

MODEL

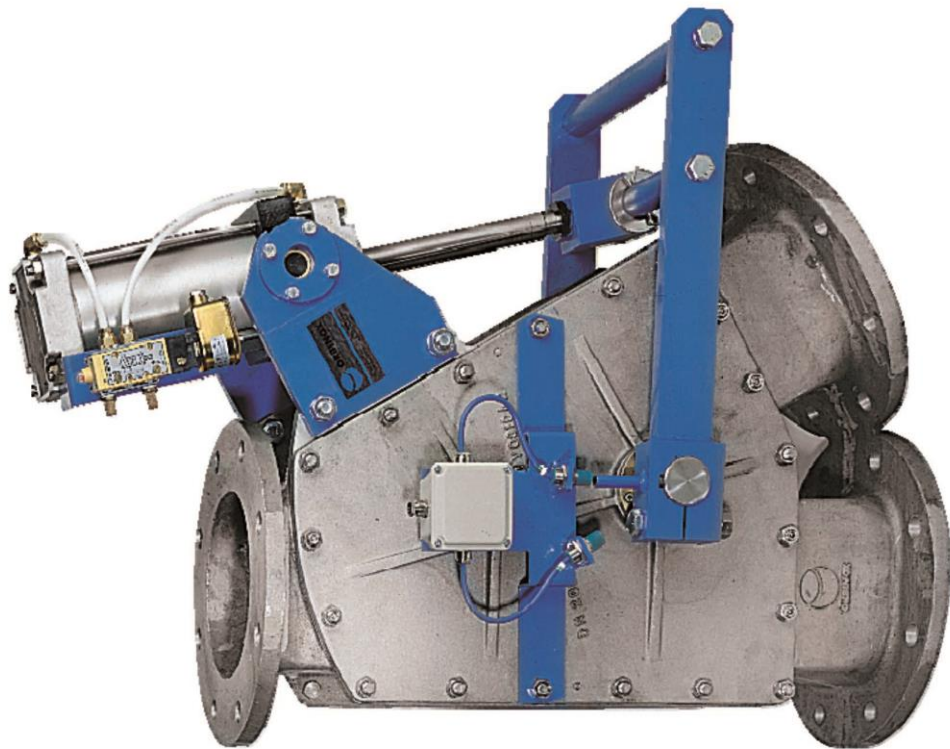
3VY



ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

INSTALLATION, OPERATION & MAINTENANCE MANUAL

3-Way Diverter Valve



SPAIN, UK, GERMANY, FRANCE, CANADA, USA, BRAZIL, CHILE, PERU, INDIA, CHINA, SOUTH EAST ASIA

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3-Way Diverter Valve

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0. INTRODUCTION

The 3 VY model valve has 3 ways. The flow penetrates in the valve through its entrance and it gets out alternately for one of the two branch lines. The desired combination is obtained by pneumatic actuation.

1. INSTALLATION



In order to avoid personal injury or damage to property when handling and installing the valve, it is important to observe the following warnings:

- It is the User's responsibility to verify compatibility of valve parts materials with the internal fluid
- Qualified and trained personnel must carry out the handling and maintenance of the valve
- Use suitable Individual Protection Equipment (IPE) (gloves, safety footwear...)
- Disconnect all lines affecting the valve and put up a notice notifying that work is being carried out on the valve
- Isolate the valve completely from the process
- Release process pressure
- Drain the fluid from the valve

Before installation, inspect the valve body and components for any damage that may have occurred during shipping or storage. Make sure the internal cavities within the valve body are clean. Inspect the pipeline and mating flanges, making sure the pipe is free of foreign material and that the flanges are clean.

The valve can be mounted in vertical or horizontal pipeline but the shaft (5) always must be installed on horizontal position.

Special care should be taken to maintain the correct distance between the flanges and to ensure that they are parallel to the valve body. Incorrect alignment of the valve can cause deformations, which can lead to difficulties in operation.

Once the valve is installed, test that the flanges have been fastened correctly and that all electrical and/or pneumatic connections have been properly made.

Where electric accessories are mounted on the valve (i.e. solenoid valves, electro-pneumatic positioners, etc.), the valve must be earthed correctly before being put into operation.

First, operate the valve with no flow in the pipeline. Then test operation and valve seal with flow. Once performance has been tested, the valve can be put into operation.

2. ACTUATORS

2.1.- PNEUMATIC

Valves are usually supplied with a double acting pneumatic actuator although, upon request, we can supply single-acting actuators. In both cases, the inlet air pressure should be, between 3,5 to 10 Kg/cm².

It is essential for a good maintenance of the cylinder that air should be well dried, filtered and lubricated.

It is recommended to actuate the cylinder 3-4 times before the start up, once it is installed in the pipeline.

The actuator is designed for 2 Kg/cm² maximum differential pressure in the valve.

All valves with manual emergency operation (lever) in case there is a pneumatic failure to the cylinder.

3. MAINTENANCE

The valve must not undergo any modifications without a previous agreement with ORBINOX. ORBINOX shall not be liable for any damages that may arise due to the use of non original parts or components



To avoid personal injury or damage to property from the release of process fluid:

- Those in charge of handling and maintenance of the valve must be qualified and trained in valve operations.
- Use appropriate personal protection equipment (gloves, safety shoes, etc).
- Shut off all operating lines to the valve and place a warning sign.
- Isolate the valve completely from the process.
- Release process pressure.
- Drain the process fluid from the valve.

The only maintenance involved is the changing of seals (3) of the distributor (2) and of the principal shaft bearing (4).

The lasting of these elements will depend on the working conditions of the valve such as: pressure, temperature, chemical attack, number of operations.

