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## 1 General Instructions

The valves are standard counter-marked according to DIN/EN 19 (ISO 5209) more precisely:

nominal diameter (DN), nominal pressure (PN), body material, marking of the manufacturer and/or company; if necessary they may be furnished with an arrow indicating the flow direction. Furthermore, the max. permissible operating temperature (°C) and max. permissible operating pressure (bar) must be indicated.

The valves must not be used for values above the limits indicated on the valve's plate or in different conditions than those precisely described in the operating instructions, contractual documentation or type leaflet.

The use of valves in condition different from those specifically indicated may result in overloads which in turn may damage the valves.

The failure to observe the official instructions may lead to damage to persons or things:

Injuries caused by fluid (cold, hot, toxic, under pressure ...) that may leak

Detrimental to the functioning or damaging the valve

In case of corrosive or erosive action or something else that could thin the thickness of the valves wall, they must be substituted so to avoid the risk of leakage or structural failure

## 2 Butterfly valve Operation

These valves are bi-directional, the installation position is based on the DN. There is however a preferred position which foresees the rotating disc stem in the horizontal position providing the following benefits:

The weight of the disc is supported by the bearings

In the presence of heavy fluids or those that have the tendency to deposit on the bottom, the reduction of the passage section and the increasing of speed, in the manoeuvring phase of the valve it maintains the zones subject to depositing clean. Furthermore, this position avoids that the zone coincides with the section where the rotating of the stem takes places .

## 3 Storage & Handling

The valves must be stored in such away that even if stored for a long period of time the function capacity of the valve is not compromised. With this in mind it is necessary to:

Store valves in the closed position (to protect the seat/disc contact faces against damage)

Take necessary precautions against dirt, frost and corrosion (for example - using protective paper or covering)

### 3.1 Storage

For storage of soft seated valves and/or valves with stem seal in elastomer it is necessary to follow the instructions for elastomer storage (DIN 7716) for which some points are provided here below:

- The storage room must be dry, dust free, slightly ventilated and the temperature must not exceed ~ 25°C
- Existing stock must be finished to assure that the valves have not been stored for an excessive period of time
- Valves with seals in elastomer must not come in contact with solvents, lubricants, fuel, or other chemical products that may deteriorate the elastomer material
- The valves must be stored in such a way that sunlight nor UV rays coming from luminous sources invests the parts made with elastomer
- As previously indicated the valves must be stored in closed position. However, the valve discs on soft-seated valves must be closed using little force to prevent premature aging of the elastomer.

For full technical details and material specifications – please refer to our technical data sheets.

### 3.2 Handling

As standard procedures the valves should be shipped ready for use, closed and with adequate protection for the sides that are subject to connection. The purpose is to avoid the internal penetration of any foreign substance in the valve that may interfere with the correct functioning.

It is necessary to avoid moving the valve by picking it up by the handwheel or in the case of valves with servo command by the actuator.

We do not recommend the use of chains around the body, as these will tend to damage the protective powder coatings.

Where gate valve are fitted with handwheel, it MUST NEVER be used as lifting points for the valve.

## 4 Installation

### 4.1 General

Verify that the distance between the flanges and the pipeline allows for a correct nstallation.

Avoid damage to the liner during the installing operation

Position the disc in opening but make sure that the disc does not protrude further than the length of the body Open the valve (this operation is very important for a correct installation and positive functioning of the valve) Progressively tighten the tension rods or screws to obtain contact of metal/metal between the body of the valve and the counter flanges of the pipeline.

Make a series of manoeuvres to assure that there are not any obstacles.

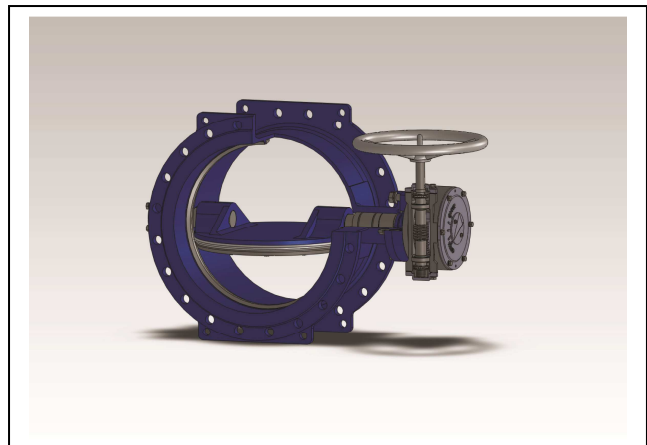
### 4.2 Actuator assembling

The connections of electrical cables must be performed only by specialised operators.

The regulations according to VDE 0100 e VDE 0165 (explosion-proof protection) must be observed. All of the electrical apparatus which are manoeuvring operators, electrical board, limit switches, electromagnetic valve, etc... as standard must be installed in dry areas that are not subject to flooding. Tension and frequency must correspond to the data on the labels.

