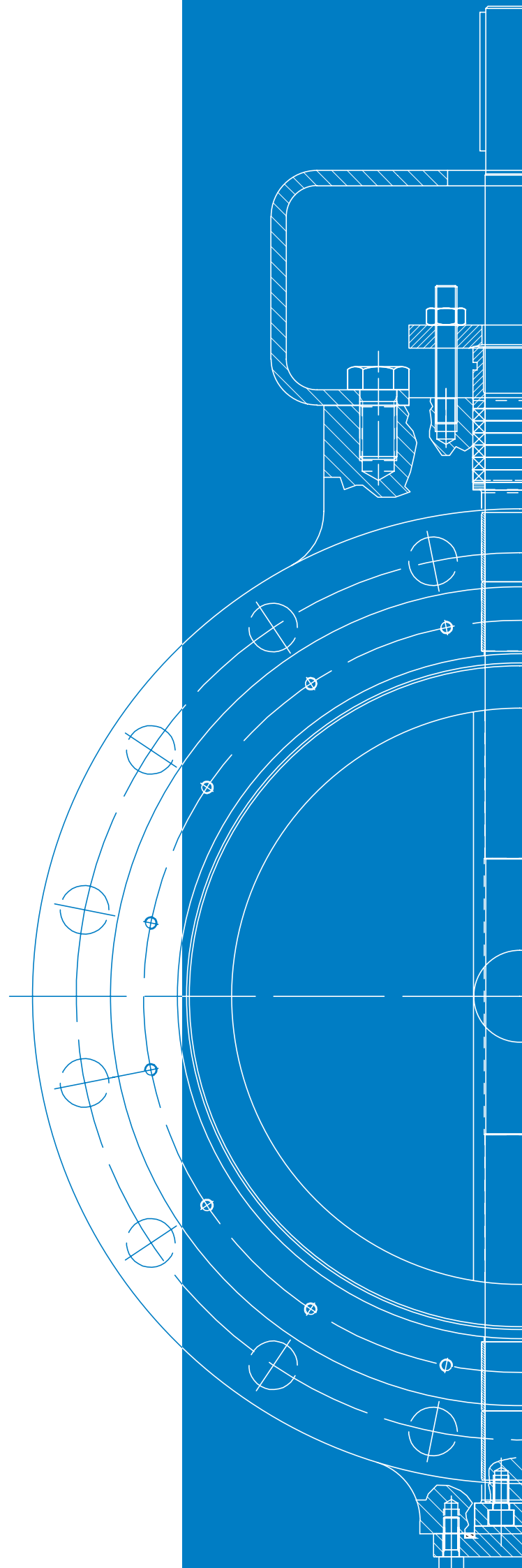




CVB VALVES S.R.L.

# Butterfly Valves

Oil & Gas, Naval , Petrochemical, Water,  
Energy & Desalination Fields



## BUTTERFLY VALVES

CVB is a premier supplier of **Butterfly valves**. Our range of valves include usage of special materials and designs which are required to meet and surpass the needs demanded by the **Oil&Gas, Energy, Water, Desalination and Naval industries**. All our valves are manufactured to meet our customers' technical, operational and safety requirements and are designed in compliance with the most recognized of International Codes and Standards such as API, ATEX, PED, CE, ASME, AWWA as applicable and/or required.

### CONCENTRIC RUBBER LINED BUTTERFLY (BFL)

The shaft is centered on the disc, while the body is lined with elastomers; indeed during the disc rotation, this rubs the valve seat, and to ensure good sealing performances and long life, the seat basically uses rubber or other elastic materials. Cost effective solution with the seal protecting the valve body from the medium, and upon request the disc too, with applications normally for low pressure

### DOUBLE ECCENTRIC BUTTERFLY VALVE (HP)

The rotation center of the disc and the body centerline are twice offset, with the axis of the shaft behind the centerline of the sealing point of the disc to the seat (1st offset), and the axis of the shaft is eccentric to the center of the valve/pipeline (2nd offset), allowing a quick and easier disengagement of the disc and the seat sealing faces. The design of these butterfly valves guarantees low mechanical wear and deformation between the two sealing faces, making the sealing performance much better and eliminating the unnecessary excessive friction between the disc and seat, reducing torque, improving the service life and controllability. Metal seats can be used thus valves are suitable for higher pressure, temperature and fire resistance services.

### TRIPLE ECCENTRIC BUTTERFLY VALVE (QTV)

In addition to the 2 offsets of the double eccentric valve, this valve design shows a 3rd offset, the geometry of the seating surface, creating a type of cone shape of the disc and seat. This cone angle, along with the two eccentric shaft offsets, allows the disc to seal against the seat with no friction. The optimized seat angle minimizes sticking or binding of the disc and lowers valve operating torque. The seat design also allows for uniform sealing, and thus a tight shutoff in a metal seat design.

