

## 1. Copyrights

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This Operating Manual has been specifically designed to be read, understood and complied within every respect by the person responsible for operating of the *Aqua star*

Knowledge of the instruction contained in this Operating Manual is indispensable for preventing failure and ensuring faultless operating of the *Aqua star*. Therefore, it is essential that the person in charge of operating the equipment are familiar with the present documentation.

## 2. Introduction to operation manual

This Operating Manual is intended to facilitate familiarization with the *Aqua star* and utilization of the same for the intended purpose.

This Operating Manual contains important information for safe, proper and economical Operation of the *Aquastar*. Compliance with these instructions will contribute to,

- preventing danger,
- reducing repair costs and equipment failure, and
- increasing the liability and service life of the *Aqua star*

This Operating Manual supplements the instruction provided by existing accident prevention and environmental protection regulations. It must be available at the place of utilization of the equipment at any time and must be read by each person intending to use the *Aqua star*. This means

- operating, including
- Correction measures in case of faulty operation and
- Maintenance

In addition to the Operating Manual and the compulsory accident prevention regulations applicable at the place of utilization of the equipment, the generally recognize subject specific and technical rules must be taken into account.

## 3 Warranty and liability

Warranty and liability claims in the context of damage to person or property shall be excluded where such damage results from one or several of the causes listed below.

- - Improper use of the *Aqua star*  
Improper installation, putting into operation, operation and maintenance of the *Aqua star*
    - Operation of the *Aqua star* with defective safety devices or improperly mounted or non-functional safety and protective devices.
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- Non-compliance with the instruction contained in the Operation Manual for Installation, putting into operation, operation and maintenance of the *Aqua star*
  - Unauthorized modification of the *Aqua star*
  - Insufficient monitoring of components subject to wear and tear
  - inadequately performed repair of the *Aqua star*
  - Damage of the *Aqua star* resulting from foreign matter or Force Majeure



Enduring damage due to neglect of the Operating Manual or due to damaging sealed parts lead to a lapse of the warranty. We do not take an liability for thus resulting damages! Please read the Operating Manual carefully before starting.

#### 4. Instruction for safety at work

- Each person involved in the user's facility, in the installation, dismantling, putting into operation, operation or maintenance of the *Aqua star* must have read and understood the entire Operating Manual and, in particular, the chapter "Safety instructions".
- The instruction and warning signs calling attention to dangers must be taken into account



Dangerous voltage  
This is for your own safety

#### 5. Safety instructions

- This equipment has been built and examined according to safety precaution for electronic devices and has left the plant in a perfect safety-related condition.
  - To keep this status and to guarantee a safe operating, the user must observe the safety instructions, which are included in these operating instructions.
  - This installation work may only be undertaken by an authorized and licensed installer or electrical business.
  - The electrical installations must be carried out according to the respective local and regional regulations (e.g. OEVE, VDE,...) and possible official regulations.
  - The electrical connection must have separating device built into the permanently installed electrical installation, which enables the disconnection of all electrical contacts with a contact space of minimum 3 mm from the mains. Pay attention that the supply voltage is correctly protected and an earth-leakage circuit breaker < 30 mA is installed.
  - Only use the equipment in dry rooms, in which no combustible gases and vapors are present.
  - Do not operate the equipment immediately if it has been taken from a cold into a warm area. The thereby developing condensation water could destroy your equipment
  - If the equipment has visible damages doesn't work anymore or has been stored for a longer periods under adverse conditions then it is to be expected that a safe operation is not possible anymore.
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- In this case the equipment is to be secured against unintentional start-up and if necessary to be decommissioned.
  - Live parts can be uncovered when opening the cover or removing parts. Before an alignment, maintenance, a repair or a change of parts or devices, the equipment must be separated from all voltage supplies, if opening the equipment is necessary. If after that an alignment, maintenance or a repair on the opened equipment under voltage is inevitable, it may only be done by experienced skilled personnel, who have knowledge of the associated dangers and/or the relevant regulations.
  - Capacitors in the equipment can be still charged, even if the equipment is separated from all voltage supplies.
  - Assembly and/or disassembly of the armature only in a pressure-free status (i.e. empty piping beforehand).
  - Armature flow and/or direction of flow must be considered.

Each person involved in the operation and maintenance of the equipment must have read and understood the present Operating Manual  
This is for your own safety!

