

2pc Flanged Ball Valve



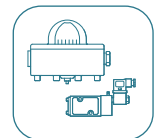
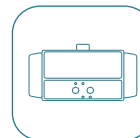
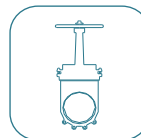
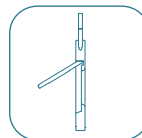
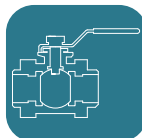
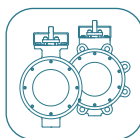
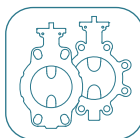
Fig.150

English



ATEX, CE, SIL and EU1935/2004 (European food approval) for Coreline ball valves.

www.coreline.dk



Pipe cleaning

Foreign matters in the pipeline may damage the sealing surface of the valve or prevent the movement of the valve ball, resulting in the valve not closing properly. In order to reduce the possibility of dangerous situations, all pipes need to be cleaned before installing the valve. Check that pipe dirt, metal chips, welding slag and other foreign objects have been removed. In addition, check the flange surface of the pipe to ensure that there is a smooth surface (If any cleaning process after the valve is installed in pipeline, the ball valve has to be in open position and must not be activated before rinsing completed, to avoid damage of seat).

Valve installation

There shall be flange gasket on the flange surface when the valve is installed. It is recommended that the flange installed with the valve meet the relevant standards.

- Check that the pipes are in a straight line and the flanges are clean and parallel. Do not install the valve between two non-parallel flange faces.
- The distance between the flanges must correspond to the face to face dimension of the ball valve.
- Carefully place the valve between the flanges. After the valve is aligned with the pipeline, then gently tighten the bolts, and finally tighten them in a staggered order. Correct tightening can avoid uneven valve pressing force, prevent leakage, and also help to avoid flange damage.

Fasteners used during the installation should comply with the laws, regulations and standards of the relevant countries. Those which do not meet the requirements of the relevant regulations are strictly prohibited to use for the installation. When tightening the flange bolts and nuts, a reasonable torque should be used according to the relevant regulations. The following table lists the torque values for reference.

Operation instructions

- The opening and closing of the valve is done by turning the handle a quarter turn (90° turn). The valve handle is marked showing proper rotation direction for "ON" and "OFF" positions. Rotation is clockwise for "OFF" (closed) and counterclockwise for "ON" (open).



- Valve in OPEN position: The handle is in line with the valve or pipeline.
- Valve in CLOSED position: The handle is across the pipeline.

Use and maintenance

The use of the valve shall be carried out in accordance with the instruction manual, and shall not exceed the design parameters. The operator must go through on-the-job training to understand the basic operation principle of the valve. Prevent incorrect opening and closing of valves. The operator should clearly understand the role of each valve and its position in the process pipeline to prevent misuse. It should be ensured that the valve can be opened and closed at least twice within a week to prevent the valve from being stuck due to long-term inactivity.

Valves should be inspected regularly, at least every three months, or in accordance with the corresponding laws and regulations, or on-site process conditions to set the frequency of maintenance. Regularly check the valve connections for looseness and tighten in time. Check whether the valve leaks or malfunctions. If leaks or malfunctions occur, the valves and pipelines should be repaired in time on the premise of ensuring safety.

If there is an actuator, attention should be paid to the actuator and its connecting mechanism during valve maintenance. Maintenance should be carried out according to the instruction manual of the actuator.

Replace the seat and packing

Note: Stem seal leakage may be corrected by tightening the packing nut to flatten the bellville washers. If leakage continues or the valve torque becomes excessive, then the seal/packing must be replaced.

Before replacing the thrust washer and the packing, the pipeline must be de-pressurized.

- Remove flange nuts and bolts and carefully lift the valve from the pipeline to avoid scratching or damaging serrated gasket. The big diameter valves are heavy and should be adequately supported before removing them from the line.
- Loosen the stem nut and remove the handle or actuators. Then remove lock cap, packing nuts, bellville washers and gland.
- Use proper wrench to remove body bolt nuts, then lift the body end. The valve seat will come out with the body end and then remove the body seat and gasket.
- Rotate stem so the valve is in fully closed position. Carefully take out the ball to make sure there is no damage to the ball surface, use a strap and lift device if necessary.
- Take out the other seat.
- The stem must be removed from inside of the body. Slightly push the stem head to loose the stem. The stem washer and the O-ring should come out together with the stem.
- Remove the stem packing from the body.

Visual inspection

Clean and inspect all the metal parts. It is not necessary to replace neither ball nor stem unless there are visual signs of abrasion or corrosion on the surfaces.

We strongly recommend replacement of all soft parts whenever the valve is disassembled for reconditioning. Contact Coreline for replacement kits that contain all the replaceable parts.

Note: The valve can be assembled and operated dry without any lubricant. However, a light lubrication will help in assembly and reduce initial operating torque. Lubricant used must be acceptable with the pipeline media.

Assembly

- Install one seat in the body cavity with the spherical curvature facing the ball. A split drawing is found on page 9 in this manual.
- Install the stem seal and O-ring on the stem and slide the stem up through the body. Install packing, gland, Belleville washers, and then screw the packing nut onto the stem. Lock the cap on the packing nut afterwards.
- Install stem washer and handle. Screw the stem nut onto the stem until the handle is secure.
- Turn the handle to the fully closed position. Line up the ball slot with the stem end and slide the ball into the right position. Turn the handle to open position to keep the ball in the right place.
- Install the remaining seat into the body side.
- Put the body seal gasket into the body and lineup the end flange. Because the body flange bolt pattern is different from the line flange bolt pattern, it is possible to assemble the valve in a way that the line flanges bolt pattern does not lineup. Be certain to align the end flanges bolt holes to the straddle valve center lines. Be careful not to damage the body seal when putting the cap end into body.
- Install the cap end nuts and tighten them in a staggered order to the proper torque (See Table 1). Make sure that the ball is in an open position. There should be at least one stud thread exposed on the side of the body bolt.
- Gradually open and close the valve until a full 90° turn is obtained. The seat sealing surface will form a permanent seal shape against the ball by this process.

