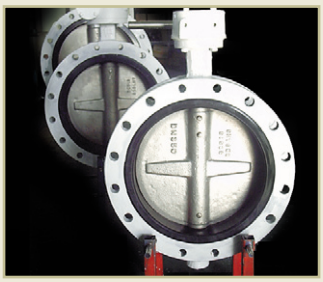
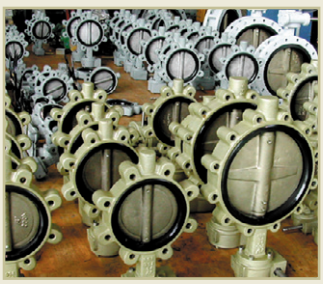
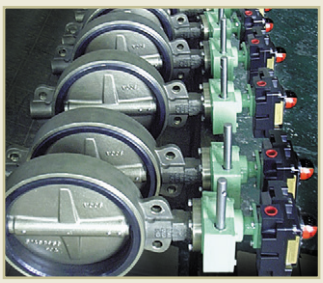
Specification of

Concentric Butterfly Valves







The Concentric Butterfly Valves of concentric butterfly valve feature is a symmetrical disc design, ensuring favorable flow-characteristics, and low pressure-drop. The concentric shaft ensures low operating torque. Concentirc butterfly valve can be manufactured with the sizes up to 3,000mm, with replaceable rubbber seat, with various kind of materials. The valve shall be capable of bi-directional flow with bubble tight shut-off at full rating pressure. The unique seat design with retaining points, virtually eliminates any seat movement during open / close operation of the disc. A PTFE / PFE lined body is also available for chemically high-corrosive fluid conditions.

TYPE NUMBERING SYSTEM

- AV-CWR Concentric WAFER type Rubber lined Butterfly Valves
- AV-CSR Concentric SEMI-LUG type Rubber lined Butterfly Valves
- AV-CLR Concentric LUG type Rubber lined Butterfly Valves
- AV-CFR Concentric FLANGE type Rubber lined Butterfly Valves

STANDARD COMPLIANCE

ACE Concentric Butterfly valves conform to ISO 5752, KSV 7490, JIS F 7480, JIS B 2032, JIS B 2064, API 609, BS5155, DIN2501.

PRODUCTION RANGE

- SIZE : DN50mm (2 inch) ~ DN3000mm (120 inch)
- RATING PRESSURE : Up to 16bar
- RATING TEMPERATURE : -20℃ ~ +200℃

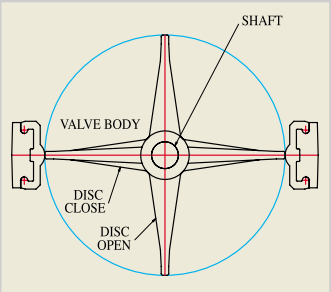
APPLICABLE FLANGE

- KS/JIS 5K, 10K, 16K
- ANSI B 16.5 Class 150LB
- DIN 2501 PN 6, PN10, PN16
- ANSI B 16.1 Class 125LB
- BS 4504 PN 6, PN10, PN16
- ISO 2084 PN 6, PN10, PN16

The Concentric Design

'Center of Shaft' in the 'Center of Pipe' / 'Center of the Valve Seat'
Applicable for BUTTERFLY VALVE WITH ELASTOMER LINING.

Schema of Concentric type



The valve shall be a 90° turn clockwise to close, non-jamming, and resilient seated valve for zero leakage service.
The valve shall be torque seated and designed in such a manner that the disc can not be rotated the seat without the actuator.
Also this valve enables the fluid perfect shut-off regardless of the flow direction.

- Symmetric disc design ensures favourable flow characteristics and low pressure drop
- Concentric shaft ensures low operating torque
- Lining gives a good protection to valve body and acts as flange gasket
  - Shaft penetrates the valve seat
  - Limited choice of seating materials(Elastomer only)

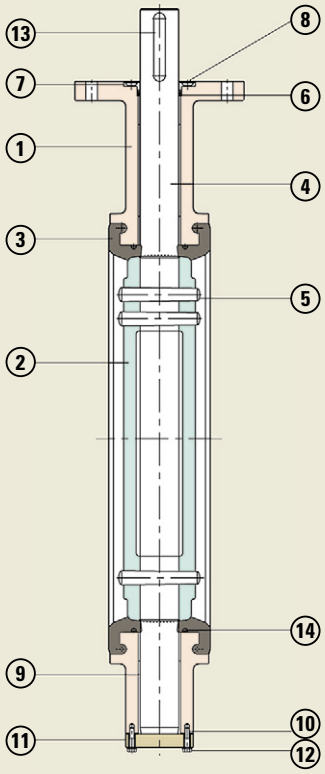
Operations

The following operation of the valve is possible depending on the valve location, the type of work and service of the valve to be provided.