Triple Offset Butterfly Valves offer several advantages when compared to other valves normally used in most upstream applications. Its Compact design makes the installation easier since the valves provide reductions in weight, thus less pipe bracing is required, and in space, with substantial cost savings, low torque allowing the selection of smaller actuators, thus lowering costs, and are inherently fire safe with a non-rubbing rotation and fire-tested designs per API 607, 5th Edition/ISO 10497-5; moreover bi-directional zero leakage closure with a metal seat, even after extensive cycling, provides sealing integrity formerly associated only with soft-seated valves, providing performance reliability for any harsh conditions in critical process applications, steam isolation, cryogenics and extreme temperatures.

## CONCENTRIC RUBBER LINED BUTTERFLY (BFL)

CVB Butterfly Valves BFL series have excellent performance, easy maintenance and component interchangeability that provides reliability and serviceability.

### CORE FEATURES

- Monobloc or two pieces body
- Seat with rigid ring
- Split shaft with low pressure drop
- Wide range of materials

### BENEFITS OF BFL SERIES

#### Monobloc body:

- Available for wafer, lug or flanged style
- To ensure maximum security and reliability
- Available with extended neck to enable piping insulation
- Wafer style body with shaped ring to ease valve installation and centering within the pipe flanges

#### Two pieces body:

- Design to allocate PTFE seat ring

#### Disc:

- Design to minimize pressure drop
- Polished sealing area in the entire perimeter to provide total sealing and ensure low operating torque

#### Shaft:

- Upper shaft transmits the rotation movement to the disc by means of square drive up to 10" eliminating the existence of taper pins, keys and studs, removing the possibility of wear and leakage by these parts; upper shaft fixed to the body through a spring pin, defining the "anti extrusion" system, avoiding the shaft being extruded from the body
- Lower shaft fixed to the body through a spring pin, defining the Trunnion system of the set, ensuring perfect alignment between body, disc and shaft

#### Actuation:

- Top flange allows easy coupling to manual, pneumatic and electric actuators
- ISO 5211 standard

### PRODUCTION RANGE

Nominal diameter  
2" - 120" (50 - 3000 mm)  
Larger size upon request

### RATING

ANSI Cl.150  
NP 6 -10 - 16

### BODY STYLES

- Wafer
- Lug
- Double Flanged

For FtF dimensions, please refer to relevant technical brochure

### PRESSURE LIMITS

From vacuum  
up to +20 bar (290 psi)

Please refer to relevant technical brochure related to seat material

### TEMPERATURE LIMITS

From -20°C (-4°F) up to +150°C (+302°F)

Please refer to relevant technical brochure related to seat material

### MATERIALS

- Cast and Ductile iron
- Carbon Steel
- Stainless Steel
- Duplex - SuperDuplex
- Bronze Aluminium

### SEAT MATERIALS

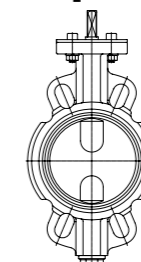
- NBR
- EPDM
- Viton
- PTFE
- Hypalon
- Neoprene
- Silicone

### APPLICABLE STANDARDS

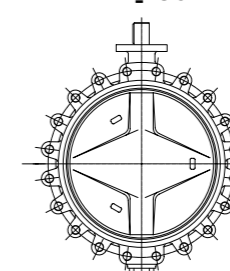
Design:  
ANSI B16.34/ ASME VIII/ API 609  
Face to face:  
API 609 A / ISO 5211 / DIN 3337  
Flange:  
B16.5/ B16.47/ASME VIII/ DIN/ ISO/  
UNI/ AWWA M  
Testing:  
API 598  
Fugitive emission:  
ISO 150484-1  
NORSOK



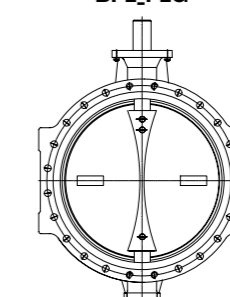
BFL\_WAFER



BFL\_LUG



BFL\_FLG



## DOUBLE ECCENTRIC BUTTERFLY VALVE (HP)

**CVB HP Series valves** are specified worldwide thanks to their unique combination of shutoff, control and reliability features, their compactness and fitness for purpose in critical tight shut-off isolation and control duties and combined isolation / non-return applications.

