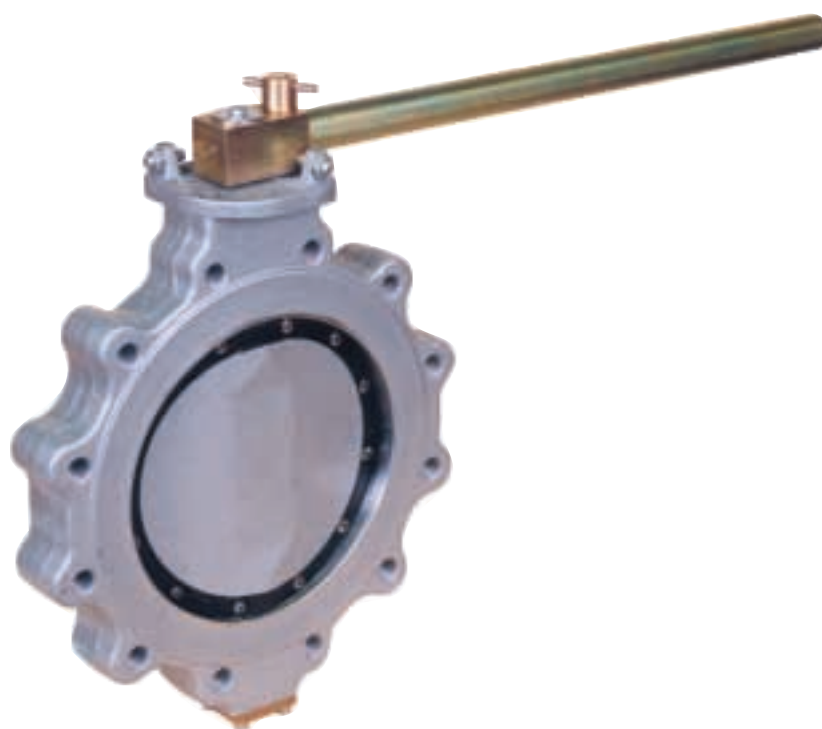


# *BUTTERFY VALVES*

# BF 31



*FROM DN 300 TO DN 500*

## **TECHNICAL MANUAL**

# **MT037/E**

INSTALLATION, COMMISSIONING AND MAINTENANCE INSTRUCTIONS

INSTALLATION AND MAINTENANCE RULES  
BF-BW31 VALVE FROM DN 300 TO DN 500

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1 PURPOSE

This manual gives basic information on the installation, the eventual substitution of the seal rings, and on the good storage of the BF-BW31 valve (DN 300 to DN 500)

2 INSTALLATION

The Fiorentini butterfly valves are suitable for flange coupling in accordance with the UNI-DIN-PN16 or PN10 series or ANSI 150 RF. On request, the flanges may be supplied as valves equipment, including the screw and the gasket kit. the valves have a preferential flow direction shown on the nameplate, and may be installed in any position.

During the welding operation of the flanges to the piping, it is necessary to place the valve as showed in fig. 1, then completing the welding, to remove the valve from the flanges in order to avoid that the heat produced by the welding operation damages the gasket item A and B. Once the welding operation of the flange has been completed, please reassemble the valve after having cleaned the having coated them with a thin grease layer which will have to be compatible with the foreseen uses (see chapter 3 LUBRICATION)

