Product Introduction

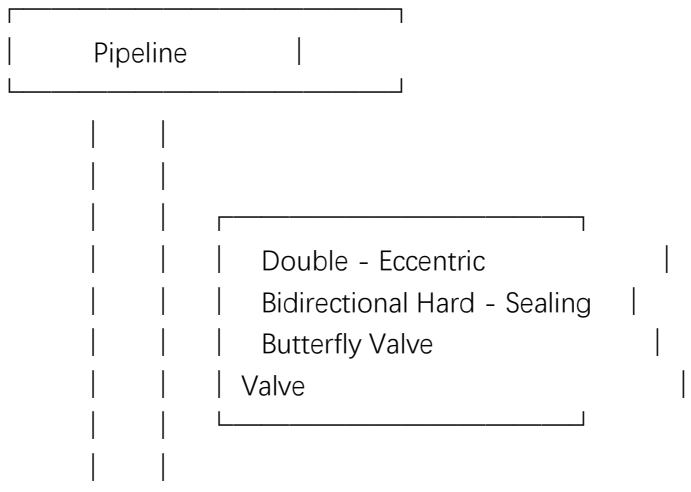
The double - eccentric bidirectional hard - sealing butterfly valve is a high - performance valve designed for various industrial applications. It mainly consists of a valve body, a butterfly disc, a valve stem, a sealing pair, and other components.

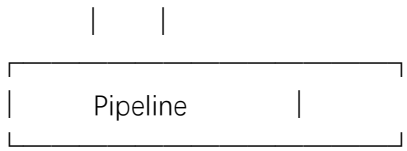
- **Valve Body**: Usually made of high - quality cast steel or stainless steel, the valve body has excellent pressure - resistance and corrosion - resistance properties. It can endure high - pressure working conditions and harsh media environments, ensuring the long - term stable operation of the valve.
- **Butterfly Disc**: Manufactured from high - strength metal materials, such as stainless steel, the butterfly disc undergoes precise machining and surface treatment. It has high hardness and wear - resistance. The disc is connected to the valve stem and rotates within the valve body to control the opening and closing of the valve and the flow of the medium.
- **Valve Stem**: The valve stem is made of corrosion - resistant stainless steel, which provides sufficient strength and stability. It transmits the torque from the actuator to the butterfly disc, ensuring the smooth operation of the valve. The design of the valve stem also takes into account the prevention of leakage and the protection of the sealing surface.
- **Sealing Pair**: The core of this valve is its double - eccentric bidirectional hard - sealing structure. The sealing pair is typically composed of metal materials with high hardness and wear - resistance, such as carbide - alloy - coated steel. The double - eccentric design enables the butterfly disc to have a unique motion trajectory during opening and closing, which significantly reduces the friction and wear between the sealing surfaces. This ensures a tight seal in both directions of the medium flow, effectively preventing leakage.

Typical Installation Schematic Diagram

Here is a simple schematic diagram of the typical installation of a double - eccentric bidirectional hard - sealing butterfly valve:

plaintext





<-- Bolt connection of flanges -->

Installation Notes:

- The valve should be installed in a position that allows easy access for operation and maintenance. It is usually recommended to install it on a horizontal pipeline. If installed on a vertical pipeline, ensure that the medium flow direction is correct to avoid affecting the sealing performance.
- Before installation, clean the inside of the pipeline to remove any debris or dirt that could damage the valve. Check the flange connections to ensure they are in good condition and match the valve's flange size.
- Align the valve's flanges with those of the pipeline and tighten the bolts evenly to ensure a leak - free connection. Make sure the valve is properly centered in the pipeline to avoid any misalignment that could affect its operation.
- If the valve is equipped with an actuator, install and connect it according to the manufacturer's instructions. Ensure that the actuator is properly calibrated and adjusted to ensure accurate control of the valve's opening and closing.

Maintenance and Troubleshooting

- **Maintenance**
  - Regularly inspect the valve for any signs of leakage. Check the sealing surfaces for wear, scratches, or damage. If any issues are found, clean the sealing surfaces and, if necessary, repair or replace the sealing components.
  - Lubricate the valve stem and other moving parts regularly with a suitable lubricant to reduce friction and prevent corrosion. This helps to ensure the smooth operation of the valve and extends its service life.
  - Check the tightness of all bolts and connections. Over time, vibrations and thermal expansion - contraction cycles can cause bolts to loosen. Tighten any loose bolts to maintain the integrity of the valve's structure.
  - Inspect the actuator (if applicable) for proper operation. Check the electrical connections, motor operation, and control settings. Clean the actuator regularly to remove dust and debris that could affect its performance.
- **Troubleshooting**
  - **Leakage**: If the valve leaks, first check the sealing surfaces. If they are damaged, they may need to be repaired or replaced. Also, check the flange connections to ensure they are tightened properly. A loose flange connection can cause leakage. If the problem persists, check the valve body for any cracks or defects that could be causing the leakage.
  - **Difficulty in Opening or Closing**: This could be due to several reasons. Check

if there is any foreign matter stuck in the valve that is preventing the butterfly disc from moving freely. Lubricate the valve stem and check for any signs of corrosion or binding. If the actuator is used, check its power supply, motor, and control system for any faults.

- **Abnormal Noise or Vibration**: Unusual noises or vibrations may indicate problems such as loose components, misalignment, or wear. Inspect the valve and its connections for any loose parts and tighten them if necessary. Check the alignment of the valve in the pipeline and adjust if needed. If the problem persists, it may be due to internal wear or damage, and further inspection and repair may be required.

Performance Characteristics

- **Superior Sealing Performance**: The double - eccentric bidirectional hard - sealing design provides excellent sealing in both directions of the medium flow. It can achieve a tight seal even under high - pressure and high - temperature conditions, with a very low leakage rate, meeting the strict requirements of various industrial applications.
- **Low Friction and Wear**: The double - eccentric structure reduces the friction between the butterfly disc and the sealing surfaces during opening and closing, resulting in less wear and tear. This not only extends the service life of the valve but also reduces the operating torque, making the valve easier to operate.
- **High Pressure and Temperature Resistance**: Made of high - quality materials, the valve can withstand high - pressure and high - temperature environments. It is suitable for use in pipelines carrying high - pressure steam, hot oil, and other media, providing reliable performance in harsh working conditions.
- **Good Flow Characteristics**: The design of the butterfly disc allows for a smooth flow of the medium through the valve, with low flow resistance. This helps to improve the efficiency of the pipeline system and reduce energy consumption.
- **Wide Applicability**: The valve is suitable for a variety of media, including gases, liquids, and some particulate - containing media. It is widely used in industries such as petroleum, chemical, power, metallurgy, and water treatment, meeting the diverse needs of different industrial processes.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