

## General information

- The valve may be fitted in any position in the pipework.
- Prior to the mounting of the valve flush the pipelines to remove all traces of soiling, welding residues etc.
- The pipes must not have any tension.
- **CAUTION:** The rotating ball may cause injury. Keep away from space between ball and body!

## Installation of valves with screwed ends

- Use hemp core, PTFE etc. to tighten the threads. Apply the wrench only on the screwed ends to tighten the valve to the pipe.
- Tightening by using the valve body or hand lever can lead to damage.

## Installation of valves with short butt weld ends DN 8 - DN 50 full bore

- **ATTENTION:** Short butt weld ends (DN 8 - DN 50 full bore) are only pre-assembled.  
After installation the body screws have to be tightened (see table „tightening moments“).
- Spot weld the valve in the pipe.
- Unscrew all body screws.
- Remove the body screw and nut which are below the top plate (screw which is not going through the body).
- Swing out the centre section (valve to be in open position).
- Secure seats against falling out (e.g. with tape).
- After having finished the welding swing back the centre section.
- Replace screw and nut.
- Secure that the ball valve is exactly in „open“ position.
- Tighten the body screws (see table „tightening moments“).
- **ATTENTION:** Do not operate the valve before flushing, **the valve must stay in open position**, as otherwise the seats may be damaged!

## Installation of firesafe valves, valves with long butt weld ends, ends for orbital welding or but weld ends DN 65 - DN 100 full bore

- Weld the valve in the pipe (**ball must be in open position**, centre section must not be dismantled).  
After dismantling of firesafe valves use new graphite sealings.
- **ATTENTION:** Do not operate the valve before flushing, **the valve must stay in open position**, as otherwise the seats may be damaged!

## Putting into operation

- Flush the ball valve and pipe thoroughly again.
- Open and close the valve for test run.
- In case of any leakage between centre section and end caps the body screws and nuts must be tightened again (see table „tightening moments“).

## Mounting of actuators

- It must be ensured that the actuator is centred on the valve shaft.
- Before mounting the actuator the gland nut has to be secured by the security cap.
- The mounted actuator must not cause a thrust load on the valve shaft. If necessary the actuator must be fastened / supported. NOTE: In case of moving pipelines the fastening of the actuator must not be rigid.
- For working temperatures up to max. 140°C the actuators can be directly mounted. If temperatures are higher a mounting bracket should be used as thermal isolation between actuator and valve.

## Tightening moments

Max. tightening moments must not be significantly exceeded.

DN	8/10	15	20	25	32	40	50	65	80	100
M [Nm]	7	15	15	15	35	35	60	80	80	125

## Maintenance

- The ball valves are maintenance-free.
- Should a leakage occur at the gland packing, retighten the gland nut/screws (12/21). Take care that the gland nut/screws are not tightened too much. Normally the leakage can be stopped by simply turning the nut/screws by 30° to 60°.

## Replacement of seats and seals

- Check whether the pipeline has been rendered depressurised and is empty.
- Set valve in **open position** and remove centre section.
- Close the valve and remove centre ring (DN 65-100 / 27) seats (5) and ball (3). Be careful not to damage the ball.
- Remove body seals (17).
- Remove handle nut/screw (15/32/25), hexagon screw (30), washer (29), hand lever (13/23 and 24) and stop plate (DN 65-100 / 22) respectively security cap (DN 8-50 / 28) and unscrew gland nut/screws (12/21).
- Take off gland flange (DN 65-100 / 20), disk spring washers (11), washer (26) and remove gland (10).
- Push stem (4) into the valve body and remove it carefully.
- Remove thrust washer (7) and primary sealing (8) from the stem.
- Remove stem packing (6) and thrust washer (9).
- Clean all parts, especially the sealing surfaces of the ends.

## Assembly

- Put the thrust washer (7) and the primary sealing (8) on the stem (4) and insert stem from the inside of the body.
- Put stem packing (6), thrust washer (9), gland (10), washer (26) and disk spring washers (11) on stem.
- DN 8-50: Replace gland nut (12) and tighten. Avoid rotating the stem (4) by applying a suitable wrench. Secure the gland nut by mounting the security cap (28)
- DN 65-100: Replace gland flange (20) and fix it using the screws (21). See table tightening moments for gland nut/screws.
- Replace stop plate (DN 65-100 / 22), hand lever (13/23 and 24), washer (29), hexagon screw (30) and handle nut/screw (15/32/25).
- Insert ball (3), centre ring (DN 65-100 / 27), seats (5) and body seals (17).
- Mount complete centre section (ball in open position) between the ends.
- Set ball in **closed position** and tighten the body screws (18/19) (see table tightening moments for body screws).
- Open and close the valve for test run.
- **CAUTION:** The rotating ball may cause injury. Keep away from space between ball and body!

## Tightening moments for body screws

Max. tightening moments must not be significantly exceeded.

