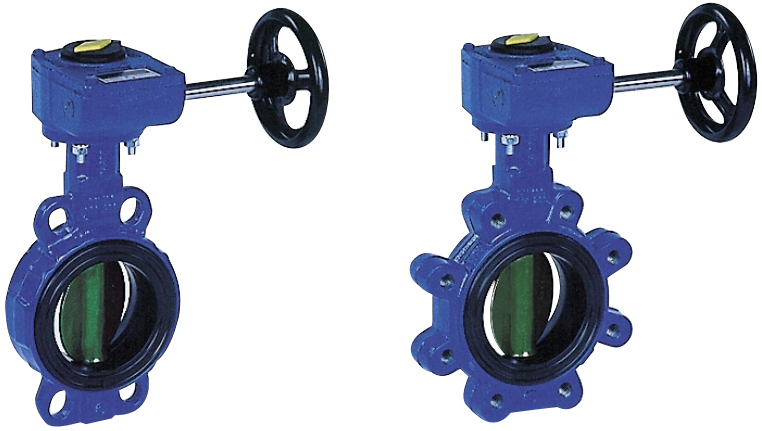
Instructions

Butterfly valves VFY-WG, LG



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Introduction

VFY-WG,LG butterfly are provided for water, hot water and glycolic water.

Before fitting the valve between flanges, make sure that the operating conditions are compatible with the details given on the identification plate. This instruction notice the manufacturer's details.

Danfoss cannot be held responsible for the malfunctioning of the valve nor for damage or injury resulting from failure to respect these details.

European Directives

Our butterfly valves subject to directives are the object of statements of conformity available from our sales department.
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Directive 97/23/CE (Equipment under Pressure)

Our butterfly valves conform to the Equipment under Pressure directive 97/23/CE in **category I and II.**

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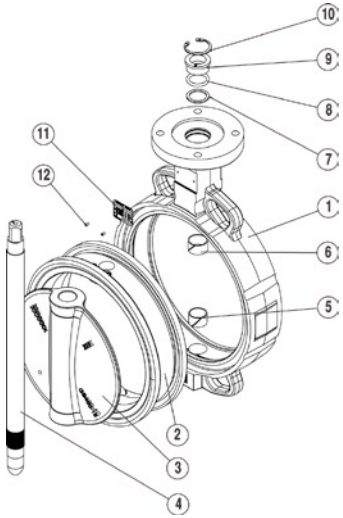
Valve components

1. Body
2. Linear
3. Dics
4. Shaft
5. Lower guide bush
6. Upper guide bush
7. Anti-extrusion bush
8. O'ring seal
9. Sealing washer
10. Circlip
11. Identification plate
12. Rivets



Transport and storage

• Before installation

The valve must be held in a semi-closed position (as delivered). In the case of motorized valves with spring controls long storage is not advised.

The valve must not be removed from its original packaging.

The valve must be stored inside premises which are clean, dry and free from UV light.

On site, the valve must not be removed from its original packaging and must be protected from the surrounding elements (dust, sand, rain,….)

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• During handling and installation
The valve must not be suspended by its control.
The valve must be manipulated using adequate straps. These must not be likely to damage the casing coating.
Any item having suffered a large impact must be returned to Danfoss for checking. A crack which is invisible to the nakedeye may in time lead to a leak.

Installation

• General remarks
For safety reasons, the installation must take place under the supervision of an authorised people taking account of local safety instructions and advice.
The handling of butterfly valves and their controls must be done by staff trained in all technical aspects of their operation.
Before installation the pipes must be depressurised and purged (empty of its fluid) in order to avoid any danger to the operator.
The pipework must be correctly aligned so that no extra stress is exerted on the valve casing.
Check the compatibility of the connection flanges against the operating pressure: the PN class of

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the flanges must be higher or equal to the operating pressure.
The valve is a machined piece of equipment and must not be used to prise apart the flanges.

