

BUTTERFY VALVES

BF 31



FROM DN 600 TO DN 800

TECHNICAL MANUAL

MT038/E

INSTALLATION, COMMISSIONING AND MAINTENANCE INSTRUCTIONS

INSTALLATION AND MAINTENANCE RULES
BF-BW31 VALVE FROM DN 600 TO DN 800

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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 600 to DN 800)

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)

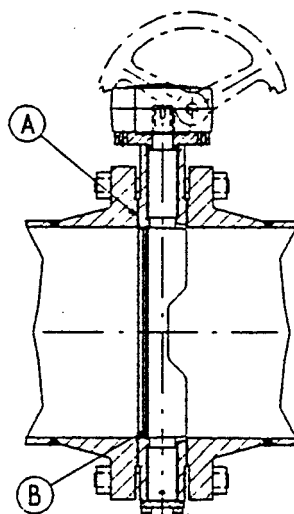
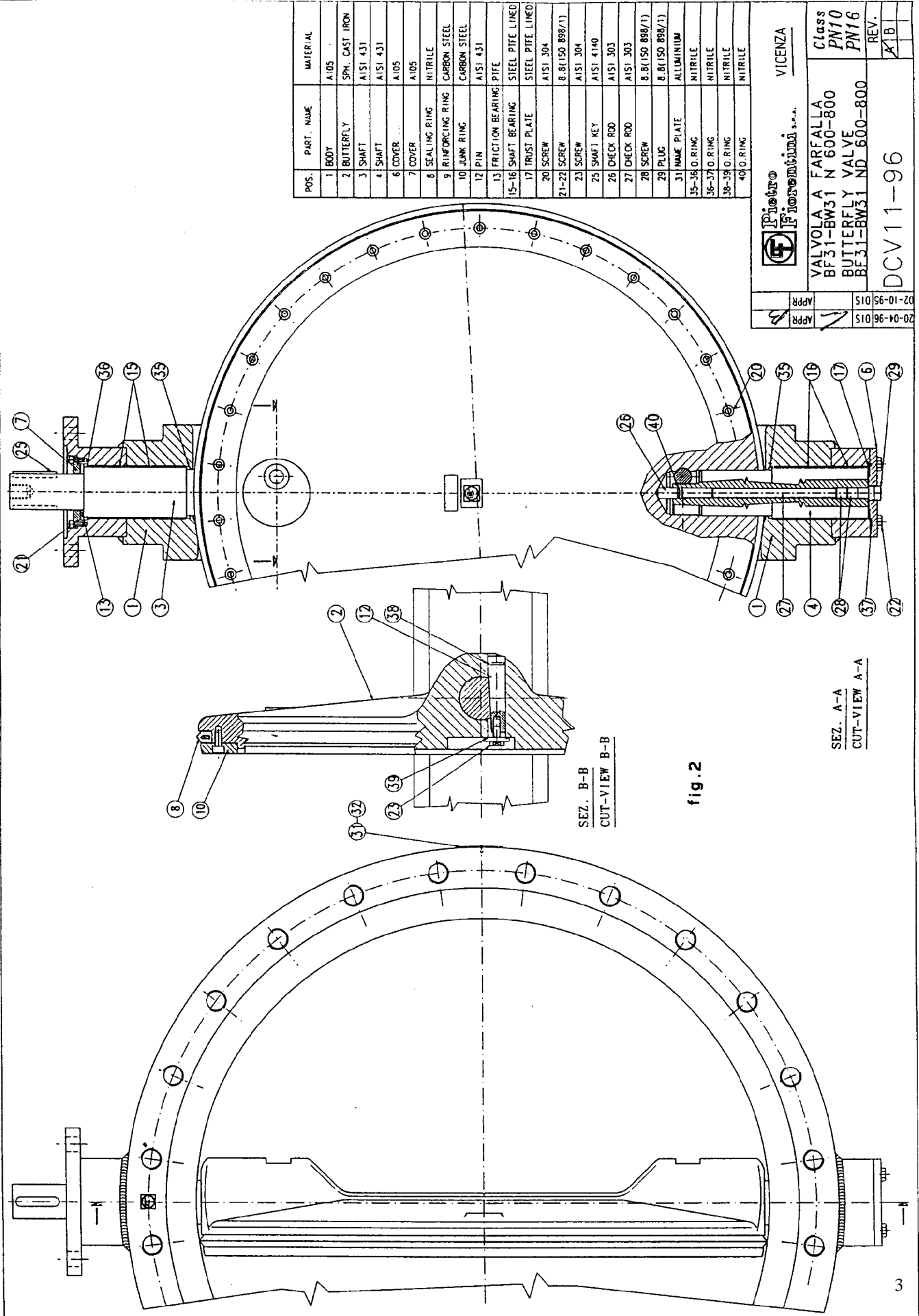



