

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

Diaphragm valve clamp ends



Ref. GENE BRE: 2945

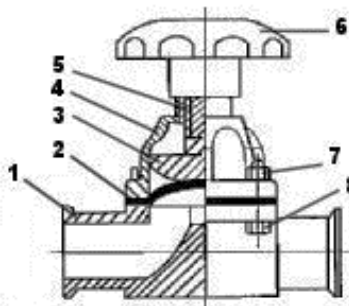
Installation, Operation and Maintenance Instructions

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1. Product Description.

Genebre, S.A. provides an extensive range of valves that have been designed and built for the management and control of fluids in industrial processes.

The compatibility of the materials from which these valves are manufactured (see the corresponding data sheets) and their application in different industrial processes is the responsibility of the user. The valves will operate at optimum levels provided the working conditions do not exceed the pressure and temperature limits (pressure curve) for which they are designed.



Nº	Name	Material	Surface Treatment	Spare Part Code
1	Body	SS 316L	Mechanical Polish	-----
2*	Diaphragm	Silicone	-----	D2945 xx
3	Diaphragm guide	SS 304	-----	-----
4	Cap	SS 304	Mechanical Polish	-----
5	Stem	SS 304	-----	-----
6	Handwheel	Plastic	-----	-----
7	Nut	SS 304	-----	-----
8	Bolt	SS 304	-----	-----

* Available spare parts

2. Transport and Storage Conditions



The transport and storage of this type of product must be performed in its original packaging!

VISUAL INSPECTION

Check that the products have not been damaged during transportation, unloading and placement on site.

During storage, it is recommended that the protective packaging not be removed to prevent any blows or the accumulation of dirt in the interior of the valve. This packaging should not be removed unless the valve is going to be installed.

Where possible, the valves must be stored in a dry clean place.



If any anomaly is noticed during the observance of these guidelines for receipt, contact GENE BRE urgently in order to resolve the liability for these anomalies!

IMPORTANT NOTE:

Before installing and/or handling these elements, CAREFULLY READ these instructions for use and OBSERVE all information contained herein. In the event of not understanding any of this information, please contact GENE BRE, S.A.



The responsibility for the safe use of these products is that of the user in accordance with the contents of these instructions for use as well as the specific technical documentation of the device supplied!

3. Installation Instructions

3.1) Preparation

Remove any remains of packing material from the valve.
Significant problems may arise with any valve installed onto dirty piping.

Ensure that the pipe is free from dirt, welding particles, etc. prior to installation as the valve may suffer irreparable damage during the start-up of the equipment → *prepare a clean working area.*

Make sure there is sufficient space for future maintenance operations.

Monitor the correct functioning of the valve by turning the handwheel in both open and close directions, whilst observing the correct movement of the valve plug element. If this is not the case, check that there are no foreign bodies in the interior of the valve and repeat the operation.

It is recommended that qualified staff perform this task.

3.2) Installation of Valve with clamp ends

Do not dismantle these valves in order to install them.

Make sure that the pipe clamp end (Item 2981 Welding ferrule clamp) and the valve clamp end are clean. Install silicone gaskets (Item 2987 - Genebre) between the clamp ends to maintain the tightness of both parts and join them using the fast closing bracket lock (Item 2986 - Genebre). There is a different gasket and bracket for each valve size.

After assembly, check the tightness and operation of the valve.

These are bi-directional valves; therefore, the direction of the flow of fluid is not important.

It is highly recommendable that the valve is installed on a horizontal position and with the handwheel at the top.

The valves must not support any potential stresses from the piping; therefore, it is advisable to ensure they are properly aligned and parallel to the piping.

Once the product has been installed, we recommend performing a couple of opening and closing movements to verify the correct functioning of the valve and that there is nothing impeding its closing.

4. Operating Instructions

4.1) Use

Before operating the equipment, we should always have the Technical Specifications on hand and never exceed the limit values.

Never touch the valve and/or piping that are in contact with the surrounding fluid when the process is running, as injuries or burns could occur.