## 6. Residual Risk

### 6.1 Hazard generated by current



Manipulation of the Aqua star by operating personnel is strictly prohibited and may only be performed by duly authorized personnel qualified for electrical work. Compliance with the corresponding instruction and prohibition signs is required.

### 6.2 Hazard generated by human error



The operating personnel must be instructed with regard to the residual danger from electricity and familiarized with correct operation. Efficiency of the safety training must be verified.

### 6.3 Hazard generated by current during cleaning work



Cleaning of the Aqua star may only be performed after disconnection from the power supply (level switch).

## 7. General

PRAHER Aqua star controls are significant technical products, which are manufactured with high accuracy to the most modern technical production methods. Entitled complaints will naturally be rectified as far as possible if they occur. The equipment has a warranty after valid European right. The warranty begins on the purchase date.

ATTENTION! For the discharge of the seal the valve stands on an Intermediate position and is **not tight!** Before use the electric drive must be

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## 8. Assembly

### Device installation - installation of the valve:

Install the valve into the piping system according to the labeling and the sketch below. Use Adapter unions. Threaded connections should be sealed only with Teflon tape.

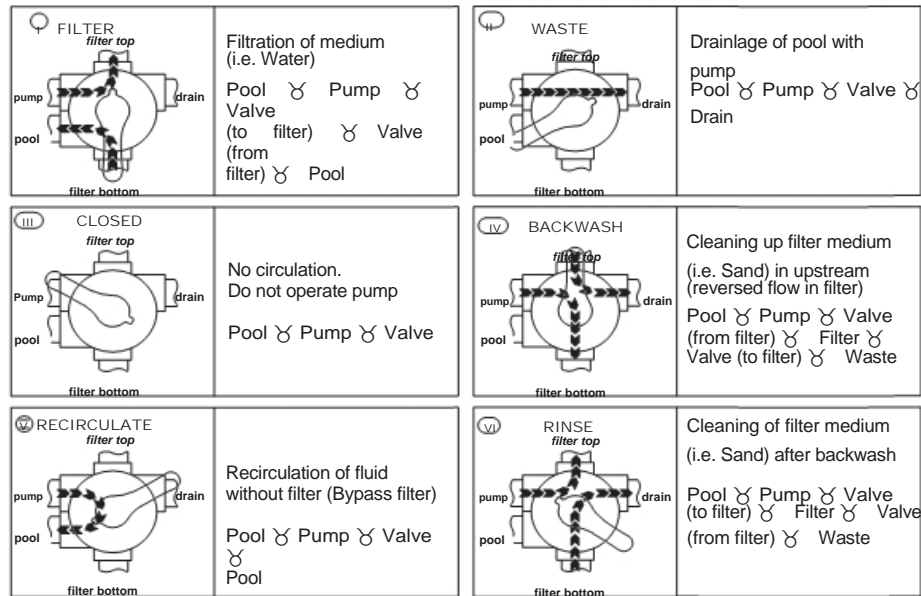
Although the device works in any position, it should not be mounted actuator down, if possible. If the difference in level between system and tank exceeds 3 meters, stop valves or non-return valves (check valves) should be installed to prevent severe damage to the actuator and the valve due to excessive pressure and flow.

Install flow reducing valves in the backwash line in order to prevent sand wash out.. Otherwise a stuck valve diverter can adversely affect the flawless functioning of the Aqua star.

Polluted or grainy filtering media require the use of adequate pre-filters or strainers.

**IMPORTANT! The PUMP must be SHUT OFF during actuator travel between positions!**

### 8.1 Function and installation



**6-way valve type:** 1,5", 2" and 3"

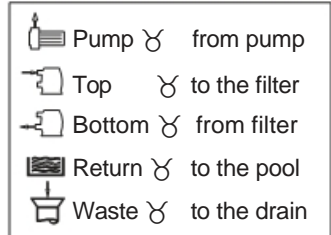
**Connections :** Thread or stick (all connectors open)

