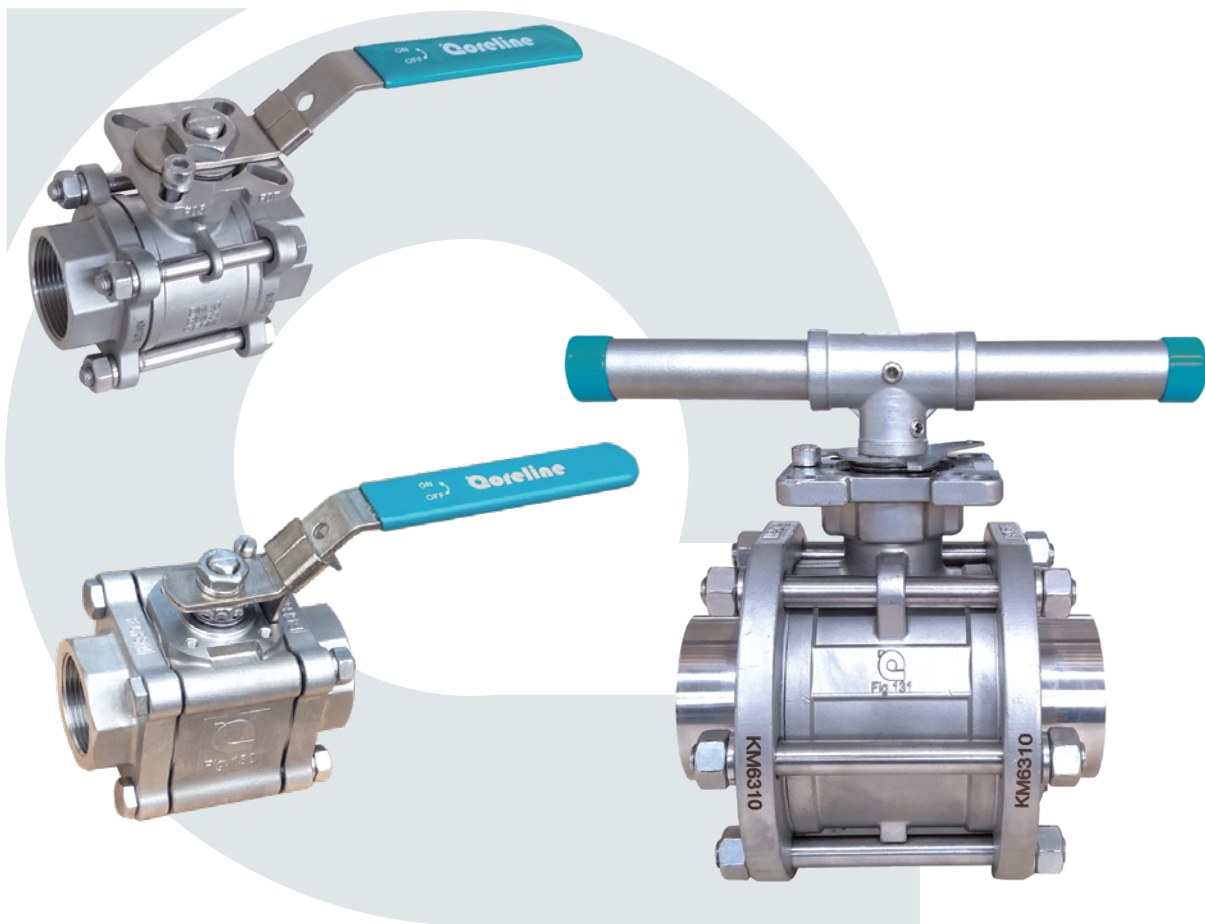


3pc Ball Valve

Fig.130,131
Fig.135



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

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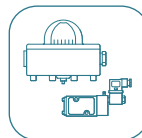
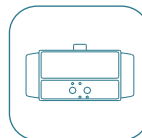
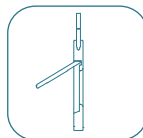
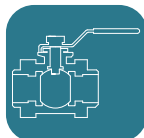
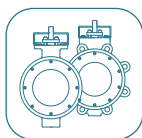
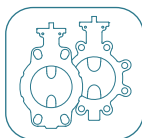




Fig.130



Fig.131



Fig.135

Pipe preparation

- Make sure the pipeline is correct. Tensions and displacements in the pipeline may cause high torque value and leakage between the body and end caps.
- The pipeline should be supported and the space between the pipe endings must correspond to the face-to-face dimension of the ball valve.
- 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 proces 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).

Operation and use

- This guide contains information concerning the installation, operation, and storage of Coreline 3PC ball valves. To ensure efficient and safe operation of Coreline 3PC ball valves, the instructions in this manual should be thoroughly read and understood. This manual is general in nature and is not meant to take the place of an on-site, process engineer or pipe fitter. As such, Coreline recommends that only experienced, skilled personnel be allowed to install and maintain Coreline 3PC ball valves. Please retain this manual in a location where it is readily available for reference.
- 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.

- 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.

Installation guide

- Coreline 3PC ball valve can be installed in any position on the pipeline, but be aware that deposited dirt in the bottom of the pipeline may damage the stem seal if the valve is mounted upside down.
- The ball valve shall be installed minimum 6 pipe diameters from sources of turbulence (See Fig.1).

