

MOTORIZED BUTTERFLY VALVES WITH ELECTRIC OR ELECTRONIC GEAR MOTORS

The motorized butterfly valves of the series BSV and BFV are used on combustion systems as control valves.

They are used in the industrial field for gas or air regulation on ovens, industrial boilers and any machine equipped with the different types of burners available on the market.

The motorized butterfly valves of the series BSV and BFV are suitable for all gases belonging to the first, second and third family and for air. They are DVGW-approved to the Norm EN 161 and to EMC electromagnetic compatibility with **CE** certification.

BSV Type: installation with two threaded flanges ISO 7-1 from Rp 3/4 to Rp 2

BFV Type: installation between two flanges UNI PN10 or PN16.



FEATURES

- Sturdy, compact construction, suitable for industrial applications.
- Installation in any position.
- Mechanical position indicator.
- Without zero setting.
- External tightness by means of two "O" rings.
- Motor cams easily adjustable.
- Possibility of special executions of the valve body:
 - 1 or 2 internal reductions with respect to the valve nominal diameter
 - VITON seals for air temperatures up to 110 °C
 - Butterfly disk made of stainless steel AISI 304 for air temperatures up to 200 °C.
- Wide range of accessories for the gear motor on request:
 - adjustable auxiliary microswitches with free electric contacts (max. 2)
 - 1 potentiometer - range: 150 Ohm to 2,5 kOhm
 - manual/automatic operation and service switch Open/Stop/Closed
 - multipolar connector for electric wiring
 - mechanical position indicator on the top cover
 - relay for cut phase
 - analogic input signal : voltage change (0 ÷ 10 V D.C.), current change (4 ÷ 20 mA) or change in the resistance value of the potentiometer (0 ÷ 135 Ohm).

TECHNICAL FEATURES

BUTTERFLY VALVE

- valve body : aluminium
- butterfly disk : aluminium
- stem : stainless steel AISI 303
- stem seal : "O" ring in BUNA "N"
- max. pressure : 300 mbar
- ambient temperature : -10 ÷ +60 °C for gas
-10 ÷ +80 °C for air
- valve : without zero setting
- control ratio : 10:1

ELECTRIC/ELECTRONIC GEAR MOTOR

- body and cover : die-cast aluminium
- rotation time : 7,5÷ 60 seconds at 50 Hz
- rotation angle : adjustable 0 ÷ 90°
- ambient temperature : -10 ÷ +60 °C
- supply voltage : 230 V A.C.
on request : 110 V A.C.
24 V A.C.
- frequency : 50/60 Hz
- rating : 4 VA - 7 VA
- enclosure : IP 54 - IEC 529
on request : IP 65 - IEC 529
- duty cycle : continuous 100% ED
- rating of end switches : 5(1)A/250 V C.A.
and auxiliary switches
- potentiometer/s : 150;1000;2500 Ω
- cable gland : 2 x Pg 13,5
- analogic input signal : 4÷20 mA or 0÷10 V D.C.
on request (supply 24V A.C..
50/60Hz)

ELECTRIC WIRING

For electric connection of motorized butterfly valves with AB1 gear motor please refer to AB1 or AB1...E technical bulletins. For motorized butterfly valves with AR2 gear motor please refer to AR2 or AR2...E technical bulletins.

HOW TO ORDER/CODE

BSV = BSV threaded butterfly valve

BFV = BFV flanged butterfly valve

Diameter BSV	BFV
20 = Rp 3/4	/
25 = Rp 1	DN 25
32 = Rp 1 1/4	DN 32
40 = Rp 1 1/2	DN 40
50 = Rp 2	DN 50
65 = /	DN 65
80 = /	DN 80
100 = /	DN 100
125 = /	DN 125
150 = /	DN 150
200 = /	DN 200

Adaptor

- P1 = AB1 shaped
- P2 = AR2 shaped
- T1 = AB1 in tandem DN 20 DN 50
- T2 = AB1 in tandem DN 65 DN 100
- T3 = AR2 in tandem DN 65 DN 100
- T4 = AR2 in tandem DN 125 DN 200

BSV 25 P1

AB1 = AB1 gear motor

AR2 = AR2 gear motor

Supply voltage

- A = 24V/50-60Hz
- B = 110V/50-60Hz
- C = 230V/50-60Hz**

Rotation time at 50Hz

- 0 = 7,5 sec.
- 1 = 15 sec.**
- 2 = 30 sec.
- 3 = 60 sec.