**Max. Operating pressure :** ABS 1,5", 2" and 3"

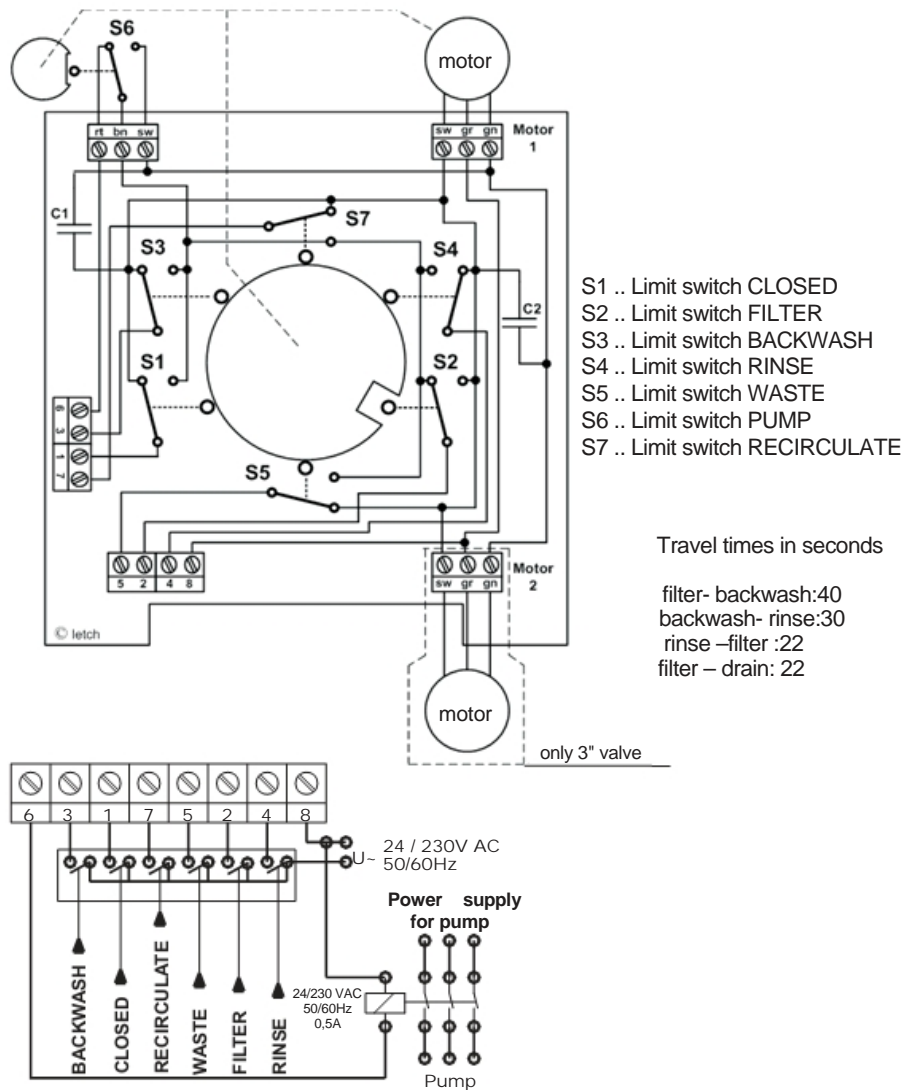
↘ 3,5

GFK 1,5", 2" ↘ 6 bar  
GFK 3" ↘ 5 bar

bar



## 9. Wiring diagram



**Attention:** Only one position can be triggered, for example "FILTER" or "BACKWASH" but not "FILTER" and "BACKWASH" together!