### 4.3 Gear Orientation

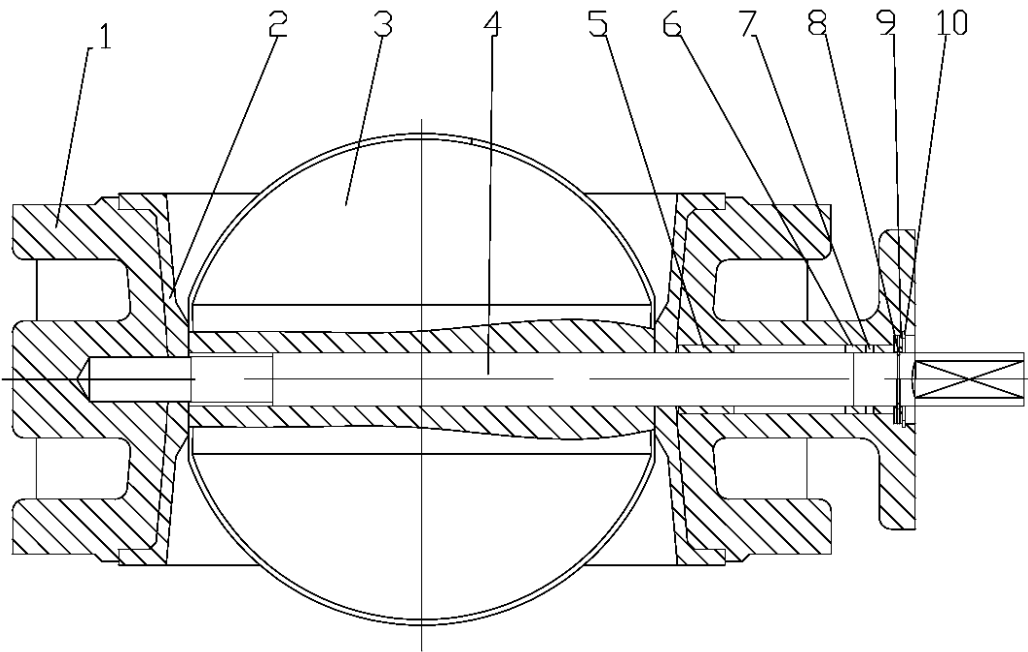
For gear orientation please see picture below:



#### 4.4 Drawings

The sectional drawings below provide of the general design / configuration of the valves. For illustrations relating to specific valve series and further information please refer to the respective type series booklets.

Type	DN	PN	Material	Type leaflet No.
BOAX® -CBV13	50-1200	10/16	Ductile Iron EN-GJS-400-15	8408.51-10



**Sectional drawings** (CBV13)

## 4.5 List of components

Part No. <b>CBV13</b>	Description
1	Body
2	Seat
3	Disc
4	Shaft
5	Long bushing
6	Short bushing
7	O-ring
8	Washer
9	Gasket
10	Washer
11	Bolt
12	Spring
13	Gear box

## 5 Maintenance

Maintenance and repair work must be done only by specialised operators. In any case, it is necessary to use adequate spare parts and utensils, even in emergency cases, because if different parts are used the perfect functioning of the valve is no longer guaranteed.

Before removing the valve from the pipeline, repairing or doing maintenance work remember to:

- Loosen the closing cover
- Unscrew the nuts of the stuffing box or stem-nut
- Remove actuator mounted directly on the valve
- Unscrew the drain plug

It is absolutely necessary to:

depressurize the valve and let it cool down to the point that the temperature in all of the cavities in contact with liquid is inferior to the temperature of the evaporation of the liquid.

For security reasons and to reduce the repairing costs, all of the valves, particularly those that are rarely manoeuvred because of hard to reach places must be controlled on a regular basis. The manager of the plant has the responsibility to establish adequate controlling interval and maintenance checks.

The duration of the valve that is maintenance free may be prolonged by performing the following operations:

- Lubricating the moving parts: stems, screws of the stuffing box (this operation must not be done on valves that are installed on oxygen lines)
- Add packing or repack immediately, before repacking accurately clean the stuffing box and in the case that cut packing rings are used it is necessary to insert them in the stuffing box so that the cut surface of each ring alternates 120-180° to the previous ring (when tightening the stuffing box pay attention not to provoke excessive friction to manoeuvring stem).
- Immediate substitution of body/cover gasket

For all actuators that are fed by external energy resources (electrical, pneumatic, hydraulic) before starting it is necessary to disconnect the external energy and follow the instructions regarding the actuator.

For commands with integrated spring-loaded accumulator it is necessary to carry out the removal operation of the cover with the maximum attention as the spring may be ejected with considerable force.

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