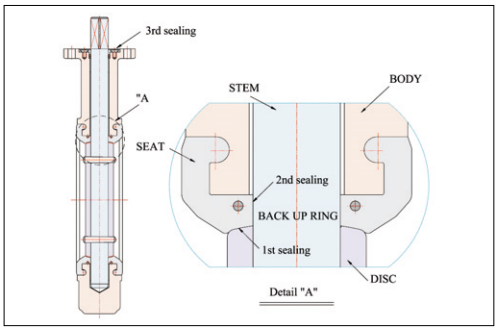
- Manual lever operation
- Manual worm gear operation
- Single or double acting pneumatic actuator operation
- Hydraulic actuator operation
- Electric motor actuator operation

Part List

P.NO.	PART NAME	MATERIAL
1	BODY	CAST IRON / DUCTILE IRON STAINLESS STEEL / CARBON STEEL (NICKEL) ALUMINUM BRONZE
2	DISC	STAINLESS STEEL / ALLOY STEEL (NICKEL) ALUMINUM BRONZE
3	SEAT	NBR / VITON / SILICON
4	STEM	STAINLESS STEEL(SS304, 316, 410, 420, 17-4PH), MONEL, DUPLEX
5	DISC PIN	STAINLESS STEEL or MONEL
6	O-RING	RUBBER SAME AS SEAT MATERIAL
7	PACKING GLAND	BRONZE, STAINLESS STEEL, STEEL(HOT DIP GALV.)
8	GLAND BOLT	STAINLESS STEEL
9	BEARING	PTFE + pb
10	O-RING	RUBBER SAME AS SEAT MATERIAL
11	BOTTOM COVER	CARBON STEEL / STAINLESS STEEL / AL-BRONZE / MILD STEEL
12	BOLT & WASHER	STEEL / STAINLESS STEEL
13	KEY or SQUARE	MILD STEEL, if necessary

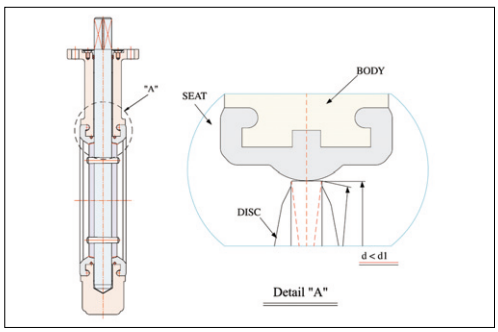


Design Features



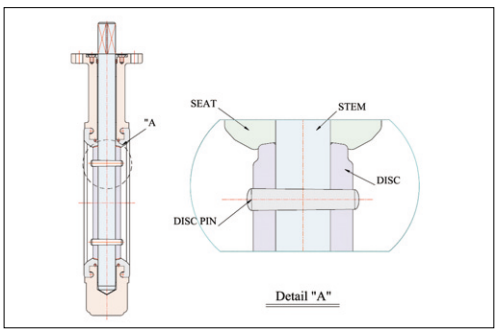
DISC SEAT DESIGN (Triple sealing system)

Ace valve has triple sealing system on the connection part of stem and seat which is improved construction compare to that having only simple structure occurring frequent leakage problem when the body slightly deviates from central axis.
The first seal : It shows perfect sealing effect with the minimum friction by the connection with the slope and the globular shape.
The second seal : Even if the shaft is declined by the fluid pressure to keep the position by the seal structure around shaft will be remained without collapse for perfect sealing. The third seal : Ace valve has o-ring and gland bush(top cover) independently from operating unit.



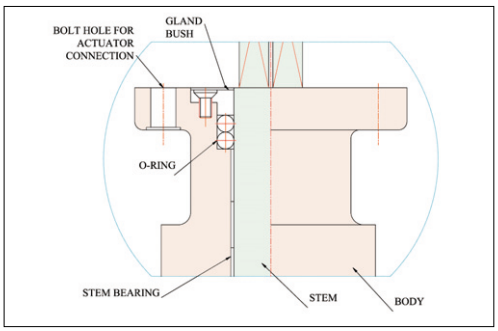
DISC SEAT (Completely spherical shape)

The grooves are provided in way of mid and each end part of body around to fix the seat in the body to avoid movement or detachment of rubber seat by unexpected forces.
Ball shape rubber to be provided to contact with flat shape disc which gives central position of disc because shorter distance at center line compare to longer diagonal length at disc end.



DISC PIN DESIGN

Taper pin to be provided to fix disc in to the shaft, instead of thread bolt to avoid unexpected releasing of the thread caused by the environmental vibration.



SHAFT SEALING (Gland bush with O-ring)

An O-ring with gland bush is provided for the shaft hole in the body as a third sealing device but low torque.
The O-ring can be kept by gland bush (top cover) in any case.
Oilless bearing is provided to minimize operating torque.