

## Instruction manual

4.30.10



# WEY® Butterfly Valves Type TZ

# WEY® BUTTERFLY VALVES TYPE TZ: INSTRUCTION MANUAL

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## 1. GENERAL

Prior to any work or start-up and in order to ensure a proper functioning of our products, the instruction manual must be observed.

Alterations on the products need our written approval. For consequential damages due to neglect of this direction, we have to reject any liability.

## 2. TRANSPORTATION, STORAGE

### 2.1 Transportation

Transportation of the valves to their final destination (building site) shall take place in solid crates adapted to the valves' size. The valves shall be protected against exterior damage and atmospheric exposure.

Depending on the duration of transportation or storage and in view of the conditions, preservation shall take place by welding valves into PE-film or adding sufficient drying agent or equal.

### 2.2 Storage

Until final installation the valves shall be stored in a dry, shaded and vented area. All function relevant parts shall be suitably covered against humidity, dust or other contamination.

The valve disc shall be set in a slightly (10°) open position for relief of the rubber seat.

Factory applied preservatives shall be checked for possible transport damages and appropriately repaired acc. supplier's instructions, if necessary.

For accessories mounted to the valves, such as electric actuators, limit switches, solenoids, etc., the respective storage instructions of the manufacturer shall be observed with priority.

## 3. INSTALLATION

### 3.1 Preparation before installation

Not correctly aligned pipelines must, by all means, be corrected before installation in order to avoid tensions or even cracking of the valve body.

Before final installation of the valves, all parts and in particular the bore passage and the disc seal shall be free of dust and dirt.

### 3.2 Installation site

The installation site shall be chosen so that the valves are well accessible for functional checks or maintenance work.

For outdoor installations, the valves shall be protected at site with shields or covers against severe weather conditions like snow and ice.

### 3.3 Installation position

It is recommended to install the butterfly valve with the shafts in horizontal position for reasons of: (Fig. 1)

- Self-cleaning effect (no depositions)
- Equal weight loads from disc to both shaft bearings.

### 3.4 Pressure direction

The pressure direction is generally from both sides possible. The preferred valve installation position as such is with the pressure direction against the valve disc acc. Fig. 1.

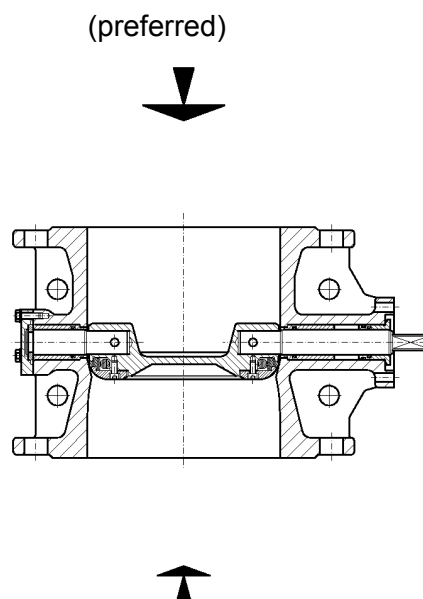


Fig. 1

### 3.5 Mounting

Before mounting, valves to be checked for possible transportation or storage damages.

The valves shall be protected against construction work at site.

If lifting devices are used, valve shall be hooked at cast-in lifting lugs only and not at actuator.

The flange pattern consists of through holes. Apply flange bolts acc. Fig. 2.

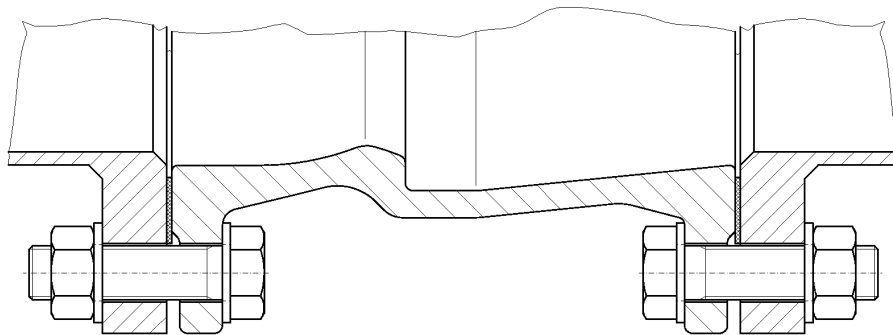


Fig. 2

The thread dimensions and the number of bolts are found in the dimension sheets.

**ATTENTION:** Tighten bolts cross-wise with caution, so that tensions in the body do not cause any cracking or breaking. No tilting, steady tightening.

Should there be a longer time period between mounting and power connection of electrically operated valves, it shall be ensured that the integral heater of the actuator is already connected during mounting of the valves in order to avoid the formation of condense water (or protect actuator with suitable drying agent).

## **4. COMMISSIONING**

### **4.1 General measures**

Before taking the valves into service, clean body and actuator thoroughly.

Check the valve coatings for possible mounting damages and repair acc. to supplier's instructions, if necessary.

