

INSTALLATION OPERATING MANUAL 3 PIECES BALL VALVES

BEFORE INSTALLATION :

Pipe-line must be cleaned and free from residual of weldings, rubbish, shaving and every kind of extraneous materials.
Pipe-line must be perfectly aligned and their support properly dimensioned so that there's no external constraint.

Check to use a produce compatible to the services conditions for the sealing of the threaded types.
To tighten the ends, use the appropriate tool.
Use the right bolt tightening so that the ends won't be damaged.

WELDING OPERATIONS :

1. Tack weld the valve (in open positions) on the pipe in four points on both end caps
2. Loose and remove three nuts from the body bolts and swing the body outside the pipe
3. Remove the seat, seal from the valve in half open position of the valve
4. Remove the ball in the close position of the valve and keep the disassembling in a clean & safe place
5. Replace the body & body bolts. And then hand tight the nuts and make sure the body & end caps remain parallel completely
6. Weld both end caps to the pipes
7. Allow welds to cool and clean the end caps
8. Reassemble the valve per section counter to the step 3 and 4 after swinging out the body
9. Tight the body nut in cross according to the bolt tightening table
10. Inspect the valve for safety operation.

INSTALLATION OF THE CENTRAL PART

During the installation of the central part, tighten bolts in cross according to the bolt tightening below

BOLT TIGHTENING TABLE FOR THE CENTRAL PART

DN	Torque (Nm) Ref.702/703	Torque (Nm) Ref.702DM/ 703DM	Torque (Nm) Ref.710/711	Torque (Nm) Ref.730/731	Torque (Nm) Ref.737/738/739/ 747/748/749	Torque (Nm) Ref.740/741/ 742/743	Torque (Nm) Ref.744/790/791/792/ 796/797/798
8	9.8	20	-	-	9.8	4	4
10			-	-			
15			6.9	15			
20	22.07	40	9.8	18	11.76	8	8
25				20			
32	39.2	70	11.8	20	14.7	13	13
40			15.7		16.66		
50			58.8	28	39.2	20	20
65	-	-	54.9	35	58.8	-	35
80	-	-	73.5	45	68.6	-	45
100	-	-	94.1	65	93.1	-	65

CLEANING AND TESTS

Keep opened the valves during the cleaning operation so that there are no impurities between the ball and the body.

Tests under pressure must be done with a cleaned pipe-line.

Open partially the valve for tests. Pressure test do not exceed the valve specifications according to EN 12266-1.

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MAINTENANCE

It's recommended to operate the valve twice (open and close) 1 to 2 times per year.

When intervention on the valve, be sure there's no pressure in the pipe-line, there's no fluid in it, and that it is isolated.
The temperature must be low enough to operate without risks.
If there's a corrosive fluid, inert installation before intervention.

When the valve is under pressure :

If there's a leakage between the body and the ends, tighten bolts according to the above table

If there's a leakage at the packing, tighten it slightly so that the leakage disappears.

MAINTENANCE OPERATION IN WORKSHOP

REPLACEMENT OF SEAT GASKETS AND PACKING.

The central part must be removed.

Turn the ball at 45° and removed the seat gaskets.

Operate the valve in closed position to removed the ball. Verify the surface of the ball has no impacts and no scores.

If there are important scores or impacts, replace the ball.

Clean inside the body valve and remove the impurities.

To replace the packing, remove the handle, unscrew the gland nut, extract the stem by the inside of the valve.

Clean the packing seat.

Reassemble thrust washer on stem, introduce stem by the inside of the valve, reassemble packing with packing nut, reassemble hand washer, hand nut and the handle.

Turn stem in closed position and insert the ball.

Then turn the ball in opened position and reassemble the seat.

Place the valve on the installation, tighten bolts according to the table page 1.

Then proceed to the tests in the same way that the first installation.



For an installation in ATEX area, check the conductivity between the valve, the upstream pipe and the downstream pipe and make sure the pipe is connected to the earth.