

# ***Safety Instructions***

***for Installation, Operation and  
Maintenance of ABO  
Butterfly Valves Serie  
600, 900***



CAUTION

1. All safety instructions should be read carefully; otherwise all manufacturer's warranties become null and void. All installation work and activities during the operation or removal of the valve must be performed by professionally trained staff. The manufacturer is available for any questions - see contact details.



DANGER TO LIFE

2. The valve can only be used if the medium pressure and temperature parameters comply with the type specifications for the type of valve concerned.



DANGER TO LIFE

3. It is necessary to ensure that the material of valve components that come into contact with the transported medium is suitable for the medium concerned.



DANGER TO LIFE

4. Prior to the removal of the valve from the piping (or prior to the replacement of the stem sealing in 2E5 series), the piping in front of and behind the valve must not be under pressure! (Risk of uncontrolled leakage).



DANGER

5. If the valve is used as a terminal fitting, the open outlet of the valve must be fitted with a blind flange, or the valve in the closed position must be safely secured (lever locked, etc.).



DANGER

6. If it is necessary to open the end valve of the pressure pipe, attention must be paid to the medium running out of the piping to avoid possible damage.



DANGER

7. If it is necessary to remove the valve from the piping, the piping must not be under pressure; if containing fluids hazardous to health, the piping must be emptied completely.



DANGER

8. When using valves in Ex environment in zones 1, 2, 21, 22 according to Atex, they must be fitted with grounding equipment (contact the manufacturer).



DANGER

9. It must be ensured that valves without levers or without an actuator do not open during transportation and storage (risk of damage to the disc).



WARNING

10. Installation between flanges – without an additional sealing between the valve and the flange. Flanges must have flat and smooth sealing surfaces e.g. B shape according to EN 1092.



DANGER

11. The inner diameter of the flange must be of such size as to avoid damage to the disc while opening the valve (see the table).

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ø d	45	55	70	90	116	146	192	245	290	340	390	440	490	575



WARNING

12. Prior to the installation of the valve, the inner area has to be clean, free of any mechanical impurities (scales, slag, etc.).



WARNING

13. Lever position indicates the position of the disc: ⊞ Lever perpendicular to the pipe – valve is closed, ⊞ Lever parallel to the pipe – valve is opened.



DANGER TO LIFE

14. Opening and closing of the valve must be smooth, not abrupt, in order to prevent hydraulic shock and damage to the piping and potential danger to persons.



**15.** As the valves are not self-locking, the lever or actuator may not be removed with the piping under pressure.



**16.** Valves with actuators used for regulation must be designed to avoid cavitation (if necessary, consult with the manufacturer).



**17.** Valves with actuators must be adjusted before their installation in the piping; special attention must be paid to the adjustment of end positions.



**18.** If the temperature of the media in the pipe or ambient temperature exceeds 50° C or is below - 20° C, it is necessary to isolate (protect) the actuator according to the actuator manufacturer's instructions.



**19.** Single-acting pneumatic actuators, spring opening adjustment: the sealing edges of the disc must be protected during transportation and storage. The valve must be manually closed during installation.



**20.** There is a risk of denting (displacement) of the seat during opening and closing in valves that are not installed in the piping. The operation of the actuator may not be checked until the installation between the flanges. It is recommended to mount the end valve on the counter-flange.



WARNING

**21.** Pneumatic (or hydraulic) actuators must be adjusted so as to prevent quick closure (or opening) of the flow in the pipe. Unless stated otherwise, the recommended closing time  $t$  (sec) =  $DN$  (mm) / 50.



CAUTION

**22.** The electric actuator must be adjusted so that the actuator is switched off by the limit switch, not by the torque switch (see the instructions of the manufacturer of the electric actuator).



WARNING

**23.** Horizontal position of the valve stem is recommended for valves of  $DN \geq 300$ . It is therefore recommended to install the actuator onto the valve so that the leakage around the stem, if any, does not damage the actuator.



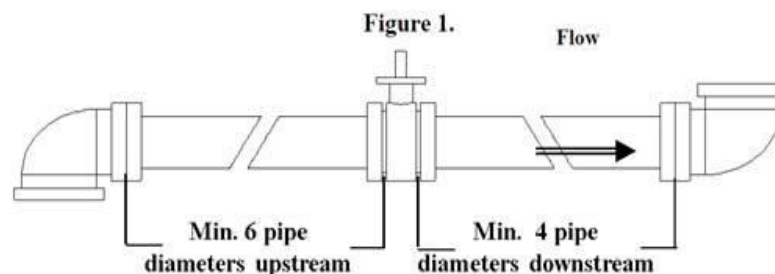
DANGER

**24.** Double-acting pneumatic actuators are not self-locking, so they must be kept permanently under air pressure (or controlling medium).



WARNING

**25.** Valves are to be assembled in pipelines with steady flow. Please be aware of general conditions for stabilizing the flow upstream of the valve (e.g. pump, other valve) which causes turbulences (usually  $6 \times DN$ , but it depends on specific conditions which are specified by the designer engineer).



## Other Information

These regulations as well as other above-mentioned documents and further information – also in other languages – are available at [www.abovalve.com](http://www.abovalve.com) or at the following address:

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