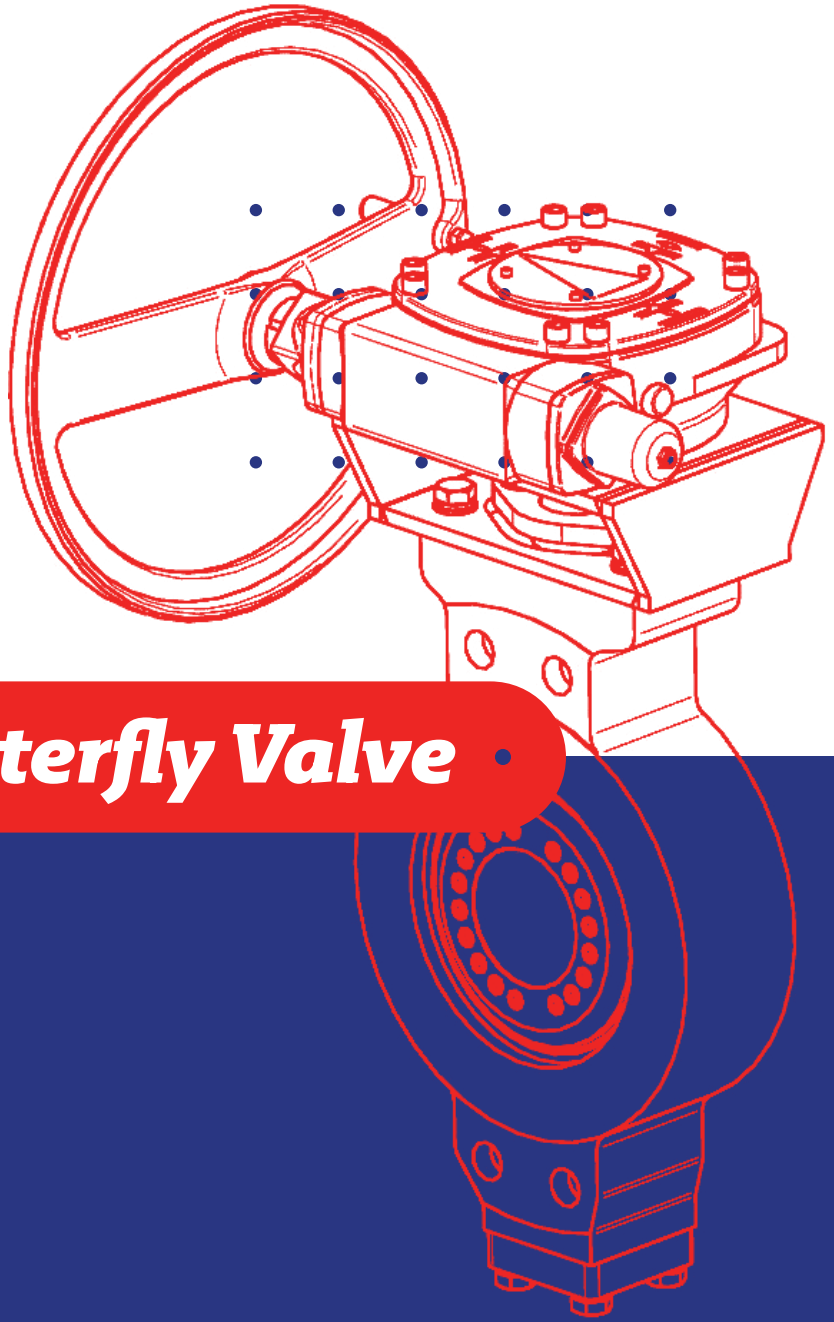
GAZAR
Sadra Mahan Parsian

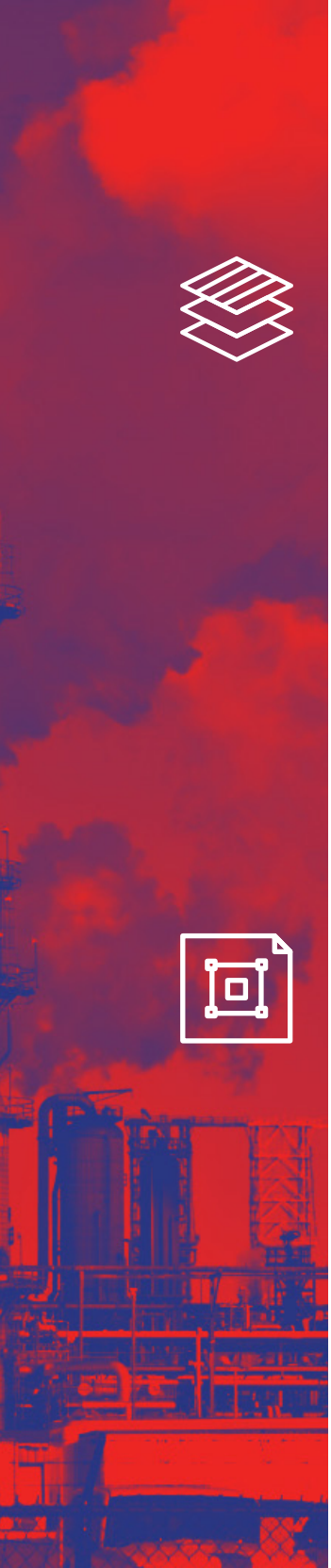


Butterfly Valve

usually equipped
with a so-called gearbox

About Butterfly Valve

Butterfly valve is a quarter-turn rotational motion valve that is used to stop, regulate, and start flow.
Butterfly valves are easy and fast to open. A 90° rotation of the handle provides a complete closure or opening of the valve. Large Butterfly valves are usually equipped with a so-called gearbox, where the hand wheel by gears is connected to the stem. This simplifies the operation of the valve, but at the expense of speed.



Types of Butterfly valves

Butterfly valves has a short circular body, a round disc, metal-to-metal or soft seats, top and bottom shaft bearings, and a stuffing box. The construction of a Butterfly valve body varies. A commonly used design is the wafer type that fits between two flanges. Another type, the lug wafer design, is held in place between two flanges by bolts that join the two flanges and pass through holes in the valve's outer casing. Butterfly valves are even available with flanged, threaded and butt welding ends, but they are not often applied.

Butterfly valves possess many advantages over gate, globe, plug, and ball valves, especially for large valve applications. Savings in weight, space, and cost are the most obvious advantages. The maintenance costs are usually low because there are a minimal number of moving parts and there are no pockets to trap fluids.

Butterfly valves are especially well-suited for the handling of large flows of liquids or gases at relatively low pressures and for the handling of slurries or liquids with large amounts of suspended solids. They are built on the principle of a pipe damper. The flow control element is a disk of approximately the same diameter as the inside diameter of the adjoining