### Technical Data:

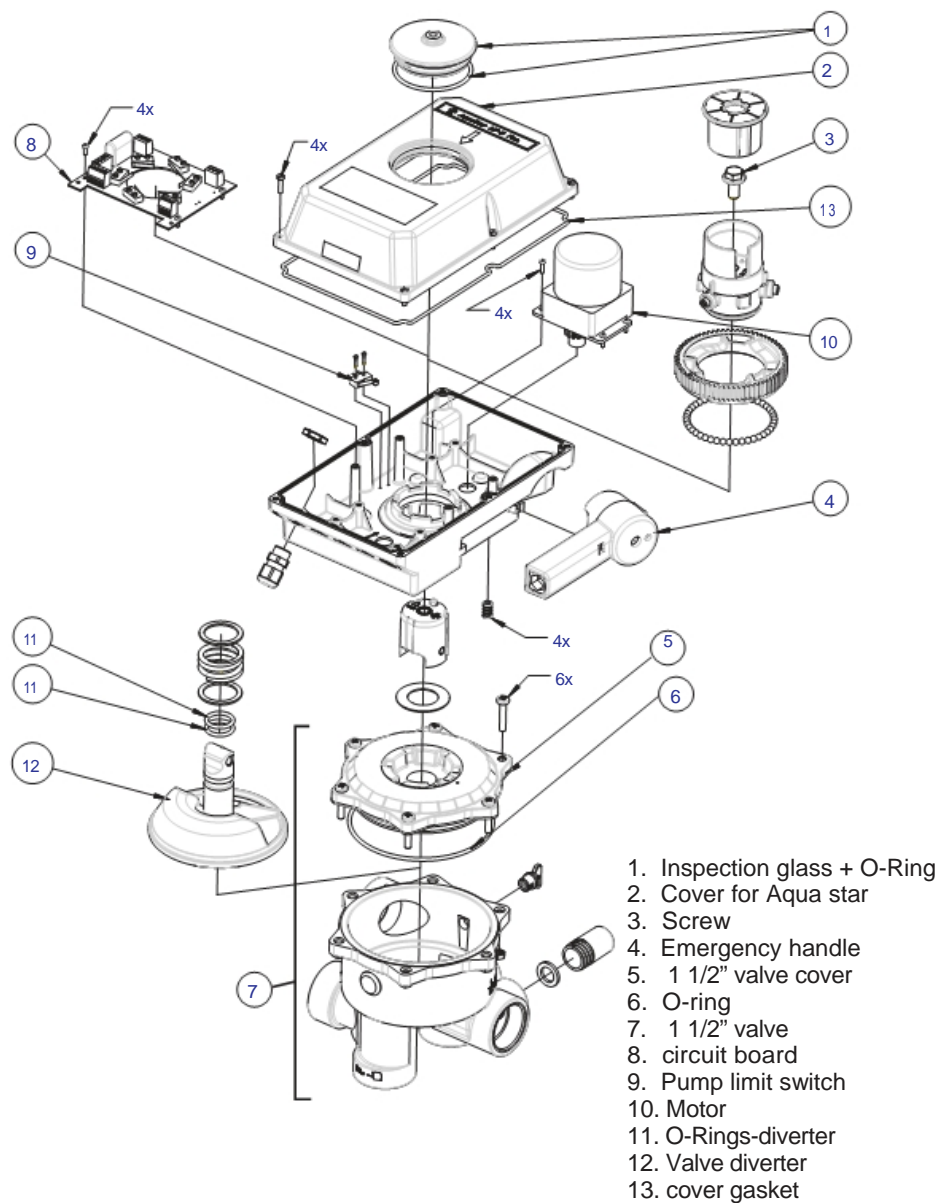
**Operating voltage:** 24 / 230 VAC 50 / 60 Hz