• Fitting to the pipework

The butterfly valve is bi-directional.
The recommended installation position is with the shaft of the valve horizontal and the lower wing of the disc opening from upstream to downstream (flow direction). Particularly when dealing with slurries or products with a tendance to solidify.

• Installation on existing pipe work

1. Make sure that:
- The flange surfaces are clean and undamaged.
- The valve fits between the flanges without difficulty and without damaging the liner. Prise apart the flanges with a suitable tool without damaging the flanges if the gap is too narrow.
- The internal diameter of the flanges conforms to the dimensions in the « flange ratings » table.
- Nothing interferes with the movement of the disc when the valve is operating.

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2. Close the disc so that it is about 5 to 10mm inside the casing.
   If the disc is open too far, it may be damaged by the flanges.
3. Slip the valve between the flanges. Center the valve casing and fit all the screws.
   Using extra seals or grease between the valve and the flanges is prohibited.
4. Open the valve completely.
5. Keep the valve aligned with the flanges while removing the flange retractors and tightening the nuts by hand.
6. Close the valve carefully making sure that the disc turns freely.
7. Open the disc again completely and tighten all the bolts (opposing bolts gradually and sequentially) until there is contact between the body of the valve and the flange (metal to metal). If the nuts are tightened with the disc closed, the liner is then compressed unequally. This results in excessive torque and possible leaks.
8. Carry out a minimum of 5 complete operations of the valve.
9. See “Commissioning” paragraph.

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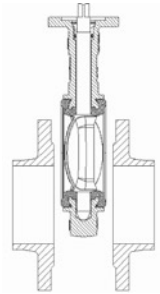
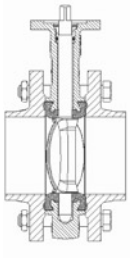
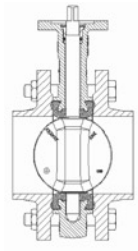
Prise apart the flanges as much as possible so that the valve collar slides in easily with the disc partly open.



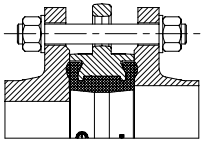
With the disc still partly open attach the bolts without tightening the nuts.



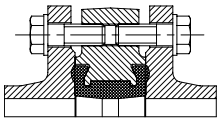
Tighten opposing nuts sequentially. Check that the whole surface of the flange is in contact with the metallic part of the valve.



VFY-WG



VFY-LG



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• Installation on new pipework

1. Make sure that:
- The flange surfaces are clean and undamaged.
- The valve fits between the flanges without difficulty and without damaging the liner. Prise apart the flanges with suitable tools without damaging the flanges if the gap is too narrow.
- The internal diameter of the flanges conforms to the dimensions in the « flange ratings » table.
- Nothing interferes with the movement of the disc when the valve is operating.
2. Close the disc so that it is about 5 to 10mm inside the casing.
3. Fit the two flanges to the casing using some bolts, tighten the valve a little between the two flanges.
4. Fix this whole assembly to the pipework.
5. Consolidate the flanges to the pipework by welding at several points.
6. Unscrew the bolts and remove the valve from between the flanges. **Never weld the flanges with the valve in place: risk of burning the elastomer liner.**
7. Finish welding the flanges and allow to cool completely.

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8. Return the valve to the pipework using the procedure “installation on existing pipework”.(from point 3.)

Commissioning

Before putting valve into operation, check that:

- The working conditions are compatible with the details given on the identification plate , this instruction notice and the manufacturer’s details (technical data sheet).
- The indicator on the control or the handle position (disc direction), properly indicates the position of the disc.
- All the connections have been properly made (pneumatic, electrical, hydraulic).
- The valve works effectively when tried (check several times).If necessary certain adjustments may be made to the end stops by qualified personnel.

On a new installation the circuit must be rinsed with the valve completely open in order to remove solid matter which may damage the internal parts of the valve. During a prolonged stoppage, a change in the state of the fluid may result in

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damage when the installation is brought back into service (solidification….). Establish an adequate procedure programme for cleaning the system.