pipe, which rotates on either a vertical or horizontal axis. When the disk lies parallel to the piping run, the valve is fully opened. When the disk approaches the perpendicular position, the valve is shut. Intermediate positions, for throttling purposes, can be secured in place by handle-locking devices.

Compliance with the Standards and Directives

Concentric butterfly valve is a wafer & Lug Type with flange locating holes, and Companion lug version for dead-end service and other flange requirements. Concentric butterfly valve are tested to 110% of full pressure rating before shipment. A major design advantage of our valve product lines is international compatibility. The same valve is compatible with most world flange standards – ANSI Class 125/150, BS 10 Tables D and E, BS 4504 NP 10/16, DIN ND 10/16, AS 2129 and JIS10. In addition the valves are designed to comply with ISO 5752 face-to-face and ISO 5211 actuator mounting flanges. Therefore, one valve design can be used in many different world markets. All Butterfly Valve handles, manual gear Operators and pneumatic and electric Actuators mount directly to valves.

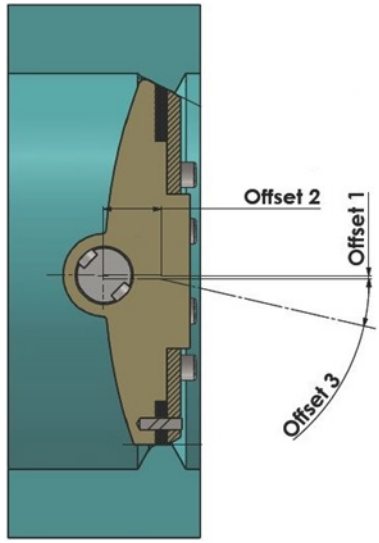
Recommended Specifications

1. Wafer or lug bodies.one or two pieces stem, concentric butterfly valve
2. Stem to disc with no possible leak paths in disc/stem connection.
3. with flange locating holes that meet ANSI Class 125/150 (or BS 10 Tables D & E, BS 4504 NP 10/16, DIN ND 10/16, AS 2129 and JIS 10) drillings.
4. Stem mechanically retained in body neck and no part of stem or body exposed to line media.
5. Spherically machined, hand polished disc edge and hub for minimum torque And maximum sealing capability
6. Equipped with non-corrosive bushing and self-adjusting stem seal.
7. Bi-directional and tested to 110% of full rating.
8. Field adjustment necessary to maintain optimum field performance.

