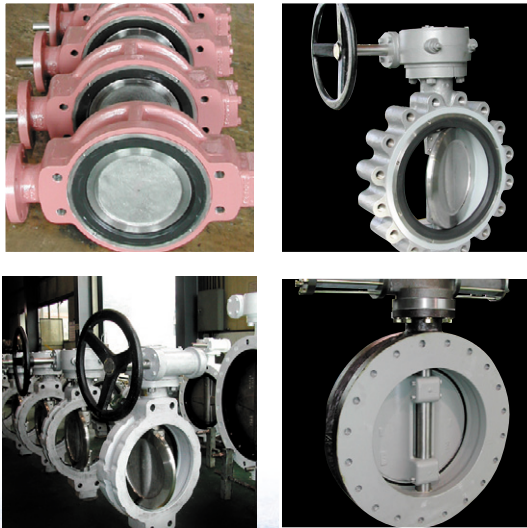


Specification of

Double Eccentric Cargo Oil Butterfly

Valves



Ace Valve's rubber seated double eccentric butterfly valve feature is a heavy loaded design for high-pressure and high flow-rate applications. They have been widely adopted for oil and gas valves in oil tankers, FPSO onshore / offshore field and high flow-rate piping systems. The delicate design of the seat ring keeps the retainer free from any pressure from flanges on adjacent pipes, misaligned flanges or flexibility in the pipes.

Moreover, it minimizes the foreign articles remained on the seat in order to reduce damage of seat ring.

The valve shall be capable of bi-directional flow and provide bubble tight shut-off at full rated pressure.

TYPE NUMBERING SYSTEM

- AV-OSR Double Eccentric SEMI-LUG type Butterfly valves
- AV-OLR Double Eccentric LUG type Butterfly valves
- AV-OFR Double Eccentric FLANGE type Butterfly valves

STANDARD COMPLIANCE

The face to face dimension shall be in accordance with KSV 7490, JIS F 7480

PRODUCTION RANGE

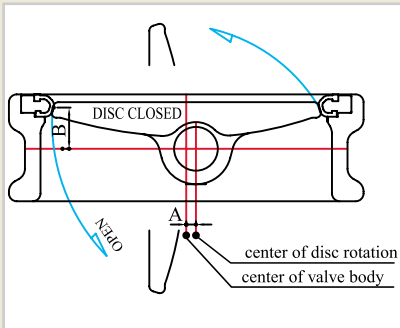
- SIZE : DN50mm (2 inch) ~ DN1000mm (40 inch)
- WORKING PRESSURE : up to 30bar
- WORKING TEMPERATURE : -20 °C ~ +250 °C

APPLICABLE FLANGE

- KS/JIS 5K, 10K, 16K, 20K, 30K
- ANSI B 16.5 Class 150LB, 300LB
- BS 4504 PN6, PN10, PN16, PN25
- ISO 2084 PN6, PN10, PN16, PN25
- DIN 2501 PN6, PN10, PN16, PN25



Double Eccentric Cargo Oil Butterfly valves



The Double Eccentric Design

It effects friction-free contact between disc and seat since the rotation axis(stem) of the valve disc is shifted from the center by a distance of the width of A and B, a cam effect is produced which prevents from wearing the seal surface, lessens seating torque and offers long service life and easy operation.

Application of piping system

It is provided of heavy load designed for high pressure and high-flow rate application.

- Crude oil and product oil piping system
- Tank cleaning system
- Cargo tank Venting and Inert gas system
- Sea water system
- Fuel oil and Diesel oil system
- Other piping system where applicable

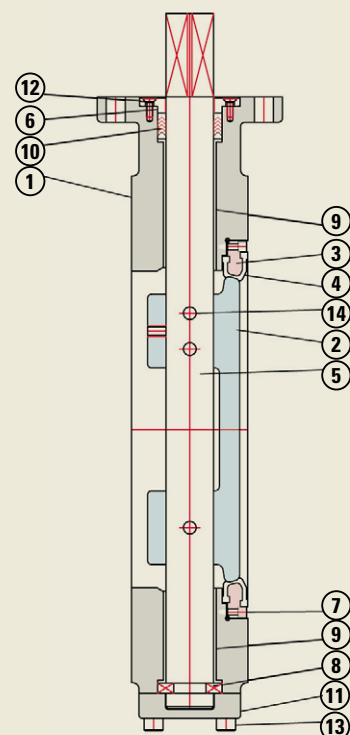
Operations

The valve shall be operated with the following actuators which selected depending on location of valve, the type of work and service for which the valve is used.