Potentiometer

- 00 = No Poti
- 11 = 1 " 150 Ohm
- 13 = 1 " 1000 Ohm**
- 15 = 1 " 2500 Ohm
- 21 = 2 " 150 Ohm
- 23 = 2 " 1000 Ohm
- 25 = 2 " 2500 Ohm

Auxiliary Microswitches

- 0 = No Micro
- 2 = 2 "**

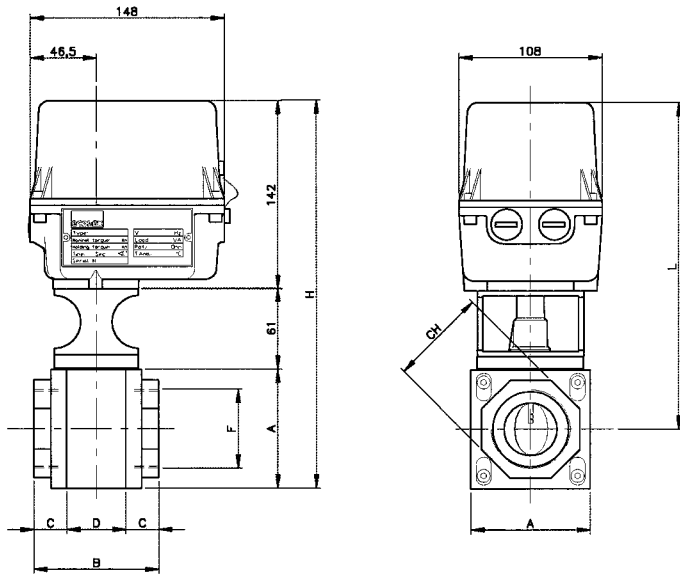
Accessories

- S = control station + relay
- F4 = flange F4
- M = multipolar connector
- O = position indicator
- E2 = In 0 ÷ 135 Ohm
- E3 = In 0 ÷ 20 mA
- E4 = In 0 ÷ 10 V D.C.
- E5 = In 4 ÷ 20 mA
- E6 = In 0 ÷ 10 V D.C. out 0-10 V D.C.
- E7 = In 4 ÷ 20mA out 0-10 V D.C.
- Z = special executions and/or further combinations

AB1 C 1 13 0 - S

POSSIBLE COUPLINGS

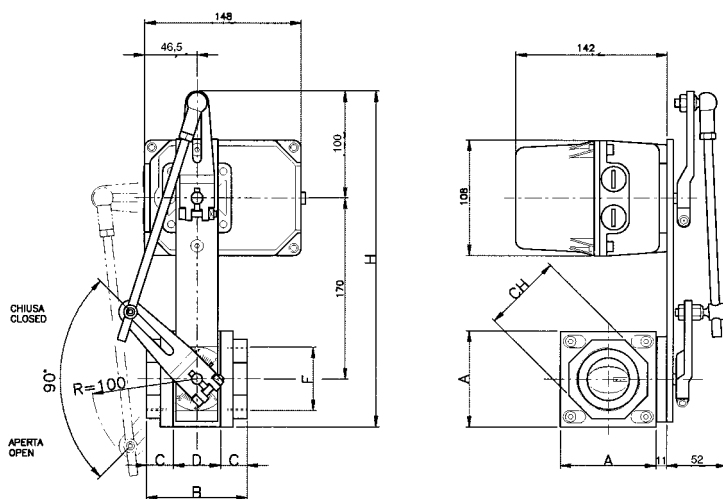
BSV threaded butterfly valve with AB1 gear motor and direct connection on the same axis.
Drawing A.21.001



