: Made of high - strength stainless steel, with a precise surface finish to ensure smooth operation and high wear resistance. It transmits the torque from the manual actuator to the butterfly disc, enabling accurate control of the disc's rotation.
  - **Sealing Assembly**: Consists of soft - sealing rings made of materials such as rubber or PTFE. These sealing rings are installed on the valve body and cooperate with the butterfly disc to achieve a bidirectional sealing effect, effectively preventing medium leakage.
  - **Manual Actuator**: Comprises a handwheel or handle, allowing manual operation of the valve. It provides a convenient and reliable way to control the opening and closing of the valve, suitable for occasions where manual operation is required.
- **Working Principle**
  - The double - eccentric design of the valve means that the axis of the butterfly disc is offset from the center of the valve body and the axis of the valve stem. This design ensures that when the valve is opened and closed, the butterfly disc first moves away from the sealing surface to reduce friction, and then rotates to the open or closed position. This significantly improves the sealing performance and service life of the valve.
  - In the closed position, the soft - sealing rings on both sides of the butterfly disc are compressed by the disc, forming a tight seal to prevent the medium from flowing through. When the valve is opened, the butterfly disc rotates, and the medium can flow through the valve with minimal resistance.

Typical Installation Schematic Diagram

plaintext





<-- Bolt connection of flanges -->

- **Installation Requirements**
    - Before installation, ensure that the pipeline ends are clean and free of debris. The flanges of the pipeline should be flat and parallel to ensure a proper fit with the valve flanges.
    - Align the valve flanges with the pipeline flanges and insert the bolts. Tighten the bolts evenly to avoid uneven stress on the valve, which could cause deformation or leakage.
    - The valve should be installed in a location that allows easy access for operation and maintenance. Avoid installing it in areas with high vibration or where it may be subject to physical damage.
    - Consider the flow direction of the medium when installing the valve. Although the valve is bidirectional, it is recommended to follow the manufacturer's instructions for optimal performance.

Maintenance and Troubleshooting

- **Maintenance**
    - Regularly check the valve for any signs of leakage. If leakage is detected, carefully inspect the sealing rings for wear, damage, or aging. Replace the sealing rings if necessary to maintain the valve's sealing performance.
    - Lubricate the valve stem regularly to ensure smooth operation. Use a suitable lubricant that is compatible with the valve materials and the working medium.
    - Inspect the manual actuator for any signs of wear or damage. Check the connection between the actuator and the valve stem to ensure it is secure. Tighten any loose components and replace any worn - out parts.
    - Clean the valve body and flanges regularly to remove dirt, rust, and other deposits. This helps to prevent corrosion and ensures proper sealing at the flange connections.
- **Troubleshooting**
    - **Leakage**: If the valve leaks, first check the tightness of the flange bolts. Loose

bolts can cause leakage at the flange connections. If the flange bolts are tight, then inspect the sealing rings. Damaged or worn - out sealing rings should be replaced. In some cases, the butterfly disc may be damaged or misaligned, which can also lead to leakage. Check the disc for any signs of damage and ensure it is properly installed and aligned.

- **Difficulty in Operation**: If the valve is difficult to open or close, check the lubrication of the valve stem. Dry or dirty stems can cause increased friction. Clean and lubricate the stem as needed. Also, check for any foreign objects that may be stuck in the valve, preventing the butterfly disc from rotating freely. Remove any obstructions and ensure the valve cavity is clean.
- **Incomplete Sealing**: If the valve does not seal completely, even after checking and replacing the sealing rings, check the alignment of the butterfly disc. The disc may not be closing properly due to misalignment or damage to the valve body. In such cases, it may be necessary to re - align the disc or repair the valve body.

Performance Characteristics

- **Bidirectional Sealing**: The soft - sealing design allows for bidirectional sealing, which means the valve can effectively prevent the leakage of the medium in both flow directions. This provides greater flexibility and reliability in pipeline systems where the flow direction may change or where sealing in both directions is required.
- **Excellent Sealing Performance**: The combination of high - quality soft - sealing materials and the double - eccentric design ensures a tight seal. The valve can achieve a low leakage rate, meeting the strict sealing requirements of various industrial applications.
- **Low Torque Operation**: The double - eccentric design reduces the friction between the butterfly disc and the sealing surface during opening and closing, resulting in low torque operation. This makes it easier to operate the valve manually, even in large - diameter valves.
- **Wide Temperature and Pressure Range**: The valve is designed to operate within a wide range of temperatures and pressures. It can withstand high - pressure environments and is suitable for use in both high - and low - temperature applications, depending on the material selection.
- **Good Corrosion Resistance**: With the use of corrosion - resistant materials for the valve body and components, the valve has good resistance to various corrosive media. This makes it suitable for use in industries such as chemical, petroleum, and water treatment, where the medium may be corrosive.