Valve tests

Make pressure test of the valve prior to place it back into pipeline.

- Fix the valve on the pressure test machine between a mating flanges with full bolting and suitable gaskets. Orient valve so seat to be tested is facing upwards.

Pressure test

- Introduce 6bar air. Carefully operate the valve under the given air pressure, and then slowly close to make sure the cavity is pressurized. Put water into the upper port to cover the ball and then visually check if there are bubbles. If bubbles appear, pour water out and then operate the valve several times and recheck. Reverse the valve and put air pressure to the port just checked to check for leakage in the other port.
- Check stem seal by covering the stem top area with water/soap solution. Tighten stem seal if leakage occurs until leakage just stops.
- Apply a water pressure test according to API598 if

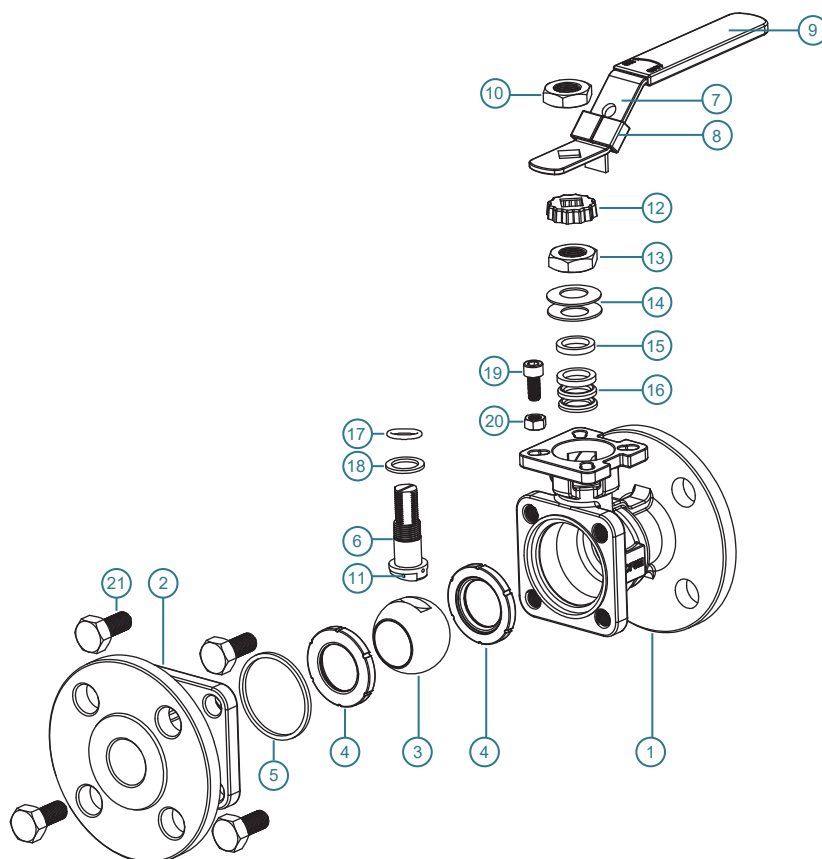
Valve torque test

Coreline Fig.150 ball valves are applied with below torques (See Table 1) when the valves are delivered.

Size		Valve torque *)	Body bolt	Stem nut
INCH	DN	[Nm]		
1/2"	15	8	20-23	14.3
3/4"	20	8	23-26	14.3
1"	25	16	31-34	14.3
1 1/4"	32	26	34-36	19.4
1 1/2"	40	50	41-46	22.4
2"	50	55	41-46	22.4
2 1/2"	65	95	41-46	22.4
3"	80	104	56-61	32.7
4"	100	200	56-61	32.7

*) Torque values include 30% safety factor (Test: 0bar differential pressure, ambient temperature, non-lubricating).

Table 1



Material part list

No.	Part name	Material	No.	Part name	Material
1	Body	A351 CF8M	9	Handle sleeve	Vinyl
		A351 CF8	10	Nut	SS304
		A216 WCB	11	Anti-static device	SS316
2	Body cap	A351 CF8M	12	Lock cap	SS304
		A351 CF8	13	Nut	SS304
		A216 WCB	14	Belleville washer	SS301
3	Ball	SS316	15	Gland	SS304
		SS304	16	V-ring packing	*) PTFE+25% carbon
4	Seat	*) PTFE+25% carbon	17	O-ring	FPM
5	Gasket	*) PTFE+25% carbon	18	Stem sealing	PTFE
6	Stem	SS316	19	Stop bolt	SS304
		SS304	20	Nut	SS304
7	Handle	SS304	21	Body bolt	SS304
8	Locking device	SS304			

*) Other material available on request.

Coreline

The contents of this catalogue are confidential and proprietary to Coreline, we reserve the right to change the specifications without any notice.

CORELINE VALVE CO., LTD.

Add: No.210 Xinyuan Road, Ehu Industrial Park, 214116 Wuxi, China

Phone: +86 510 8852 5336

Http: // www.coreline.dk

E-mail: mail@coreline.cn