3.1. Replacement of the seal (3) (of the distributor (2)):

1. Extend the stem of the cylinder (6).
2. Remove the rod(7) loosening the nuts (8) and freeing the fork (9) of the cylinder.
3. Remove in the same way the rod of the manual emergency lever (10).
4. Remove the cover (11) loosening the nuts (12).
5. Take out carefully the cover (11) because the bearing (4) is screwed to it with the shaft (5), seal (3) and blade (21).
6. Remove the seal frame (13) and the old seal (3). Place a new seal (3).
7. Proceed to the mounting following the point 3.1. in inverse order, but insert carefully the shaft (5) in the bearing (4) of the other side. (Use a lubricant oil)

3.2. Replacement of the seal (18,19) (of the principal shaft bearing (4):

1. Follow the items 1,2 and 3 of the point 3.1.
2. Remove the lever (14) of the side that we want change the seals.
3. Remove the key (15) and the collar (16).
4. Loose the nuts (17) and remove the bearing (4).
5. Place the new seals (3).
6. Proceed to the mounting following the point 3.2. in inverse order.

3.3. Lubrication:

Lubricate periodically the bearings (20) of the cylinder.

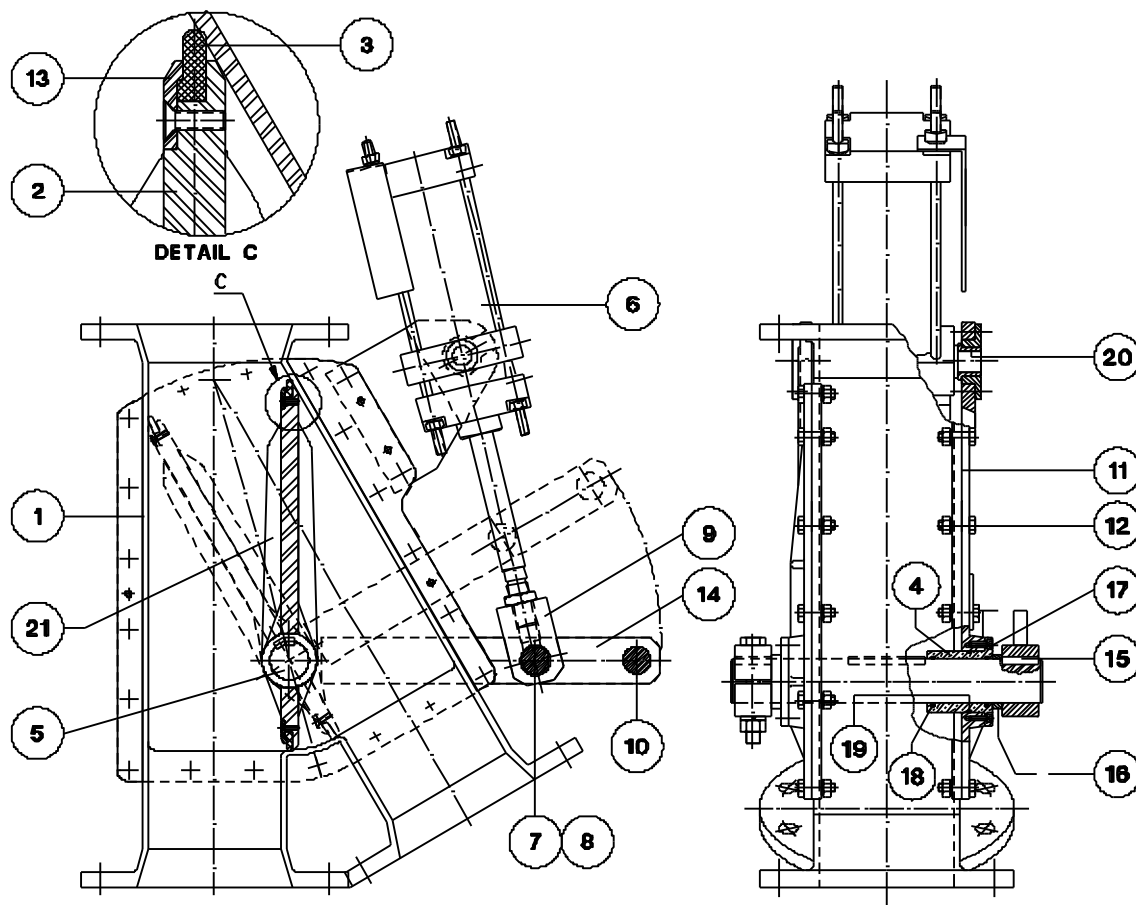
4. STORAGE

- For long storage periods keep the valves indoors in a safe and dry place and protect it from any impact and or vibrations
- Storing temperatures: -10°C to +40°C
- Valves must be stored in either full open or full closed position
- For any component installed in the valves, electric motors, solenoid valves, etc, please refer to their own instructions manuals

5. ENVIRONMENTAL CONSIDERATIONS

- The packaging is made from environmentally friendly materials. Dispose of the packaging through the available recycling channels
- The valve is designed and manufactured with materials that can be recycled by specialised recycling firms. Once the life of the product is expired, you have to consider a proper disposal of the product in order to prevent any negative impact on the environment and allows for the recycling of valuable commodities
- Please follow the local environmental rules in your country for proper disposal

6. PARTS LIST & DRAWINGS



1. BODY	11. COVER
2. DISTRIBUTOR	12. NUTS
3. SEAL	13. SEAL FRAME
4. BEARING	14. LEVER
5. SHAFT	15. KEY
6. PNEUMATIC CYLINDER	16. COLLAR
7. ROD	17. NUTS
8. NUTS	18, 19. SEALS
9. FORK	20. BEARING
10. MANUAL LEVER	21. BLADE