Triple-offset All-metal Hard Sealing Butterfly Valve

The VBJG–300 series triple–offset all–metal hard sealing butterfly valve has an all–metal sealing pair and an independent split seat. It adopts the dust–proof and anti–jamming structural design with an anti–blowout stem, realizing bi–directional zero leakage, intrinsically fireproof and anti–static functions. The valve seat sealing ring is subjected to surfacing with hard alloy, and therefore it is wear–resistant and corrosion–resistant. It exhibits excellent sealing performance even under the operating conditions of high temperature and pressure, ultra–low temperature, high solid content, high–frequency switching, temperature alternation, and strong corrosion. The seat is interchangeable with the sealing ring, can be disassembled and replaced on site, and is easy to maintain. The triple–offset all–metal butterfly valves can be used in various extreme operating conditions that require tight cutoff and wear and corrosion resistance. They are widely used in many fields such as petroleum, coal chemical industry, nuclear power, molten salt power generation, food, and polycrystalline silicon. The technological breakthrough of all–metal sealing pair grinding technology has successfully broken the original technical bottleneck and opened a new chapter in the applications of triple–offset butterfly valve.。

This product complies with GB/T4213 and API609, Patent No: ZL200820238488.1

In addition to another four patents obtained:ZL201320627885.9;ZL201320630140.8;
ZL201320627892.9;ZL201320628026.1

Technical data

Pressure rating: Class150 ~ 1500

Nominal size: DN80~DN1200

Temperature range: –196℃ ~ +700℃

Leakage level: Bidirectional API598

Action switch life: More than 100000 times

Flow characteristics: Approximate EQ%

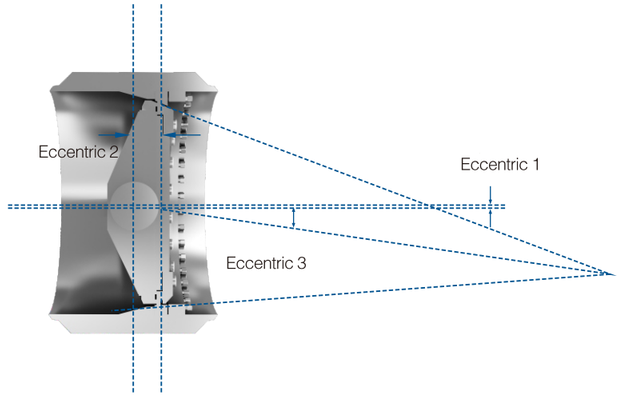
End connection: Flanged, Wafer,Lug type,Butt welding

Driving mode: Pneumatic,Electric

Adjustable ratio: 50:1



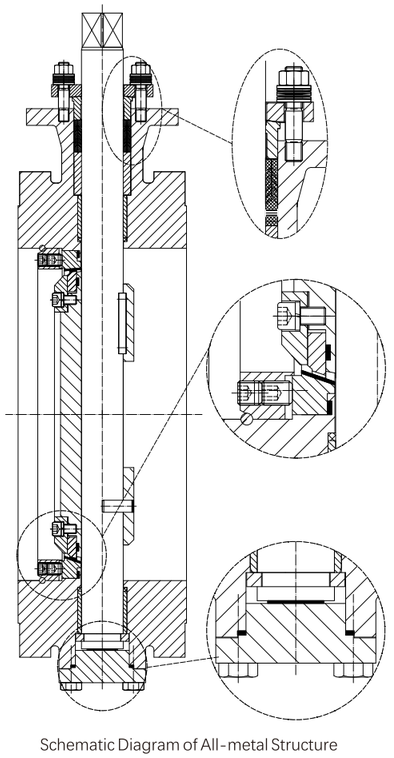
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Triple–offset independent valve seat structure is adopted



All–metal Sealing Pair



Schematic Diagram of All-metal Structure

The stem is subjected to HawkingPT vibration, and the roughness is guaranteed to be 0.2.

Disc spring–loaded compensation system is used to provide compensation force for the packing.

The V–shaped combined packing seal can effectively prevent outleakage and reduce the friction coefficient between packing and stem.

Stepped all–metal sealing ring is used and subjected to surfacing with hard alloy.

A dust–proof structure is adopted to prevent coking, scaling, and jamming, and it is easy to maintain.

Independent quick–change seat is adopted. It is easy to disassemble and subjected to surfacing with hard alloy.

Screws are subjected to combined locking to prevent rotation and loosening.

A unique integral limit ring structure is adopted to provide higher strength.

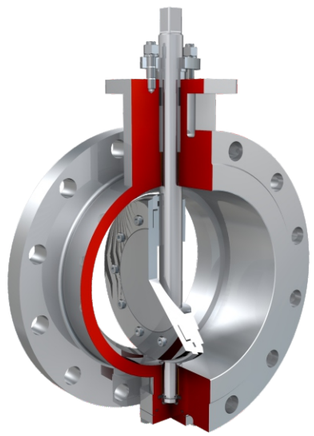
The shaft seal structure is dust–proof and anti–jamming.

The stem is of an anti–blowout structure.

Independent seat: The seat is of an independent quick–change structure. The seat and the sealing ring are removable and interchangeable. Compared with the integral seat, the deformation ratio of the independent seat is closer to that of the sealing ring and therefore, the sealing performance is more reliable.

Combined packing design: Special dedicated combined packing is adopted. It is resistant to high temperature (650° C) and oxidation, composed of inorganic salt and graphite, sealed in multiple layers to prevent leakage of the medium, and meets the requirements of TU–LUFT

Dynamic disc spring-loaded compensation structure: The packing system is of a dynamic disc spring–loaded compensation structure. The packing box bore of the valve body is subjected to roll extrusion, and the stem to ultrasonic vibration. In this way, it ensures that the packing will absolutely not leak and meets the requirements of TA–LUFT standard. In addition, the structure can automatically compensate for the pre–tightening force of the packing and extend its maintenance cycle.



All-metal sealing pair: The sealing pair is of an all–metal structure. It is intrinsically fireproof and anti–static. The surfacing of the sealing face does not contain any soft materials such as asbestos and graphite. Therefore, it will not cause pollution to the medium. The sealing face is in uniform and reliable contact and provides excellent sealing performance. The sealing face is also subjected to surfacing with hard alloy and has wear and corrosion resistance and a long service life.

Triple-offset structure: The all–metal butterfly valves are of a triple–offset structure. They are suitable for applications requiring tight cutoff in complex operating conditions such as high temperature and high pressure. There is no friction during valve opening and closing, so the opening torque is small. Torque sealing is adopted: The greater the medium force is, the better the sealing performance will be.

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Anti-blowout stem: The design of stepped structure can effectively prevent blowout of the stem, greatly ensuring the safety of the valve. The integral stem is used and made of high–strength stainless steel, so that the valve can withstand a large allowable differential pressure.

A cylindrical pin offset structure is adopted for the transmission between stem and disc. It can prevent the reduction of stem strength due to drilling, indirectly improve the shear strength of cylindrical pin, and further improve the safety and reliability of the valve.

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