

Full Metal-Seated Bi-Directional Butterfly Valve



Metal To Metal Seat ring

The Metal seated Bi-directional butterfly valve adopts the structure of "Metal To Metal Seat ring: i.e. valve's sealing ring of disc/seat are all metal with hard faced treatment. This ensures reliable sealing performance and longer life span under frequent opening/closing working condition. Bi-directional sealing design This series could reach bi-directional Zero-leakage requirement in related standard.

Double safety structure

In order to prevent phenomena of disc deformation, stem misalignment, sealing face biting each other caused by fluid pressure and temperature, Our butterfly valve uses two separate thrust rings on the upper and down side of disc which ensures valve's working under any conditions.

To avoid potential accident caused by blowing out stem, anti-blow out stem structure is designed for the butterfly valve.

No Dead Zone Design

The application in controlling/regulating situation has been taken into consideration during design. Using the sealing principal of triple eccentric butterfly valve, Our valves realize no dead zone design, which not only avoids the problems of "Opening jump area" of common butterfly valves but also eliminates valve's problem of couldn't be regulated or controlled when in its small opening angle which may be caused by friction or other unsafe factors. This means Our butterfly could regulate or control the medium from almost 0 degree up to 90 degrees.

Seat ring material

Seat ring of the butterfly valve is made of forged alloy steel which has the advantages of anti-scour, wear-resistance, high pressure and temperature resistance and long life span.

Replaceable sealing ring

The sealing rings of disc and seat are all separate for this series butterfly valve, and they could be replaced when needed. Either the seating ring of disc or seat could be changed individually when its broken which not only lowers your maintenance cost but also makes maintenance easier.

Evenly Fixed Structure

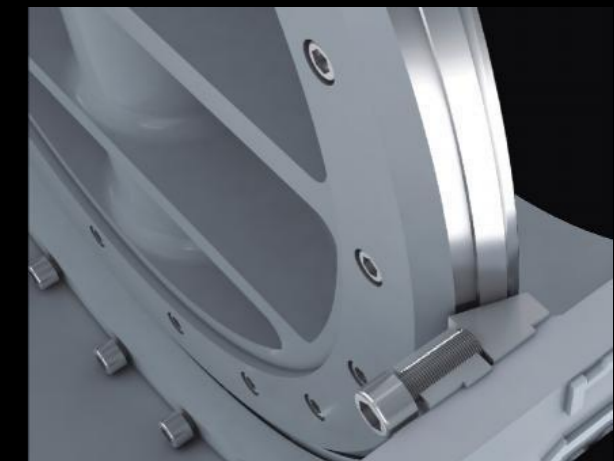
Butterfly valve's sealing ring Is fixed with evenly distributed bolts/nuts. Every bolt is precisely located and endure force evenly. This structure eliminates the problems of leakage or loose sealing ring due to uneven force of bolts and nuts.

Fire safe design and structure

Metal seated structure makes valve fire-safe and meet the requirement In API607. Torque seated Valves could always be double-directional sealed. Sealing is achieved by the torque provided by actuator but not medium force which ensures reliable sealing performance under both high and low working pressure. And valves could pass the test of API609 and ISO5208