### CORE FEATURES

- Double eccentric
- Zero leakage, bi-directional tight shut-off
- One single piece seating installed on the valve body (available on the disc as alternative)
- Interchangeable and adjustable seal ring
- Disc or body mounted rubber seal or metal ring
- Self-cleaning seat
- Shaft protected from aggressive media
- Welded, bolted or integral seat
- Self-lubricating bearings
- Corrosion resistant shaft bushing

### BENEFITS OF HP SERIES

#### One piece cast or fabricated body to:

- Guarantee ultimate rigidity
- Achieve leak free performances
- Guarantee a continuous flange sealing surface

#### Conical centred seat to:

- Resist to corrosion
- Reduce wear from pipeline media

#### Heavy special section seal ring to:

- Allow for full tight shut off at pressure up to 40 bar
- Adjust compression to allow for sealing at different pressure value

#### Hydro-dynamically efficient disc to:

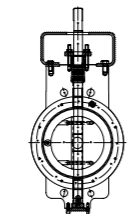
- Improve flow capability
- Reduce pressure drop
- Reduce dynamic torque

#### Special bushings to:

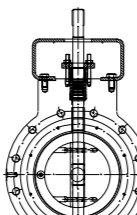
- Prevent contamination to enter
- Work with solid particles
- Guarantee a longer service life



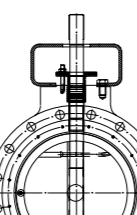
HP\_WAFER



HP\_LUG



HP\_FLG



### PRODUCTION RANGE

Nominal diameter  
2" – 120" (50 - 3000 mm)  
Larger size upon request

### RATING

ANSI Cl.150 – CL.300  
NP 6-10 – 16-25-40

### BODY STYLES

- Wafer
- Lug
- Double Flanged – short and long pattern

For FtF dimensions, please refer to relevant technical brochure

### PRESSURE LIMITS

- From full vacuum up to +25 bar (355 psi) for soft seat
- From full vacuum up to +40 bar (580 psi) for metal seat

### TEMPERATURE LIMITS

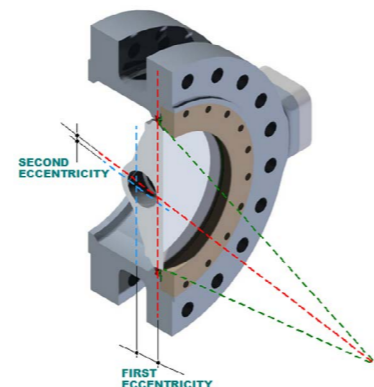
- From -20°C (-4°F) up to +150°C (+302°F) for soft seat
- From -196°C (-320°F) up to +550°C (+1022°F) for metal seat

### MATERIALS

- Carbon Steel
- Stainless Steel
- Alloy Steel
- Duplex - SuperDuplex
- Monel
- Aluminium bronze
- Titanium
- Hastelloy
- Inconel

### APPLICABLE STANDARDS

Design:  
ANSI B16.34/ ASME VIII/ API 609  
Face to face:  
API 609 / ISO 5752 short  
Flange:  
B16.5/ B16.47/ASME VIII/ DIN/ ISO/ UNI/ AWWA M  
Testing:  
API 598  
Fugitive emission:  
ISO 150484-1  
Fire test design:  
BS 6755–API607-ISO FDIS 10497  
NORSOK



## TRIPLE ECCENTRIC BUTTERFLY VALVE (QTV)

Thanks to their unique combination of control, reliability and compactness, **CVB QTV Series valves** is worldwide Customers preferred choice, the right solution to be specified in their applications. QTV features and design makes them fit for purpose in tight shut-off, critical high pressure, high temperature or cryogenic, throttling and isolation duties.

### CORE FEATURES

- Triple eccentric design
- Full metal construction
- Wide range of materials and sizes
- Resilient metal-to-metal seal
- Available with replaceable seat
- Zero leakage bi-directional tight shut-off
- Integral external position indicator on valve shaft and body
- Fire-safe and fire-tested
- External anti-blowout device
- Quarter turn friction-free operation
- Ready for control duties

### BENEFITS OF QTV SERIES

#### Unique Triple Eccentric metal seat design to:

- Prevent wear
- Guarantee zero leakage
- Guarantee longer service life
- Allow for low operating torques
- Achieve tight seal from bi-directional pressure
- Resist to corrosion and erosion

#### One piece conical and inclined seat integrated body to guarantee:

- Ultimate rigidity
- Leak free performances
- Continuous flange sealing surface

#### One piece shaft and disc arrangement to:

- Guarantee minimal hysteresis
- Reduce pressure drop
- Improve flow capacity

#### Special bushing to:

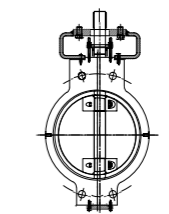
- Offer immunity to any dirt
- Guarantee service with polymeric media
- Guarantee a longer life service

#### Adjustable stuffing box to:

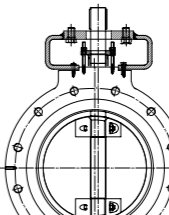
- Allow flushing
- Provide additional sealing
- Allow leakage control
- Guarantee monitoring