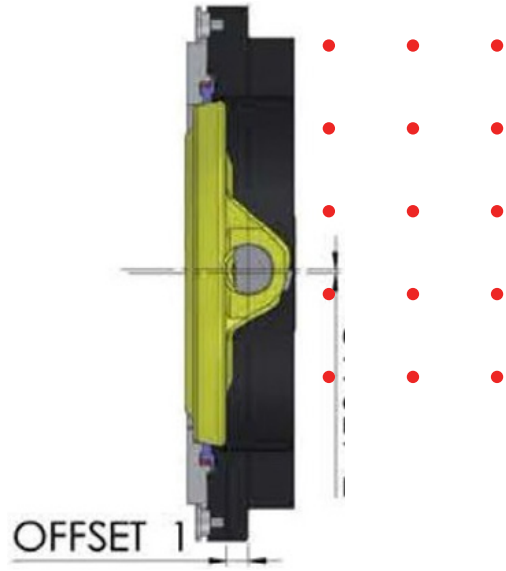
Material Selection

Body	Seat	Stem	Disk
Cast Iron ASTM A126 Class B	Buna-N – Food Grade	Coated Carbon Steel	Aluminum Bronze ASTM B148-954
Ductile Iron ASTM A536	EPDM – Food Grade	ASTM A582 Type 416	Coated Ductile Iron ASTM A536 Gr. 65-45-12
Cast Steel ASTM A216 WCB	FKM	ASTM A276 Type 304	Ductile Iron, Nylon 11 Coated, ASTM A536 Gr. 65-45-12
Aluminum ASTM B26	White Buna-N – Food Grade	ASTM A276 Type 316	316 Stainless Steel ASTM A351 CF8M
-	-	-	C-276 ASTM B575 Alloy N10276

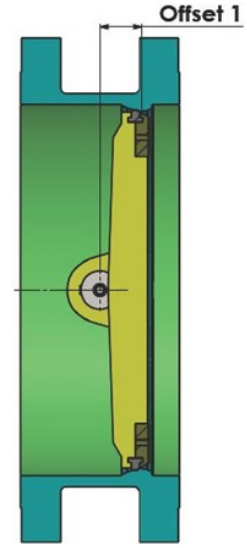
Triple Offset



Double Offset



Single Offset



With body design Lug & Flange

General Characteristics

Triple offset	Double & Single offset
• DN 50–1220 (NPS 2–48)	• DN 50–1625 (NPS 2–64)
• ASME Rating 150-300-600-900	• ASME Rating 150-300-600-900
• Triple offset design	• Double offset design
• Body design: Lug & Double Flange	• Body design: Lug & Double Flange
• Minimal opening, closing friction	• Minimal opening, closing friction
• Metal / metal seat	• Soft seat
• Maximum working pressure: 50 Bar	• Maximum working pressure: 50 Bar
• Working temperature range: -100°C to 500°C	• Working temperature range: -100°C to 500°C

Design Benefits

Split shaft design ensures high Kv (Cv) value and lower pressure drop.

A) Self-loaded Stuffing Box As Option

Perfect tightness of shaft, no up-movement of shaft as well as reduced torque for low pressure applications is guaranteed by self-loaded stuffing box in the body neck.

B) Graphite Packing

As standard, a graphite packing is installed around the upper shaft providing additional safety in case of medium overheating.

C) Adjustable Shaft Packing

Shaft packing system allows for easy access to adjusting the hex head nuts without requiring removal of the actuator.

D) Blow-out Proof Stem

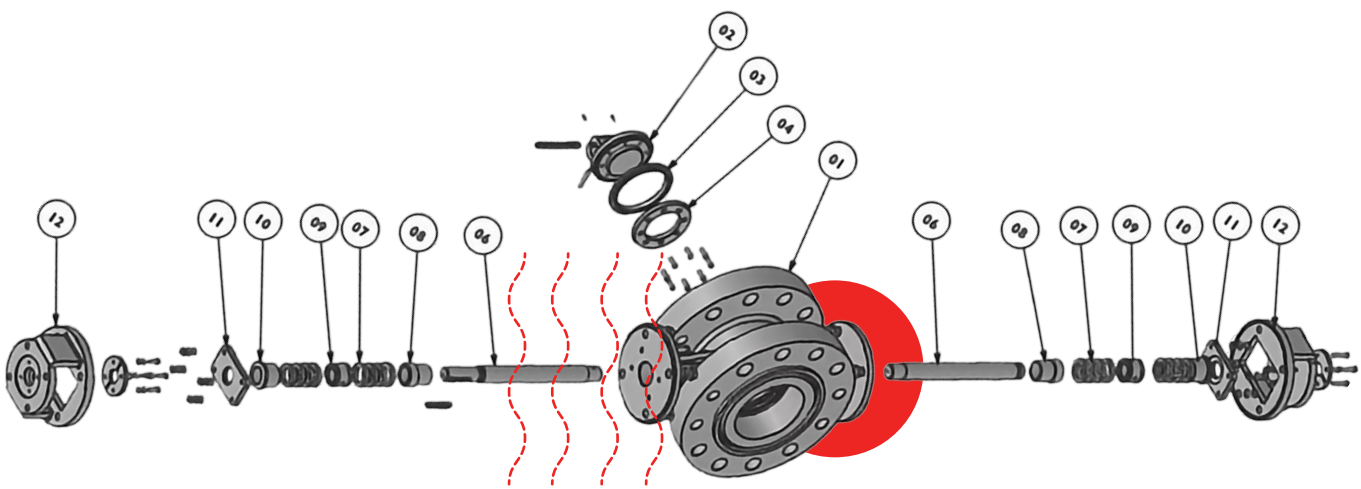
A retaining ring is installed between the machined shaft groove and gland retainer step.