Live loaded packing system

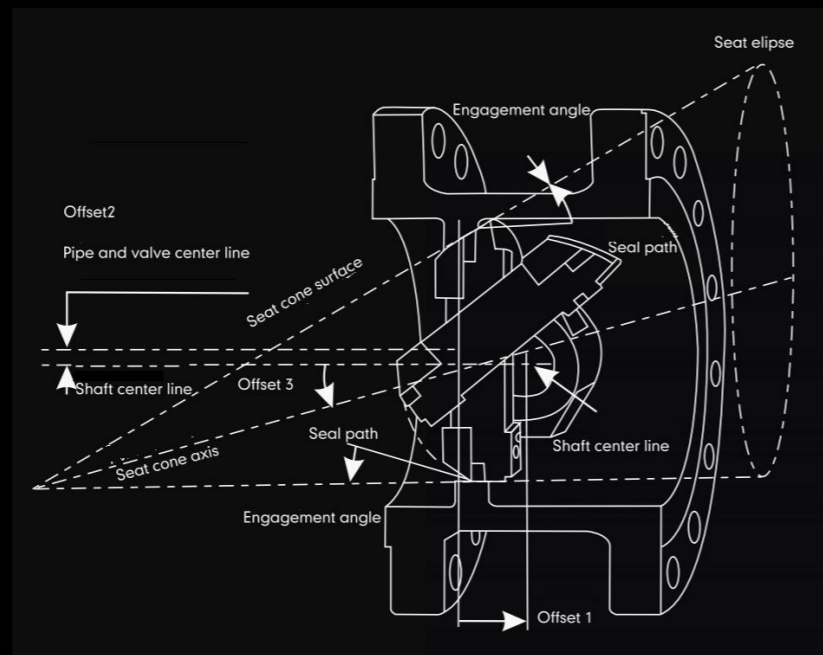
Generally, people only focus on the internal leakage which occurs on the seat part but ignore the external leakage problem. i.e the leakage of packing part. Live loaded packing design with combined structure ensure the Butterfly valve could meet max. leaking $\leq 20\text{ppm}$. It makes packing sealing reliable and prolongs the maintenance-free period of packing.



Three Eccentric Metal Hard Seal Butterfly Valve

The valve uses a three-eccentric structure, that means an angular eccentric is added to a common metal hard-seal double-eccentric butterfly valve and this said eccentric acts at: making any point between the seal ring and the seat ring quickly released or contacted during valve opening or closing so as to get true "non-friction" between the seal pairs, greatly extending the valve life; The Hard seal Metal-seated butterfly valve uses the "radial dynamically balanced sealing system" containing the national patented know-how and, by means of optimized design, the forces undertaken on both sides of the butterfly plate inlet and outlet become approximately balanced so as to effectively lower the valve opening moment (about to be 2/3 that of the common butterfly valve) at the same time to make the valve inlet and outlet a two-way reliable sealing performance;

The seal ring of the butterfly plate is made by way of compounding with sheet stainless steel, graphite, carbon fiber, PTFE etc. materials with the sheet stainless steel as the main seal and the non-metal inter-layer as the assistant one. This dual-sealing structure makes the valve more reliably sealed and the seal's leaking level up to ANSI B16.104 VI or ISO5208 A. Compared to the rubber asbestos plate material used with the common butterfly valve, the graphite/carbon fiber/PTFE etc. inter-layer materials used with the seal ring of the butterfly plate holds more environmental protection, more wearable, more anti-flush, more reliable etc. characteristics, able to get 100,000 times of fault-free opening-closing;



The replaceable seat ring/seal ring design is used for the sake of valve on-site maintenance; Various optimized allocations in the selections of the body and valve plate materials and the sealing structure are available upon the product's real used working conditions so as to meet with the different requirements on the product performances.

The yoke Connected to the actuator meet the requirement of the ISO5211 standard.

Yoke is designed in accordance with ISO5211 standard and connected with electrical actuator, pneumatic actuator, and hydraulic actuator and manually operated.

High performance of packing sealing

Adopt packing-combined sealing system to ensure the leakage rate ≤ 20 PPM at maximum. the dynamic sealing structure is available if necessary, which make the packing sealing under good condition and prolong the free maintenance period of packing. The valve stem shall be designed with the "Blow-out Structure" in accordance with API1609 standard.

Eccentric 1:

The center line of rotation axis/stem and seat deviate from each other for a certain distance to ensure the integrity of the sealing surface;

Eccentric 2:

The center line of rotation axis/stem and body deviate from each other for a certain distance to reduce the friction between the sealing components when open and close the valve.

Eccentric 3:

The center line of valve body and conical seat sealing face deviate from each other for a certain angle to ensure the sealing ring of the disc can be separated or touched with seat rapidly so that friction and squeeze will not exist between the sealing components.