The valves provide a tight seal when used in accordance with the pressure / temperature values for which they have been designed.

The materials from which the valves are made must be compatible with the fluid circulating through the valve; otherwise, the valve may become seriously damaged.

CAUTION: Do not use this type of valve with fluids that could contain solids as this may damage the seal of the valve rendering it useless.

4.2) Manual Operation

When handling the valve, avoid using any excess efforts on the handwheel from the sides.

To close, turn the handwheel clock-wise. Turn the valve anti-clockwise to open.

Open the valves slowly to avoid any possible water-hammer effects.

5. Maintenance Instructions

The maintenance frequency, place and method will be defined by the user, bearing in mind the use of this product. However, where necessary, some checks will aid in prolonging the useful life of the valve and reducing problems in the installation.

The valves must not be left in the open or closed position for extended periods of time. It is recommended, whenever the process allows, carrying out a manoeuvring procedure at least once every six months.

Frequently check that the bolts joining the body and the cap are fastened to avoid any leaks.

6. Repair Instructions

Genebre S.A. shall not be responsible for an improper handling of the element or any of its components.



Only use original or recommended parts/spare parts by GENE BRE S.A.!

Ref. D2945: Silicone Diaphragm for diaphragm valve clamp ends item 2945.

Ref. E2945: EPDM Diaphragm for diaphragm valve clamp ends item 2945.

6.1.) Disassembly

Prepare a clean work area and the appropriate tools for the mechanical tasks.



Prior to removing the valve from the piping in order to clean or replace it, ensure that the line has been closed and depressurised, as poor handling could result in a serious accident to people as well as severe damage to the installation.

Proceed carefully. Never remove the valve bolts without reading the instructions carefully. The assembly and disassembly of valves/actuator should only be performed by qualified staff.

When assembling the diaphragm, it is very important to follow the sequence of steps; if we do not, we could damage the diaphragm. Especially, do not fasten the body completely until the diaphragm is in closed position (see assembly steps). If we do, the diaphragm may lose its shape when closing the valve.

1. Turn the *handwheel (part. 6)* so the valve remains in an open position
2. Remove the 4 *bolts (part. 8)* and *nuts (part. 7)*
3. Separate the *cap (part. 4)* from the *body (part. 1)*
4. Turn the *handwheel* so the valve remains in a closed position
5. Unscrew the *diaphragm (part. 2)* from the *guide (part. 3)*, turning it anti-clockwise

6.2) Assembly

When the valve is reset, cleaning is essential for a long useful life of the valve.

1. Turn the *handwheel (part. 6)* so the valve remains in a closed position
2. Fasten the *diaphragm bolt (part. 2)* to the female thread of the *guide (part. 3)*

3. Turn the *handwheel* in such a way that the valve remains in an open position to finish centring the diaphragm with the *cap* holes (part. 4)
4. Join *body* (part. 1) and *cap* (part. 4) by fastening the bolts, nuts and washers, but without tightening them completely. Before completely tightening the bolts, place the diaphragm in closed position
5. Fasten the bolts (using the criss-cross method) while opening the handwheel progressively (1/2 a turn of the handwheel in each fastening action). See the tightening torque of the bolts in the accompanying table (point 6.3)

Once the valve has been assembled, we recommend performing a couple of opening and closing movements to verify its correct functioning and that there is nothing impeding its closing.

6.3) Tightening torque of bolts / nuts joining the two parts of the valve:

VALVE MEASUREMENTS	TIGHTENING TORQUE (N m)
1/2"	2 – 3
3/4"-1"	5 – 6
1 1/2"-2"	9 – 11

7) Health and Safety

When handling the valves, take the necessary safety measures, and it is advisable to use personal protective equipment:

- 1) Wear eye protection
- 2) Wear appropriate gloves and work clothes
- 3) Wear safety shoes
- 4) Wear a helmet
- 5) Check the availability of running water

Before removing a valve from any piping, always ensure that the line is completely drained and depressurised.