E) Shaft Bearings

Top and bottom bearing consisting of TP Lugs fabric liner providing for excellent resistance to distortion, high temperatures and mechanical loading forces.

F) Spiral Gasket

Spirally wound stainless steel band with a soft graphite filler guarantees a perfect seal even with large temperature and pressure fluctuations inside the pipe. Extended neck ensures pipe insulation.



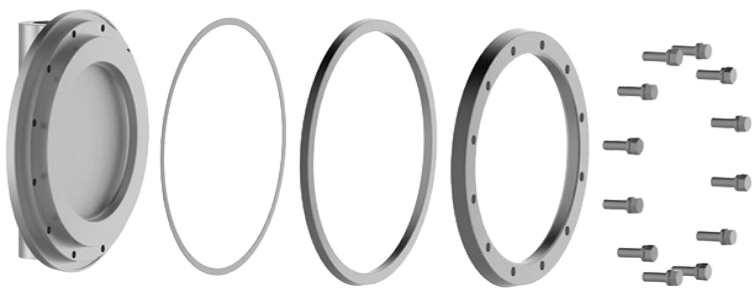
Material Selection

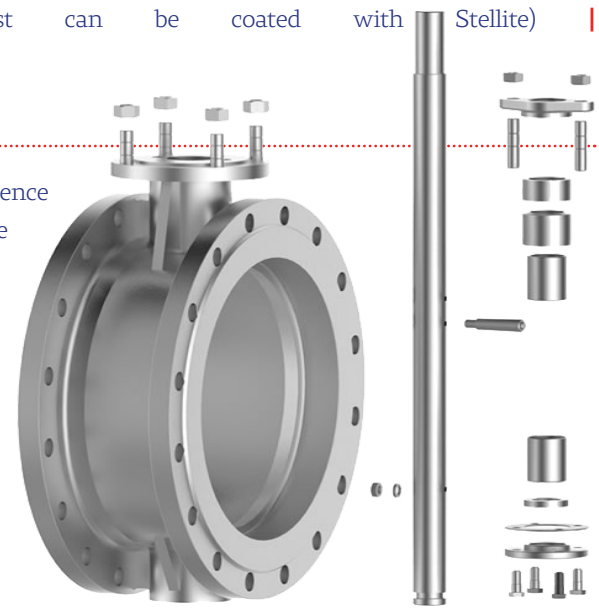
Part Name	Material	Part Name	Material
Body	1. Stainless steel AISI 904L | 2. Low carbon content steel A352 LCC | 3. Carbon Steel A216 WCB | 4. Stainless Steel A351 CF8M	Retaining Ring	Stainless steel AISI 316
		Stem	Stainless steel AISI 420 or (2205 Duplex)
Disc	1. Stainless steel AISI 904L | 2. Carbon steel A216 WCB | 3. Carbon steel A216 WCB + Stellite® | 4. Stainless steel AISI 316B | 4. Stainless steel AISI 420 | 5. Stainless steel (CF8M)	Packing	Braided Graphite
		Body Bushing	Stainless steel AISI 316
		Lantern Ring	A105 + ENP
Seat	-	Gland Bushing	Stainless steel AISI 316
Cage	A 105	Gland	Stainless steel AISI 316

\| All discs are nitride (on request can be coated with Stellite) \|

Disadvantages of Butterfly valves

- Disc movement is unguided and affected by flow turbulence
- Throttling service is limited to low differential pressure
- Cavitation and choked flow are two potential concerns





GAZAR

Sadra Mahan Parsian

Head Office: Unit 8, No. 1,
First Alley, Anvar Street,
Mirdamad Blv, Tehran, IRAN
Factory: No. 15, 19th Khayam,
Shahnameh Blv, Mashhad,
IRAN

Telefax:
021-22276160
Phone:
051-35422413

www.sadramahan-co.com
info@sadramahan-co.com
sales@sadramahan-co.com