# Rubber wedge Gate valve

COBRA® -SGP
COBRA® -SGO
COBRA® -SGF

# 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 Gate valve Operation

Gate valves are operated by handwheel. The handwheel has been dimensioned so that there is not needing for any additional accessory for operation purpose. The hadwheel during opening or closing operations will turn without rising.

The Gate valve is intended to be used for cutting off working medium flow. The valve should be operated in fully open or fully closed position, leaving the gate valve in position not fully open may result in tightness damage.

If installation advices are not taken into account, gate valve may not work properly. Non-horizontal and non-vertical installation position shall be informed when ordering.

# 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

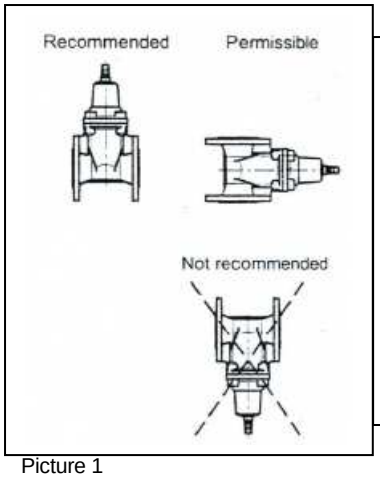
## 4.1 General

The pipeline must be installed in such a way that it avoids the transmission to the valve body because the force could provoke a lot of damage. In fact, it may cause:

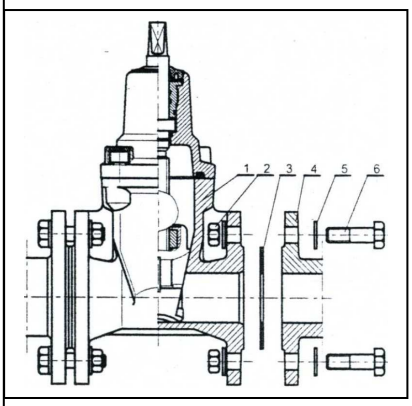
Leakage, deformation or in extreme cases the breaking of the valve body. The closing covers of the connection parts must be removed only upon the act of installation. The flange faces must be clean and undamaged. The liner of the flanges must be accurately centred on the contact zone. During the painting process of the pipeline it is necessary to assure that the mobile parts as well as those made of synthetic material remain clean, if not it may seriously comprise the correct functioning. In the case that construction work is still underway, the valves must be protected from dust, sand or pieces of material pertaining to the construction activity. The handwheels of the valves must not be used as a platform!!!!!

In the presence of valves or pipelines with high (>50°C) or low (< 0°C) operating temperatures it is necessary that the appropriate warning signs that signal danger by contact are exposed even if they should generally be kept in an adequate isolated area.

In the case that condensation/ice should form on heating/air-conditioning systems or in refrigeration plants it is necessary to efficiently isolate the entire valve in so far that the eventual formation of ice may render the manoeuvring of the valve impossible. If a valve in installed on a pipeline as an end of line valve, the adequate measures must be adopted to avert danger deriving from involuntary or unauthorised opening of the valve.




Picture 1




Picture 2

Picture 1 is showing installation position of gate valves.

Recommended position are horizontal or vertical position is permissible.