### **4.2 Safety measures**

For automated valves installed in an area where valve movement could be dangerous for people (or animals/objects), it must be ensured by the user on-site that all moving parts are fenced with a suitable cover or protection shield.

Such covers are optionally available from manufacturer.

### **4.3 Pneumatically operated valves**

Solenoid valves shall be mounted as close as possible to the actuating cylinder.

The size of the air supply pipes has to be in relation to the air volume.

Before start-up, all on-site mounted supply pipes and solenoid valves shall be thoroughly flushed and cleaned, if necessary.

For the actuation of the cylinder we recommend the use of slightly oiled supply air.

Factory mounted solenoid valves are normally provided without accessories like throttle or muffler. On-site regulations must therefore be observed.

Pneumatically operated valves shall not be closed instantly in order to avoid the risk of pressure shocks.

### **4.4 Electrically operated valves**

For trouble-free commissioning of electric actuators, we recommend to call on our specially trained customer service specialist.

On-site electric installations shall be in accordance with respective connecting diagram of the supplier. In addition, the specific operating instructions of the actuator supplier shall be observed.

Before the first electrical operation, the valve gate shall be set to an intermediate position with the manual override, and then started.

When connecting to the power supply, the phase sequence has to be observed.

**ATTENTION:** With wrong phase sequence, limit and torque switches are ineffective.

The switch-off shall be in accordance to our instructions/diagrams, i.e.:

- Switch-off in opening and closing direction with limit switches only. The torque switches serve as overload protection.

## 5. MAINTENANCE

### 5.1 Operating cycles

During one service year, at least four (4) operating cycles shall take place, whereby all components shall be checked. Under severe service conditions, such functional checks shall take place more frequently.

### 5.2 Checks / Lubrication

Periodic maintenance or lubrication of the valve is under normal service conditions not necessary.

For actuators, the respective operating instructions of the suppliers are binding.

To avoid any damage due to longer stand-still periods, the valve disc has to be set into a slightly open (10°) position.  
When recommissioning, follow the steps under commissioning (para 4).

## 6. TROUBLE SHOOTING

Trouble	Possible Cause	Elimination
Leakage in bore passage of valve	Valve disc not completely closed; jammed particles between disc and body internals	<b>Manual valves</b> <ul style="list-style-type: none"> <li>- Open valve slightly and repeat closing action.</li> <li>- Remove jammed particles.</li> </ul>
		<b>Pneumatically operated valves</b> <ul style="list-style-type: none"> <li>- Open valve slightly and repeat closing action.</li> </ul>
		<b>Electrically operated valves</b> <ul style="list-style-type: none"> <li>- Check if limit switch position is set properly.</li> <li>- Open valve slightly and repeat closing action, check, possibly reset limit and torque switches (upon supplier's recommendation).</li> </ul>
	Disc seal damaged	Remove valve, replace seals according to instructions.
Leakage between valve flange and pipe flange	Valve and pipe flange not parallel	- Correct pipe flange alignment.
	Flange bolts not tightened	- Tighten bolts firmly.
Valve disc is not movable	Actuating components damaged	<b>Manual valves</b> Check, clean valve disc, replace defective parts, if necessary.
		<b>Pneumatically operated valves</b> Check supply pressure. Check if current onto solenoid existent. Check solenoid for damages. Check actuating cylinder for damages (seals).  Clean and lubricate, if necessary replace damaged components acc. to supplier's instructions.

**6. TROUBLE SHOOTING (Cont'd)**

<b>Trouble</b>	<b>Possible Cause</b>	<b>Elimination</b>
Valve disc is not movable (cont'd)	Actuating components damaged	<b>Electrically operated valves</b> Check if current existent. Check if motor defect. Check if limit switches defect or malset. Check if gear damaged.  Clean and lubricate, if necessary replace damaged components acc. to supplier's instructions.
	Valve clogged, calcified, valve disc contaminated	Remove valve, clean, possibly disassemble completely.
Closing or opening stroke ceasing or stagnating	Insufficient supply pressure	<b>Pneumatically operated valves</b> Check supply pressure, possibly increase supply pressure.
	Solenoid valve dirty	Remove and clean solenoid valve, possibly install filter.
	Piston rod seal damaged	Remove and clean piston rod seal, possibly exchange cylinder seals, lubricate.
Pressure loss on supply net	Pipe connections damaged	Check pipe connections, tighten, replace if necessary.
	Cylinder seals damaged	Check and replace cylinder seals, lubricate.
Leakage through shaft bearing	Seals damaged	Remove valve and disassemble. Replace defective seal.

**7. FINAL REMARKS**

All details given above are to our current up-to-date knowledge and shall provide, together with our technical documentation, information about our products and their range of applications.

They are not thought to assure particular features of the products nor their suitability for a specific application.

Faultless quality is assured within our General Sales Conditions.

For any further information, please call any time on our Customer Service Department.

ALTERATIONS AND ADDITIONS RESERVED