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INSTALLATION, OPERATION AND MAINTENANCE MANUAL

2 piece full bore ball valve with threaded ends

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Installation, operation and maintenance instructions

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1. Product description.

Genebre, S.A. offers a wide range of ball valves (90º turn), designed and assembled to handle and drive fluids in industrial procedures.
The compatibility of materials used to build the valves (see technical specifications) and the application of valves to the different industrial processes is at user's risk. Valves will have an optimal behavior when working conditions do not exceed pressure and temperature limits (pressure curve) for which they have been designed.

2. Transport and Storage conditions

Transport and storage of this kind of products must be done keeping them in their original package!

VISUAL INSPECTION
Check whether during transport, unloading and placement, products have suffered damages.

Manual valves come by default in open position. During storage it is recommended to keep them in this same position, with the included protective wrapping to avoid damages or dirt accumulation in the dial. The wrap must not be removed until valve is to be installed.

Valves must be stored in a dry and clean environment.

If you notice any kind of anomaly during reception of the goods, contact immediately with GENEBRE in order to determine the possible responsibilities on the issue.

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IMPORTANT NOTE:

Before installing and/or manipulating these elements, READ CAREFULLY these instructions for use and OBSERVE all contained information. If you fail to understand any of their content, please contact GENEBRE, S.A.

User is responsible for the safe use of these products, according to present instructions for use and specific technical documentation of the device.

3. Installation instructions

3.1) Preparation

Remove any material remains of the valve wrapping.
Serious problems may arise with the installation of a valve in a dirty pipe.
Make sure the pipe is not dirty and doesn't have welding particles, for example, before installing it. This may cause irreparable damages in the valve when the equipment is started → *prepare a clean working area*.
Plan beforehand enough space for future maintenance operations.
Control correct operation of the valve by turning the handle clockwise and making sure the dial closes the fluid flow. If this is not the case, check if there are foreign particles inside the valve and repeat the whole operation.

3.2) Assembling

Make sure the valve's pipe and thread end are clean and are compatible one with another (type of thread end) Apply an appropriate sealing in the pipes' thread ends and thread the valve being careful not to excessively tighten the conical threaded ends.
Do not use valve's handle as a lever to thread the valve into the pipe.
To tighten the valve it is recommended to use a flat or monkey wrench only on the hexagonal area of the valves edges; the force applied being less than 30 Nm.

Design of this kind of ball bore valves allows us to install them in any position as they are bidirectional, so the direction of fluid flow does not matter.

If possible, it is recommended to install the valve in horizontal position and the axis (handle) upwards.

Valves do not have to support pipe's efforts so it is advisable to anticipate a good alignment and parallelism of such pipe.

Once installed, it is recommended to open and close it a couple of times to verify its good knowledge and to check if there is any obstruction in the ball that prevents it from closing.

It is also recommended to use filters in the pipe to extend lifecycle of the valve.

4. Operating instructions

4.1) Usage

Ball valves provide a leakproof lock when used adjusted to the pressure and temperature values for which they have been designed.

Avoid by all means leaving the valves in partially open position if you are not aware of the pressure drop and flow rate in that position, as the service life of the seat can be reduced and/or it can be damaged due to the ball bore valve.

Any fluid that can be solidified, crystallized or polymerized should not remain in the ball cavity as it is harmful for performance, service life of the valve and it can even render it unusable.

Seats for the valve, joints, body, ball, axis and ends have to be fully compatible with the fluid circulating through the valve. Otherwise, valve could be seriously damaged.

Torques required to operate valves are listed in the table Torques to activate the valves (see Section 7).

4.2) Manual operation

When operating the valve you must avoid excessive lateral efforts with the handle.
To close it, you must turn the handle 90 degrees clockwise. When the handle is inline with the pipe, valve is open.

5. Maintenance instructions

Frequency, place and process of maintenance will be determined by the user by taking into account usage of the product. However, checks explained below will be useful to extend the service life of the valve and reduce installation problems.

5.1) Valves must not remain in open or closed position for a long period of time. It is recommended, if the process allows for it, to operate it for control purposes every six months.

5.2) Verify possible leaks in the axis area; in case they exist, proceed to tighten the gland nut. If leak persists, valve should be replaced *(see section 6).*

5.3) Verify possible leaks through the line (seats); this defect is probably caused by deposition of impurities between ball and seat, transported by the fluid. Disassemble the valve from the pipe, clean it and reinstall it. If the problem persists you should change the valve *(see section 6).*

5.4) Increase of operational torque; this defect is probably caused by deposition of impurities between ball and seat, transported by the fluid. Disassemble the valve from the pipe, clean it and reinstall it. If the problem persists you should change the valve *(see section 6).*

6. Reparation instructions

This type of valves, due to their easy assembling and reduced production cost are not worth repairing, because most of the times is simply not cost-effective, so we recommend to directly replace it.

Before disassembling the pipe's valve to clean or replace it, make sure that line has been closed and depressurized because a bad operational procedure could cause a serious accident to staff and installation system

Before installing new valve, check if it meets the requirements of the valve being replaced.

7. Activating torques table:

MEASURE	Activating torque (Nm)
1/4”	4 – 5
3/8”	4 – 5
1/2"	4 – 5
3/4"	7 – 8
1”	9 – 10
1 ¼”	12 – 14
1 ½”	18 – 20
2”	28 – 30
2 1/2”	34 – 36
3”	58 – 60

8. Hygiene and Safety Instructions

8.1) Fluid passing through a valve or accessory can be corrosive, toxic, flammable or pollutant. When operating valves, you must follow the security instructions and it is recommended to use personal protection gadgets:

1) Protect your eyes.
2) Wear gloves and appropriate working clothes.
3) Wear safety footwear.
4) Wear a helmet.
5) Have running water at hand.
6) To operate flammable fluids, make sure you have an extinguisher at hand.

8.2) Before removing a valve from a pipe, check always if the line is completely drained and depressurized.

8.3) Operate the valve in open position to make sure there is no pressure in the internal cavity.

8.4) Any valve being used by toxic services department needs to obtain a cleanliness certificate before being operated.