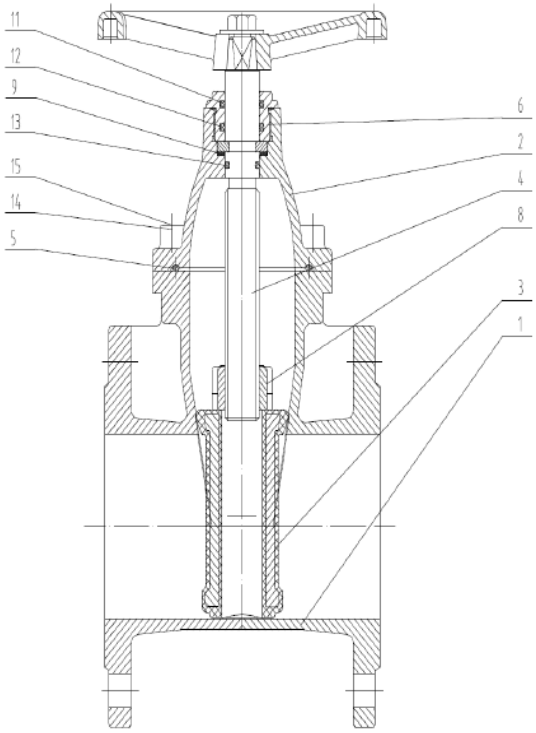
Horizontal installation with the handwheel on the bottom is not recommended.

Picture 2 is showing installation instructions of gate valves.

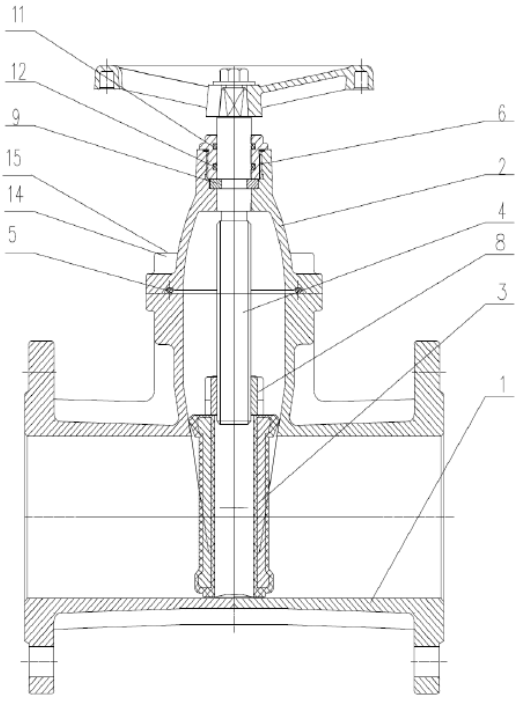
## 4.2 Drawings

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.

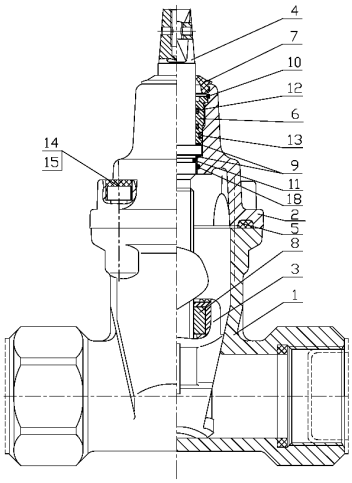
| Type | DN | PN | Material | Type leaflet No. |
|---|---|---|---|---|
| COBRA® -SGP | 40-300 | 16/25 | Ductile Iron EN-GJS-400-15 | 8191.51-10 |
| COBRA® -SGO | 40-300 | 16/25 | Ductile Iron EN-GJS-400-15 | 8191.51-10 |
| COBRA® -SGF | 1'-2' | 16 | Ductile Iron EN-GJS-400-15 | 8191.51-10 |




**Sectional drawings** (SGP)




**Sectional drawings** (SGO)




**Sectional drawings** (SGF)

### 4.3 List of components

| Part No. | Description |
|---|---|
| 1 | Body |
| 2 | Bonnet |
| 3 | Wedge |
| 4 | Spindle |
| 5 | B/B gasket |
| 6 | Packing cork |
| 7 | Clean gasket |
| 8 | Spindle nut |
| 9 | Spindle washer |
| 10 | Stopper ring |
| 11 | O-Ring |
| 12 | O-Ring |
| 13 | O-Ring |
| 14 | Screw |
| 15 | Screw stopper |
| 16 | Stopper |
| 17 | Spindle sleeve |
| 18 | Seal O-Ring |

# 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 12O-18O° 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