**Max. operating power during change over:** 11,5", 2"-11VA/3"-22VA

**Type of protection:** IP 65

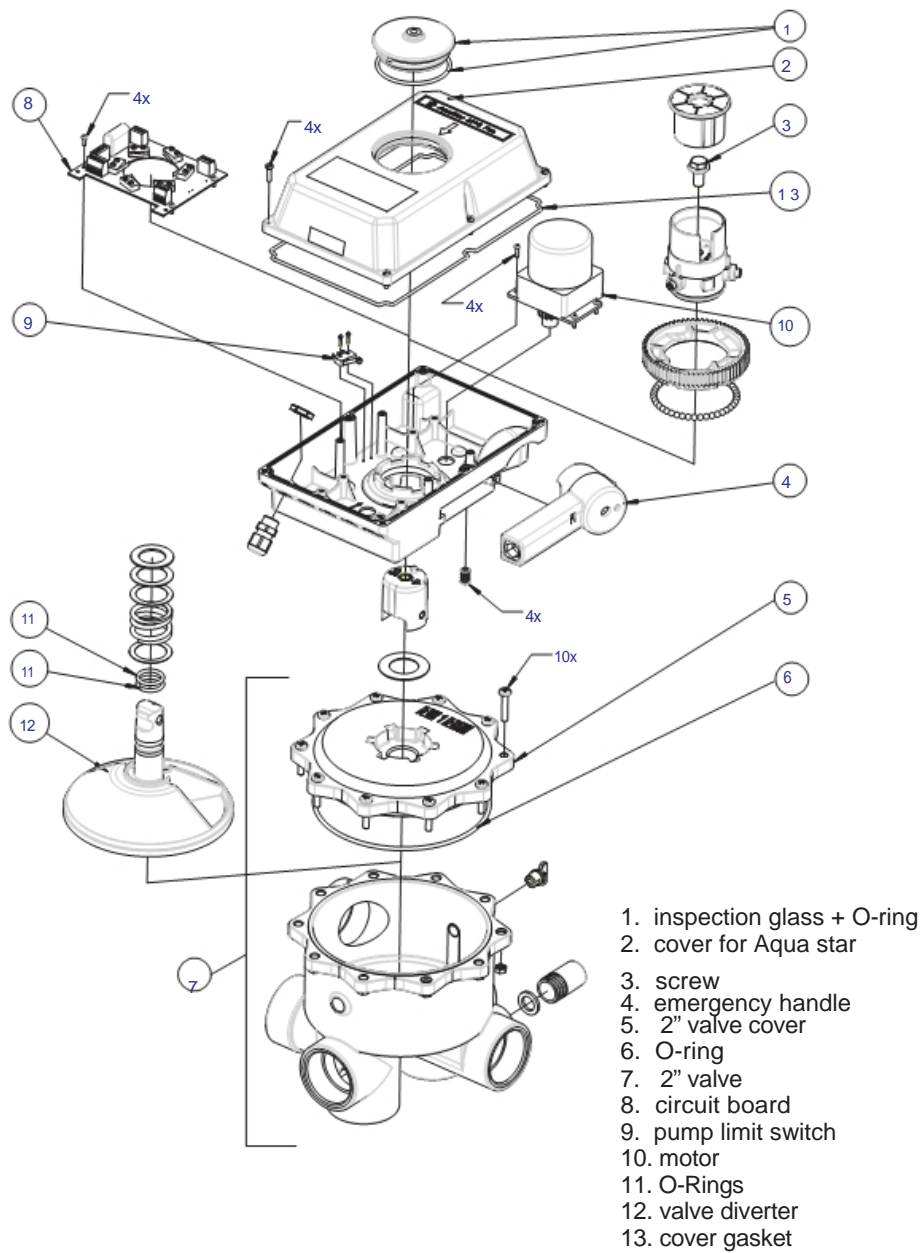
## 10. Exploded drawing

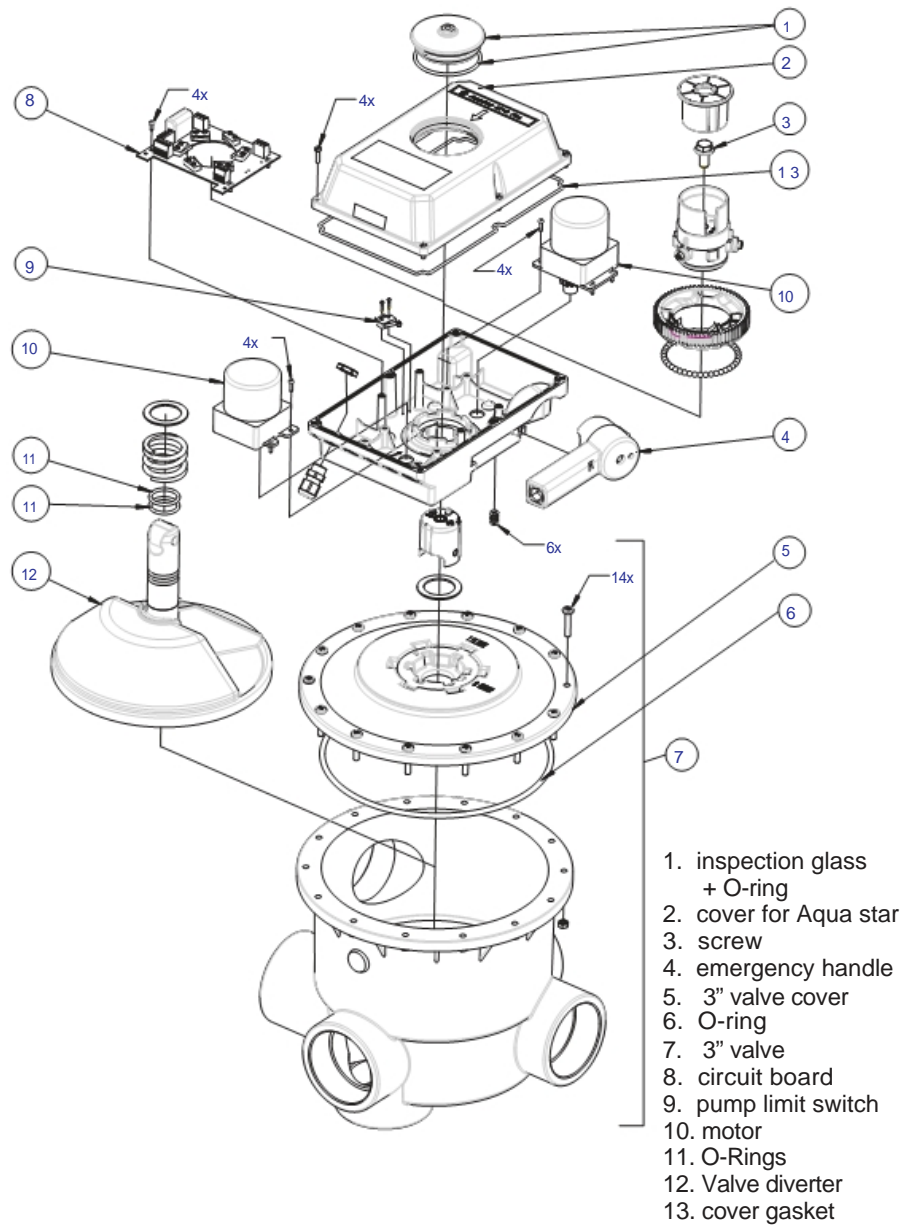
### 10.1 Aqua star MP6 1 1/2" 230/24V



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## 10.2 Aquastar MP6 2" 230/24V







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## 11. Emergency manual override

Operating with power failure or control system problems

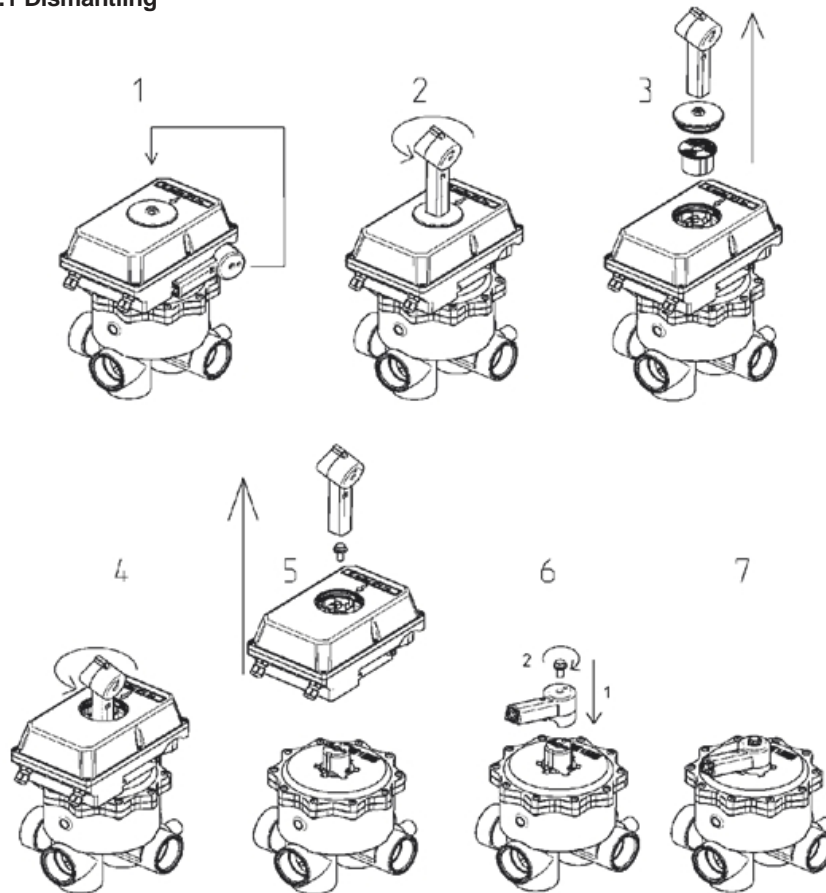
1. Before any use of the hand emergency, separate valve from the electric circuit - interrupt control cables to the valve.
2. Lower system pressure in the valve (switch pump off, take care of possibly existing water pillars and close ball valve).
3. Operation of the manual emergency see sketch

### Note:

Before any emergency operation the system pressure of the valve must be lowered

**The hand emergency operation is not meant to replace the electrical drive.  
To ensure a longstanding function of the hand emergency operation, this  
should be continuously used.**

### 11.1 Dismantling



## 11.2 Installation

