The following is the relevant introduction of the soft-sealed butterfly valve:

### **Product Introduction**

The soft-sealed butterfly valve is mainly composed of components such as the valve body, butterfly disc, valve stem, and sealing ring.

- Valve Body: Usually made of materials such as cast iron, ductile iron, and cast steel, it has good strength and corrosion resistance, and can adapt to different working environments and media.
- Butterfly Disc: Generally made of metal materials, such as carbon steel, stainless steel, etc. Its surface is smooth and flat to ensure a good fit with the sealing ring. Its shape design enables the butterfly disc to effectively block the flow of the medium when the valve is closed, and to achieve a tight seal when the valve is closed.
- Valve Stem: Mostly made of stainless steel, it has high strength and corrosion resistance. It is used to connect the butterfly disc and the driving device, transmit torque, and realize the rotation opening and closing actions of the butterfly disc.
- **Sealing Ring**: It is a key component of the soft-sealed butterfly valve, usually made of elastic materials such as nitrile rubber and ethylene propylene diene monomer (EPDM) rubber. It is installed on the valve

body or the butterfly disc. By utilizing the elastic deformation of the rubber, it can achieve a good sealing performance and effectively prevent the leakage of the medium.

The soft-sealed butterfly valve drives the valve stem to rotate through the driving device, and then makes the butterfly disc rotate around the axis in the valve body to realize the opening and closing of the valve, so as to control the on-off and flow rate of the fluid in the pipeline.

# **Typical Installation Schematic Diagram**

plaintext Pipe Line L I Soft-sealed Butterfly Valve Pipe Line Ι

When installing the soft-sealed butterfly valve, the following points should be noted:

- The installation position should be convenient for operation and maintenance, and avoid installing it in a narrow space or a place that is difficult to access.
- Check whether the model and specification of the valve match the pipeline system to ensure that the valve is intact.
- The installation direction of the valve should be consistent with the flow direction of the fluid in the pipeline. Generally, there will be an arrow on the valve body to indicate the flow direction.
- During installation, ensure that the valve is firmly connected to the pipeline, and there should be no looseness or leakage.

## **Maintenance and Troubleshooting**

### • Maintenance

- Regularly check the sealing performance of the valve. If the sealing ring is found to be worn, aged or damaged, it should be replaced in a timely manner.
- Lubricate the valve stem regularly to prevent rusting and jamming, and ensure its flexible rotation. An appropriate lubricant can be applied to the surface of the valve stem.
- Check the connection parts of the valve, including bolts, nuts, etc. If there is any looseness, tighten them in a timely manner to ensure a firm connection.

 Clean the dirt and impurities on the surface of the valve to prevent them from entering the inside of the valve and affecting the normal operation of the valve. For the impurities that may accumulate in the valve body after long-term use, it can be flushed regularly.

### • Troubleshooting

- Valve Leakage: It may be caused by reasons such as damage to the sealing ring, impurities between the butterfly disc and the sealing ring, or deformation of the butterfly disc. The solution is to replace the sealing ring, clean the impurities, and check and repair or replace the deformed butterfly disc.
- Difficulty in Opening or Closing the Valve: It may be due to rusting of the valve stem, poor lubrication, failure of the driving device, or the valve being stuck. The treatment method is to remove rust and lubricate the valve stem, check the driving device and repair or replace the faulty components, and clean the foreign objects that are jamming the valve.
- The Valve Does Not Close Tightly: In addition to the problems of the sealing ring and the butterfly disc, it may also be caused by improper installation or the influence of pipeline stress. It is necessary to recheck the installation situation, ensure that the

valve is installed correctly, and eliminate the influence of pipeline stress on the valve.

### **Performance Characteristics**

- Good Sealing Performance: The soft sealing ring closely cooperates with the butterfly disc, which can achieve a good sealing effect and effectively prevent the leakage of the medium, especially suitable for occasions with high sealing requirements.
- Small Operating Torque: During the rotation of the butterfly disc, the friction between it and the sealing ring is small. Therefore, the torque required to open and close the valve is small, and the operation is easy and flexible. It can adopt various driving methods such as manual, electric, and pneumatic.
- Large Flow Capacity: The structural design of the butterfly valve makes the passage almost unobstructed when the valve is open, with small fluid resistance, which can ensure a large flow rate to pass through and has a high flow capacity.
- Strong Corrosion Resistance: The valve body, valve stem and other components are made of corrosion-resistant materials, and the sealing ring also has good chemical corrosion resistance, which can adapt to the transportation of various corrosive media, such as acid, alkali, salt and other solutions.

• Long Service Life: The reasonable structural design and the selection of high-quality materials enable the soft-sealed butterfly valve to have a long service life under normal use conditions. At the same time, its maintenance is relatively simple, which also helps to extend the service time of the valve.