fig.1



POS.	PART. NAME	MATERIAL
1	BODY	A105
2	BUTTERFLY	SPH. CAST IRON
3	SHAFT	AISI 431
4	SHAFT	AISI 431
6	COVER	A105
7	COVER	A105
8	SEALING RING	NITRILE
9	REINFORCING RING	CARBON STEEL
10	JUNK RING	CARBON STEEL
12	PIN	AISI 431
13	FRICION BEARING	PTFE
15-16	SHAFT BEARING	STEEL PTFE LINED
17	TRUST PLATE	STEEL PTFE LINED
20	SCREW	AISI 304
21-22	SCREW	8.8(ISO 898/1)
23	SCREW	AISI 304
25	SHAFT KEY	AISI 4140
26	CHECK ROD	AISI 303
27	CHECK ROD	AISI 303
28	SCREW	8.8(ISO 898/1)
29	PLUG	8.8(ISO 898/1)
31	NAME PLATE	ALUMINIUM
35-36	O. RING	NITRILE
36-37	O. RING	NITRILE
38-39	O. RING	NITRILE
40	O. RING	NITRILE


Pietro Fiorentini S.p.A.
 VICENZA

VALVOLA A FARFALLA
 BF 31-BW31 N 600-800
 BUTTERFLY VALVE
 BF 31-BW31 ND 600-800

Class
 PN10
 PN16

REV.
 A/B

DCV11-96

20-04-96 DIS APPR
 20-10-95 DIS APPR

fig. 2

SEZ. A-A
CUT-VIEW A-A

SEZ. B-B
CUT-VIEW B-B

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 (6) and (7)

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. The screws 28 with check rod (26) (27) and o.ring (40) are the system assuring the centering of reinforced sealing ring (8). Modify their position only if the shaft and cover (6) are changed.

d) remove the disc

e) now it is possible to extract the o.rings (35) (40)

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) (40) on their ownseat.
- 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) together with relevant adjusting device 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

- 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.

		VICENZA ITALY	
Pietro Fiorentini S.p.A.			
VALVOLA A FARFALLA BUTTERFLY VALVE		TIPO TYPE BF 31	
⊕	DN <input type="text"/>	Cl. <input type="text"/>	⊕
CONTROFLANGE COUNTER-FLANGE		<input type="text"/>	Cv. <input type="text"/>
CORPO BODY		<input type="text"/>	N° <input type="text"/>
← FLUSSO FLOW		→ MESE/ANNO MONTH/YEAR	

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

5 IMMAGAZZINAMENTO


Le valvole a farfalla serie BF-BW31 non hanno bisogno di particolari precauzioni in caso di immagazzinaggio per lunghi periodi; si consiglia però di avere tre particolari avvertenze:

- tenere le parti in gomma lontane dall'esposizione della luce diretta, perché invecchiano rapidamente
- evitare che le parti cromate urtino violentemente contro oggetti contundenti onde evitare la scheggiatura del cromo
- evitare che la sede di tenuta si riempia di polvere od altro.

Nel caso ciò si verificasse prima di procedere all'installazione pulire accuratamente la sede di tenuta e gli anelli in gomma.

6 MARCATURA DELLE VALVOLE

Su ogni valvola fornita dalla PIETRO FIORENTINI sono riportati i seguenti dati che si trovano in una apposita targhetta fig. 3 fissata alla valvola tramite i rivetti in alluminio

		VICENZA ITALY	
VALVOLA A FARFALLA BUTTERFLY VALVE		TIPO TYPE	BF 31
DN	CI.		
CONTROFLANGE COUNTER-FLANGE		Cv.	
CORPO BODY		N°	
← FLUSSO FLOW →		MESE/ANNO MONTH/YEAR	

SENSO DI FLUSSO
CONSIGLIATO

fig. 3

SENSO DI FLUSSO
POSSIBILE

- tipo di valvola BF-BW31
- diametro nominale DN
- classe (o pressione nominale)
- coefficiente di portata Cv
- tipo controflange
- materiale del corpo
- anno di fabbricazione e numero di matricola

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.

Pietro Fiorentini S.p.A. Pietro Fiorentini S.p.A. Pietro Fiorentini S.p.A.

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