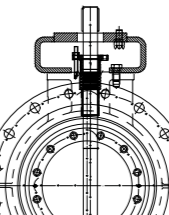
QTV\_WAFER



QTV\_LUG



QTV\_FLG



### PRODUCTION RANGE

ND 2" – 120" ANSI Cl.150  
larger size upon request  
ND 2" – 120" ANSI Cl.300  
larger size upon request  
ND 3" – 60" ANSI Cl.600  
larger size upon request  
ND 6" – 32" ANSI Cl.900  
larger size upon request  
ND 6" – 32" ANSI Cl. 1500 body  
some sizes with reduce class trim  
ND 6" – 16" ANSI Cl.2500 body  
some sizes with reduce class trim

### RATING

ANSI Cl.150-300-600-900-1500-2500  
NP 6-10-16-25-40-64-100-150-250

### BODY STYLES

- Wafer
- Lug
- Double Flanged – short and long pattern

For FtF dimensions, please refer to relevant technical brochure

### PRESSURE LIMITS

From full vacuum up to 450 bar (2200 psi)

### TEMPERATURE LIMITS

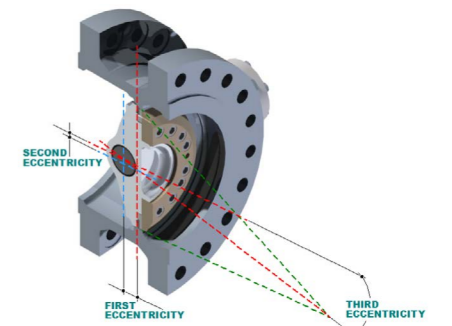
From -196°C (-320°F) up to +550°C (+1022°F)

### MATERIALS

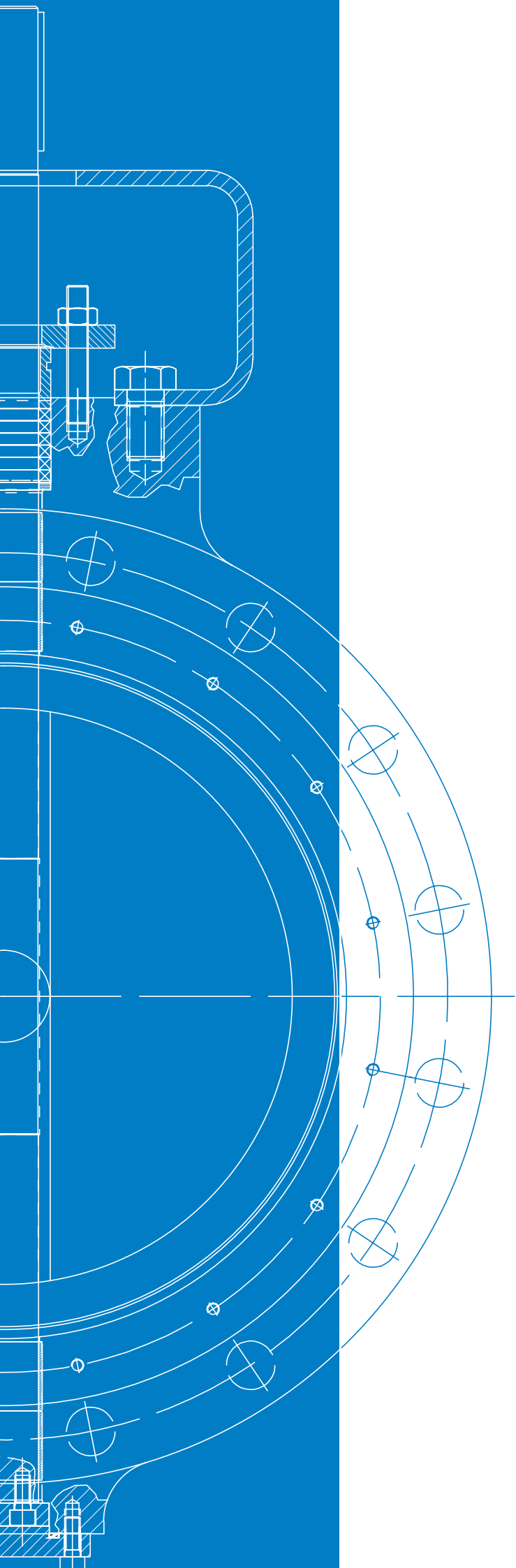
- Carbon Steel
- Stainless Steel
- Alloy Steel
- Duplex - SuperDuplex
- Monel
- Aluminium bronze
- Titanium
- Hastelloy
- Inconel

### APPLICABLE STANDARDS

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NORSOK







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