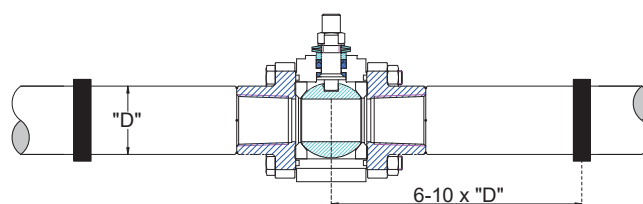


Fig.1

Installation of thread ends ball valve

- Do not disassemble the valve before installation.
- Sealant is applied to the pipe thread (Packing yarn, Teflon tape etc.).
- Apply wrench only to the hexagon part of the valve end that is to be connected.

Installation of weld ends ball valve

- Align the open ball valve between the pipes and spot weld four places on each weld connection end.

Welding for Fig.130/131:

- The valve should not be separated during TIG welding. Keep the valve in open position and complete the welding process (See Fig.2).
- With the ball valve open flush the pipes.

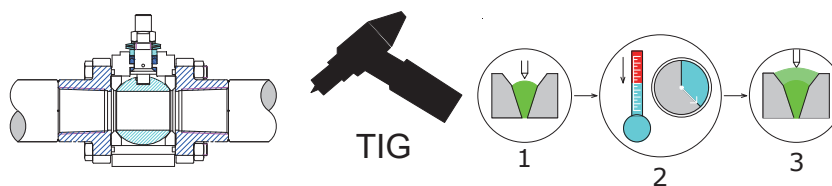


Fig.2 Welding for Fig.130/131

Welding for Fig.135:

- With the ball valve open, disassemble the body from the spot welded connection ends and place the body in a clean and safe place (See Fig.3).

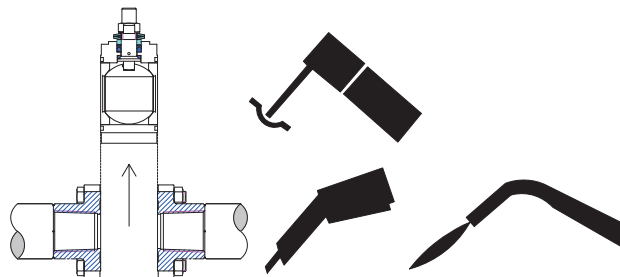


Fig.3 Welding for Fig.135

- Make sure that the connection ends are aligned. Complete the welding of both connection ends to the pipe. Carefully place the open ball valve (body) between the cleaned and cooled connection ends. Make sure that the joint gasket is not scratched against the connection ends, which may cause leakage during operation (See Fig.4).
- With the ball valve open carefully tighten the bolts evenly in a star pattern with a torque wrench under the given torques by Coreline.
- With the ball valve open flush the pipes.

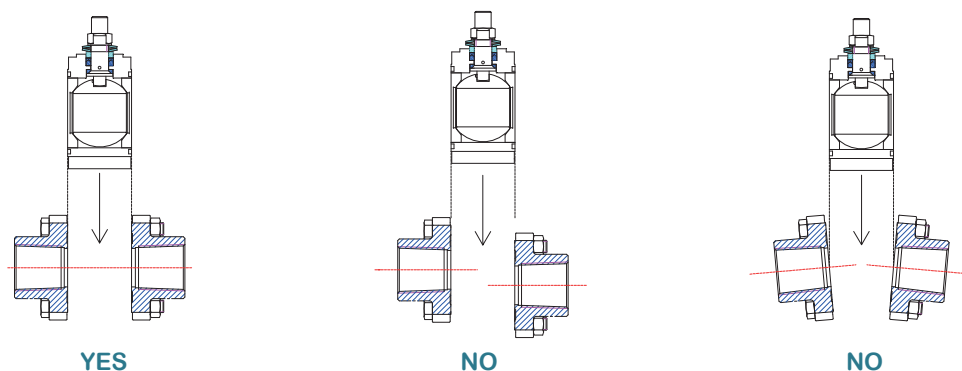


Fig.4

Ball valve function test

□ Gradually open and close the valve until a full 90° turn is obtained. In this way you make sure that the seat is shaped against the ball. This is particularly important when installing new seats.

Tightening torque for the body bolts and stem nut

Tightening torque - body bolting

Size	10F/15R	15F/20R	20F/25R	25F/32R	32F/40R	40F/50R	50F/65R	65F/80R	80F/100R	100F
Torque [Nm]	10	12	20	20	36	36	65	80	110	110

Tightening torque - stem nut

Size	10F/15R	15F/20R	20F/25R	25F/32R	32F/40R	40F/50R	50F/65R	65F/80R	80F/100R	100F
Torque [Nm]	7	9	9	11	11	16	16	19	21	23

Valve tests

Make pressure test and torque test of a re-assembly valve prior to place it back into pipeline.

□ Fix the valve on the pressure test machine with proper toolings. 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.

Valve torque test

Coreline Fig.130/131/135 ball valves are applied with below torques (See below Table) when the valves are delivered.

Size	Torque [Nm] ¹⁾			Size	Torque [Nm] ¹⁾		
	135 ²⁾	130	131		135 ²⁾	130	131
8F	-	6	8	40F/50R	26	35	35
10F/15R	-	6	8	50F/65R	36	48	49
15F/20R	8	9	8	65F/80R	53	-	68
20F/25R	10	16	14	80F/100R	70	-	101
25F/32R	17	22	18	100F	120	-	124
32F/40R	24	27	28				

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

2) Fig.135 ball valve are all with full port design.