DN	8/10	15	20	25	32	40	50	65	80	100
M [Nm]	7	15	15	15	35	35	60	80	80	125

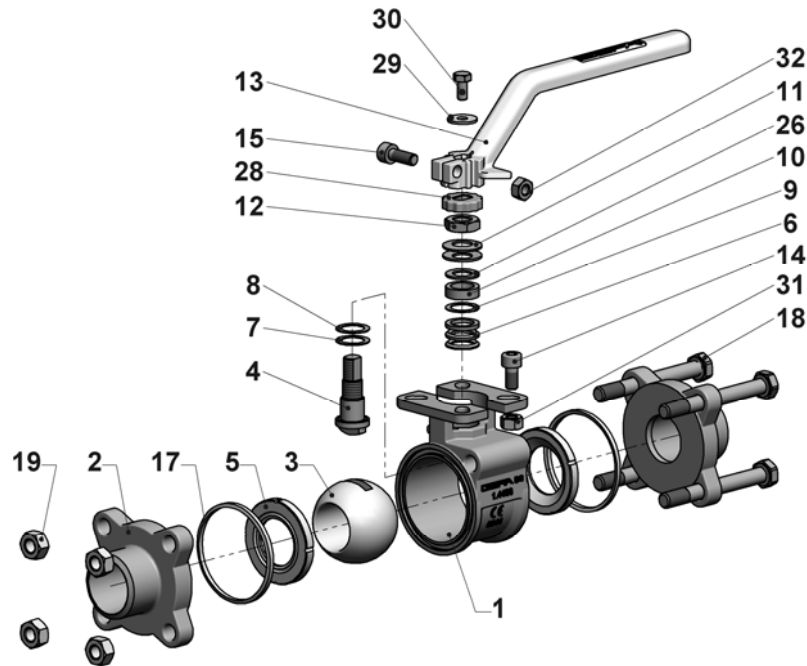
## Tightening moments for gland nut / screws

DN	8/10	15	20	25	32	40	50	65	80	100
M [Nm]	10	14	14	14	18	18	25	7	7	7

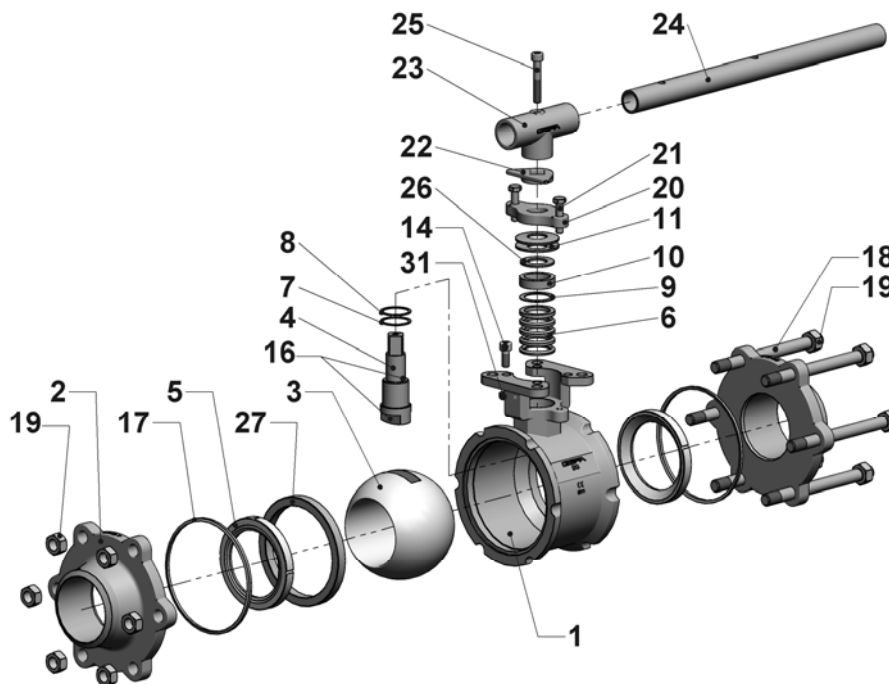
## Storage

- Storage and transport of the valves to be dry and clean (without any dirt).
- Temperatures for storing: - 15°C to + 30°C
- In humid rooms drying material respectively heating is necessary to avoid condensation of water.
- Valves have to be protected against force (shock, blow, vibration etc.).
- During storage or transport the ball valve must be either in open or closed position (no intermediate position!).

## DN8-50



## DN65-100



- |                       |                      |                   |
|-----------------------|----------------------|-------------------|
| 1 Body                | 12 Hexagon nut       | 23 T-piece        |
| 2 End cap             | 13 Hand lever        | 24 Pipe           |
| 3 Ball                | 14 Cylinder screw    | 25 Cylinder screw |
| 4 Stem                | 15 Cylinder screw    | 26 Washer         |
| 5 Seat                | 16 Antistatic device | 27 Centre ring    |
| 6 Stem packing        | 17 Body seal         | 28 Security cap   |
| 7 Thrust washer       | 18 Stud bolt         | 29 Washer         |
| 8 Primary sealing     | 19 Hexagon nut       | 30 Hexagon screw  |
| 9 Thrust washer       | 20 Gland flange      | 31 Hexagon nut    |
| 10 Gland              | 21 Hexagon screw     | 32 Hexagon nut    |
| 11 Disk spring washer | 22 Stop plate        |                   |