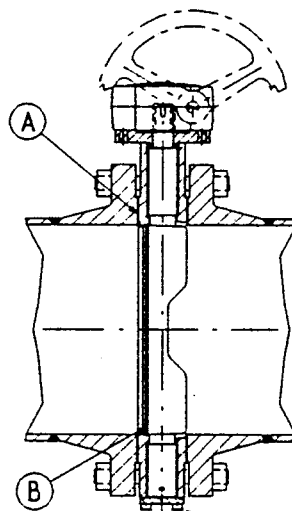


fig-1

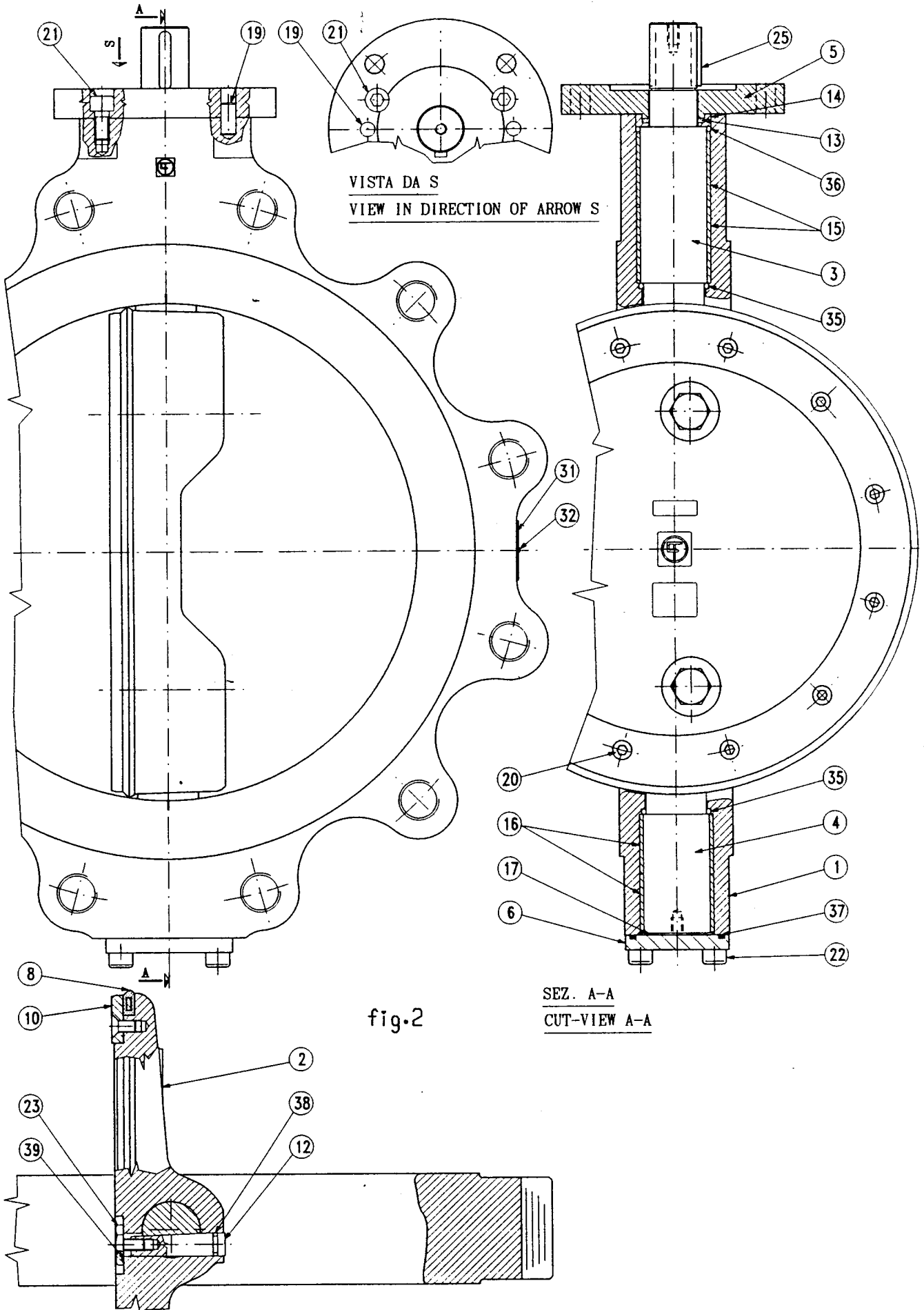


fig. 2

SEZ. A-A  
CUT-VIEW A-A

### 3 LUBRICATION

The valve are already lubricated during the assembly phase (with the most suitable product to the use if mentioned in order) for three main reasons:

- 1) to facilitate the components assembly
- 2) to improve the manoeuvrability
- 3) to make possible long warehouse stocking

As regards the choice of the lubricant, it is necessary to pay careful attention to the type of fluid to be intercepted:

we suggest the use of the following lubricants in the below mentioned cases:

- a) oxygen: - Molycote only, powder Fonblin oil
  - Safety Oxy Lube 200 EPT (trademark of Tecnolube seal srl)
  - other lubricant or grease may cause explosions

- b) food products: vaseline or similar not toxic products.