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

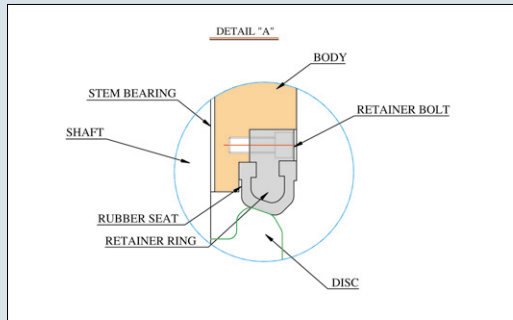
Part List

P.NO.	PART NAME	MATERIAL
1	BODY	CAST IRON / DUCTILE IRON STAINLESS STEEL / CARBON STEEL (NICKEL) ALUMINUM BRONZE
2	DISC	STAINLESS STEEL (NICKEL) ALUMINUM BRONZE / ALLOY STEEL
3	RETAINER	STAINLESS STEEL / CARBON STEEL ALUMINUM BRONZE
4	SEAT	NBR / VITON
5	STEM	STAINLESS STEEL(304, 316, 410, 630, Monel)
6	GLAND BUSH	STANLESS STEEL / BRONZE
7	RETAINER BOLT	STAINLESS STEEL
8	THRUST PLATE	STAINLESS STEEL + Teflon / BRONZE
9	STEM BEARING	STAINLESS STEEL + Teflon / BRONZE
10	PACKING	NBR / VITON
11	BOTTOM COVER	CAST IRON / DUCTILE IRON STAINLESS STEEL / CARBON STEEL ALUMINUM BRONZE
12	GLAND BOLT	STAINLESS STEEL
13	BOTTOM BOLT	STAINLESS STEEL, MILD STEEL
14	DISC PIN	STAINLESS STEEL



Double Eccentric Cargo Oil Butterfly valves

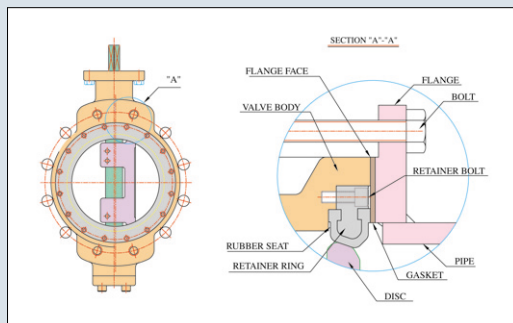
Design Features



SEAT RETAINER RING (Flange faced retainer)

The seat is designed having round shape to avoid foreign articles in the oil to be remained on the seat. The rubber seat to be adhered on the metal retainer by heat treatment to minimize the damage of rubber by high liquid shock.

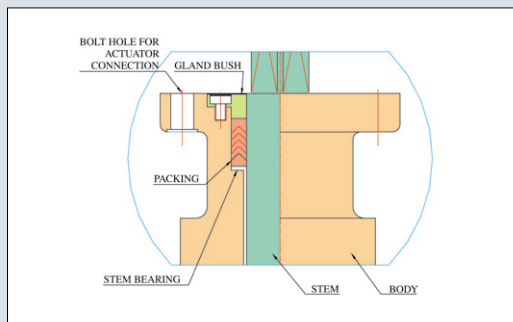
The seat provides bubble-tight at bi-direction flow full rated pressure.



SEAT RETAINER RING (Flange faced retainer)

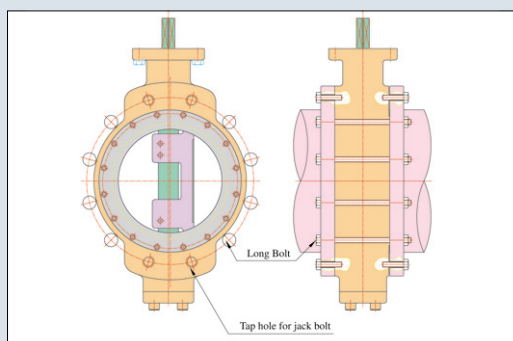
The retainer together with seat ring shall work independently from the adjacent pipe as the retainer is separated from the flange face of the valve and operating torque of the valve shall be kept constant as the pipe flange shall not pressurize the retainer and seat ring.

The global standard such as ANSI requires retainer separated from valve flange.



SHAFT SEALING (Gland bush with V-Packing)

V-packing with gland bush keeps the sealing in way of valve stem perfectly without additional tightening device after operating of the valve while other packing requires additional tightening work with the packing adjustment screw.



SEMI LUG TYPE

Ace valve provides semi lug type or flange type end of valve in accordance with JIS F 7480 in addition to wafer type valve. Semi-lug type connection shall allow the removal of the piping downstream of the valve under the condition of keeping the closed valve with tap holes and jack bolts to avoid spilling of liquid in the upstream pipe, while wafer type valve should be released from the pipe which requires additional works such as pumping and cleaning of the spillage at ship's bottom in addition to manpower for removing and re-installing of the valve.