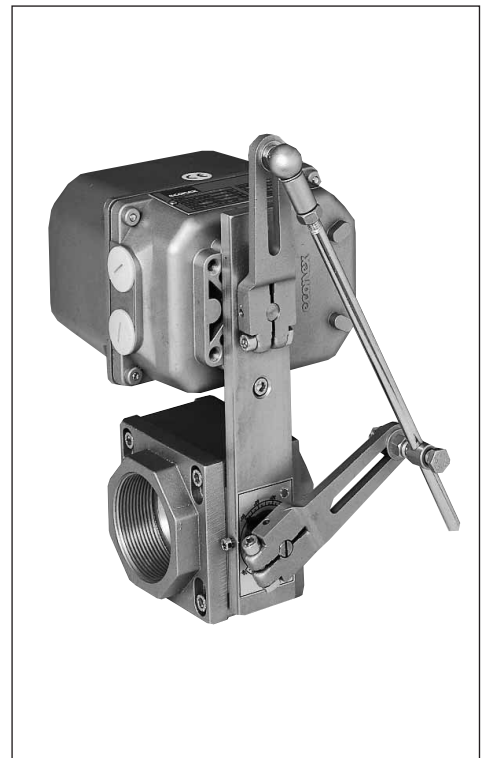
DN	F	CH	A	B	C	D	H	L
20	3/4"	42	60	86	22	42	263	233
25	1"	42	60	86	22	42	263	233
32	1 1/4"	60	90	95	25	45	293	248
40	1 1/2"	60	90	95	25	45	293	248
50	2"	74	90	95	25	45	293	248



BSV threaded butterfly valve with AB1 gear motor and tandem connection
Drawing A.21.004



DN	F	CH	A	B	C	D	H
20	3/4"	42	60	86	22	42	300
25	1"	42	60	86	22	42	300
32	1 1/4"	60	90	95	25	45	315
40	1 1/2"	60	90	95	25	45	315
50	2"	74	90	95	25	45	315



 **WARNING**

PLEASE READ THE OPERATING INSTRUCTIONS BEFORE USE ! THIS EQUIPMENT MUST BE INSTALLED ACCORDING TO THE PRESCRIPTIONS IN FORCE!

INSTALLATION AND MAINTENANCE INSTRUCTIONS

1. Installation, connections, adjustment and maintenance of the valve must be carried out exclusively by skilled and authorized service technicians.

Non proper installation, adjustment, changes, use and maintenance may cause damages to the personnel or to the equipment. Consequently it is necessary to respect strictly the following instructions and local prescriptions for both the installation of electric devices and of gas systems.

2. INSTALLATION

- 2.1 Make sure that all operating data indicated on the valve plates correspond to those of the system.
- 2.2 When installing the valve be sure that there is sufficient clearance above the gear cover and that it can be easily accessible in order to perform manual servicing, automatic servicing by means of a gear motor or servicing by means of levers.
- 2.3 For the valves of the BSV series proceed as follows:
- remove the protection plugs from the threaded flanges,
 - screw the threaded flanges to the inlet and outlet pipes, using exclusively sealing materials suitable for gas,
 - insert the BSV valve between the two flanges with "O" rings,
 - tighten the flanges to the valve body by means of the respective bolts.
- 2.4 The installation of both BSV and BFV valves can be performed in any position. Anyway the horizontal position is recommendable.
- 2.5 The valve can be installed in any location except where acid fumes or other deteriorating vapour may attack its metal parts or where gas leaks or explosive vapours are present in the atmosphere.
- 2.6 Do not use the valve as a lever.

3. OPERATING

- 3.1 Before operating the following points must be checked carefully:
- External tightness of gas pipes.
 - That valve adjustment is performed within the requested angle range.
 - That mechanical locks or other retainers which may damage the valve have been removed.
- 3.2 Once these preliminary checks have been performed, the main gas tap can be opened and the operation test can be carried out.

4. MAINTENANCE AND CHECKS

- 4.1 The BSV and BFV valves do not require any particular current maintenance because they do not need lubrication.
- 4.2 It is recommendable to check at least once a year that the mechanical connections have not been modified, especially in case of systems which do not function vibration-free.

5. REPLACEMENT

In case replacement of the valve is necessary, proceed as follows:

- 5.1 Close the main gas tap.
- 5.2 Remove the mechanical connections from the valve axis.
- 5.3 Remove the valve body from the inlet and outlet flanges by loosening the fastening screws from the respective nuts.
- 5.4 Install the new valve proceeding as per instructions reported in the foregoing chapters.

All the reported data are subject to be changed without notice.



Via F. De Sanctis, 53 - I - 20141 MILANO - Tel. +39 0289502912 - Fax. +39 028463084 - E-mail: econex@tin.it - www.econex.it