

# **Instructions for Installation, Operating and Maintenance**

## **for ABO butterfly valves series 500**

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## 1. Introduction

ABO centric valves, series 500, are used for closing or regulating the flow of fluids in pipes. The correct type and material design is determined using brochures or manufacturer's recommendations during consultations.

## 2. Safety Instructions

Installation, operation and maintenance may only be performed by properly trained and instructed staff.

For detailed safety regulations see the separate document, which must be read carefully before installation.

## 3. Valve Identification

**Series 500** are intended for use in chemistry and heavy-duty chemical and manufacturing processes where the very working area of the valve is exposed to aggressive media. The butterfly is made of stainless steel coated with PTFE material. Butterfly forms a single structural unit with the collar. The collar is made from PTFE. The body is split to allow disassembling of this structural junction.

These valves have a label specifying the material, maximum temperature and pressure.

## 4. Transportation and Storage

The valves must be stored indoors in dry and dust-free environment at normal temperatures.

Valves must be stored in a slightly open position (never fully closed!). Valves must not be stacked on each other; this could cause damage to the collar.

## 5. Installation into Pipes

The procedure is graphically described in the document **Installation Instructions**.

The valve sealing surfaces are made of PTFE collar parts; it is therefore necessary to use flanges with flat sealing strips, e.g. B shape according to EN 1092.

Before installation it is necessary to examine:

- Whether the PN, DN and materials of the supplied valve corresponds to the intended use and
- Whether no damage occurred during transportation. **Do not use damaged valves!**
  
- Check the correct functioning of the valve (full opening and closing).
- Counter-flanges must be aligned and parallel; any impurities and solid particles from the flanges and piping must be removed.

The direction of the flow and the valve position are optional.

Flanges should be tightened so as to avoid crushing of the PTFE collar between the flange and the valve body. This is the only way to guarantee tightness (no other sealing is used).

## 6. Pipe Pressure Test

The valve is pressurized by the manufacturer. When fitted in the pipeline the entire pipe section with valves needs to be pressurized. The following must be observed:

- Newly installed section must be carefully rinsed (cleaned) to remove all mechanical impurities.
- Valves in open position: pressurize at 1.5 times the PN,
- Valves in closed position: pressurize at 1.1 times the PN

## 7. Operation and Maintenance

Valves can be manually controlled using normal force, it is not recommended to extend the length of the lever. When the lever is parallel to the pipe the valve is opened; the position of the lever perpendicular to the pipe means that the valve is closed.

Opening and closing using the lever must be gradual rather than abrupt, to avoid hydraulic shock.

The valves are maintenance-free, it is only necessary to check during operation if the outer surface does not leak.

If the valve remains in the same position for a long time, it is recommended to close and open the valve repeatedly at least 4 times per year.

## 8. Troubleshooting.

In case of failure and repair it is necessary to observe all safety rules – see the separate document **Safety Regulations**.

Failure	Cause of failure	Failure removal
<b>Leakage between the valve and flanges</b>	Insufficiently tightened flange bolts	Tighten the bolts
	Valve not centred	Reinstall the valve in the correct position
	Internal diameter of the flange too large	Replace flanges
	Burned, damaged or crushed collar	Replace the butterfly-collar assembly
<b>Valve does not close</b>	Solid particles between the collar and the butterfly	Remove and clean the valve, or replace the damaged parts
	Damaged or porous collar	Replace the butterfly-collar assembly
	Pressure of the medium too high	Check the pressure of the medium
<b>Valve leaking when closed</b>	Worn collar	Replace the butterfly-collar assembly
	Worn disc (erosion)	Replace the butterfly-collar assembly
	Closed position incorrectly set	Check and adjust the position
<b>Leakage around the shaft</b>	Butterfly-collar assembly damaged	Replace the butterfly-collar assembly

## 9. Valves with Electric or Pneumatic Actuator

The above principles fully apply to these valves. It is also necessary to observe and check the correct end position adjustment of the actuators.

The positions of the actuators have been pre-set by the manufacturer and may not be adjusted. The intake (or exhaust) of controlling air in pneumatic actuators can be adjusted to avoid their quick closure and hydraulic shock in the pipes.

## 10. 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 upon request at:

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