In the other cases uses products suitable for the operating conditions (temperature) in compliance with the manufacturers'indications and do not use corrosive products or products causing rubber components to Expand. For all gas application (except oxygen), water, steam we suggest "Valve Seal" (trademark of Tecnolube seal srl).

For special purposes it is suggested to specify the type of fluid to be intercepted and ask for the operating conditions.

### 4 GENERAL MAINTENANCE

- Before taking care of the maintenance, intercept the fluid up and downstream from the process line and make sure that inside the piping there is no fluid under pressure
- Set the valve in closed position, remove the actuator and the shaft key (25), remove the screws fixing the valve to the flanges and extract the valve from the piping

#### 4.1 Disassembly and reassembly

For the substitution of the o.rings on the shaft and of reinforced seal ring on the butterfly, disassemble the valve as follows (ref. figure 2)

##### Substitution of reinforced seal ring

to replace it, it is not necessary to extract the butterfly from the valve body, the butterfly should be turned 180°, so that the seal ring is where the body has the largest diameter, and there is no contact between the seal ring and the valve body. By unloosing the screws (20) the ring gear (10) and the reinforced seal ring (8) may be removed. Then clean thoroughly the butterfly valve seats and smear them and the chrome-plated seal surface with a thin grease layer. Reassemble accurately the new reinforced seal ring (8) and the ring gear (10) in the appropriate seat of the butterfly fixing them with screws (20) to be firmly tightened in a crossed way.

##### Substitution of the o.rings on the shaft

- a) unloose the screw (23), remove the taper pins (12).  
If necessary replace the o.rings, position (38) (39)
- b) unloose the screws (21) and (22), remove the top and bottom cover (5) and (6)
- c) mark shafts position with reference to the body, using the threaded holes at both ends of the shafts (3) and (4) remove them, with this procedure also the friction bearing (13), the o.rings (36) and (37) together with friction bearings (14) (17) are removed.
- d) remove the disc
- e) now it is possible to extract the o.ring (35)

#### 4.2 Reassembly of the valve

Reassembly procedure shall be done with valve body in horizontal position; we suggest to clean and smearing with a thin layer of grease all gaskets, their seats and all components that shall move.

- a) put o.rings (35) on their own seat.
- b) reassemble accurately the new reinforced seal ring (8) and the ring gear (10) fixing them with screw (20). Put horizontally the disc into the body, use threaded holes existing on the back for lifting it.
- c) insert the shafts (3) (4) on the valve body and the disc: please take care to put them on marked position. Rotate disc to close position.

- d) assemble the o.rings (36) (37), the friction bearings (13) (14) (17) and fix it all with the covers (5) (6)
- e) insert the taper pins (12) on their seats firmly tightened and fix them by screws (23)
- f) make sure that the new seal ring are tight before reassembling the valve on the piping

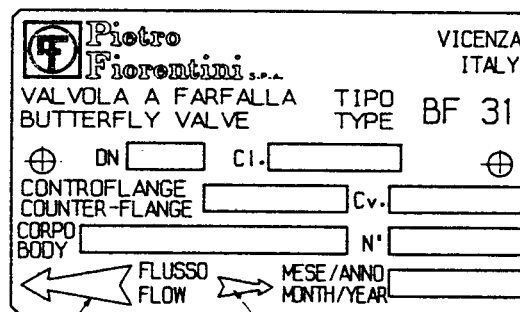
## 5 STORAGE

The BF-BW series butterfly valves do not require special care for long storage; three special precautions are however recommended:

- keep the rubber parts away from direct light, to avoid early ageing
- prevent chrome-plated surfaces from hitting violently against peaked objects in order to avoid chrome splinters
- prevent the seal surface from filling with dust of the like. Should this happen, before installing the valve, clean up the seal surface and the seal ring.

## 6 VALVE BRANDING

On each valve supplied by PIETRO FIORENTINI the following data are shown on a special plate, figure 3, fixed to the valve by aluminium rivets.



SUGGESTED FLOW  
DIRECTION

fig. 3

POSSIBLE FLOW  
DIRECTION

- type of valve BF-BW 31
- nominal diameter DN
- class (or rated pressure)
- flow rate coefficient Cv
- type of counter-flange
- material of the body
- year of manufacturing and serial number

I dati sono indicativi e non impegnativi. Ci riserviamo di apportare eventuali modifiche senza preavviso.  
*The data are not binding. We reserve the right to make modifications without prior notice.*

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