



AUTOMATIC WATER SYSTEM PUMP **18/4-12** **18/4-24**

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The **tigerexped AUTOMATIC PRESSURE WATER PUMP** optimizes water systems in travel vehicles and boats with a five-chamber membrane, high flow rate, integrated bypass valve and reduced pump cycles. A pleasantly even flow, precise pressure control and good heat dissipation not only ensure a fresh water supply almost like at home, but also durability. The tigerexped water pump is made for long-term (up to 1000 hours motor lifetime!), sustainable use due to the availability of spare parts and ease of repair.

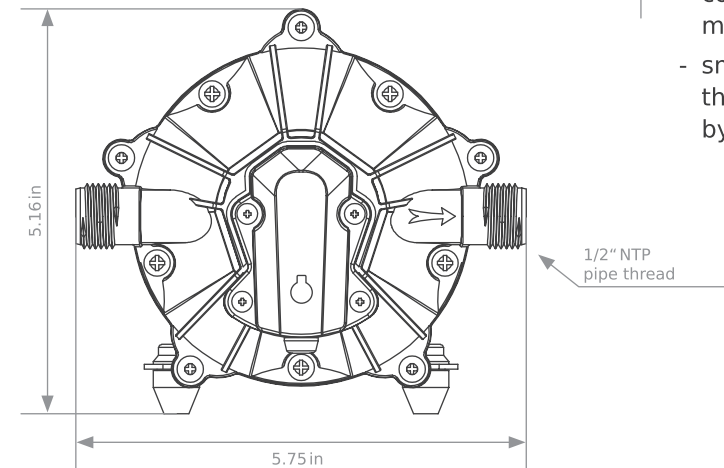
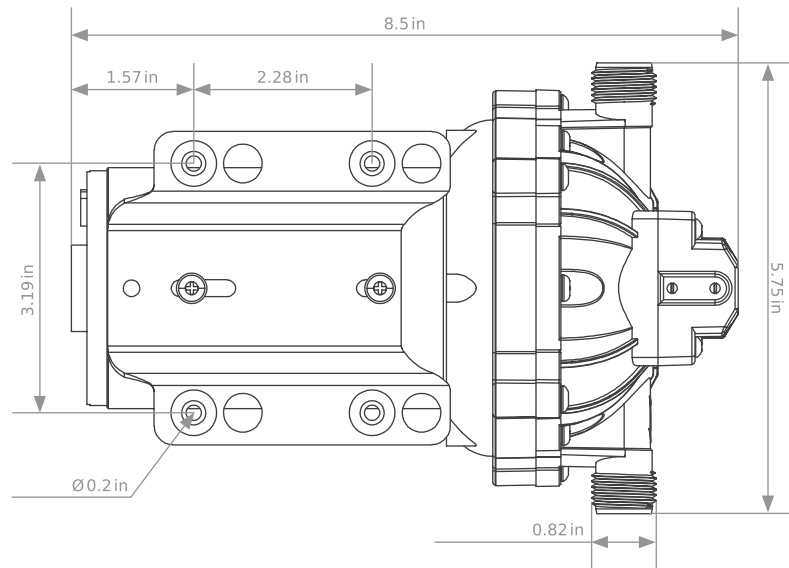


The tigerexped water pump is particularly suitable for a **WIDE RANGE OF APPLICATIONS:**

- For fresh water supply in travel vehicles or on boats and yachts
- Installation of washing or cleaning facilities (e.g. for sports equipment)
- solar water systems
- for filling or transferring liquids
- as well as for all other pressure systems

FEATURES:

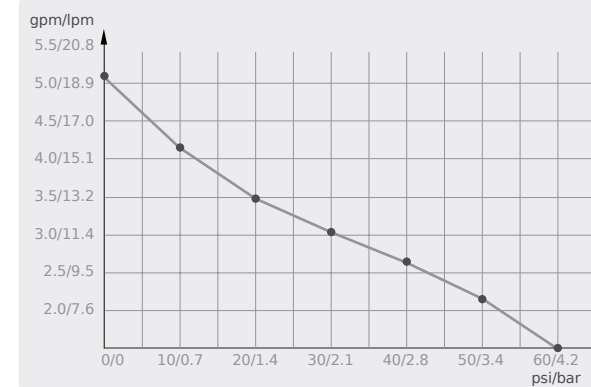
- self-priming
- dry-running qualified
- low noise
- ignition protected
- durable
- compact size
- corrosion resistant materials
- smooth water flow through integrated bypass valve



TECHNICAL SPECIFICATIONS



Dimensions L×B×T	216×146×131 mm
Weight	2.68 kg
Voltage	12V / 24V
Current	15A / 8A
Operating temperature	water up to 60°C
Suction height	up to 1.8 m
Flow rate	18.9l / min
Cut-off pressure	60-65 psi / 4.2 bar
Starting pressure	20-25 psi / 1.4 bar
Bypass pressure	72-76 psi / 5 bar



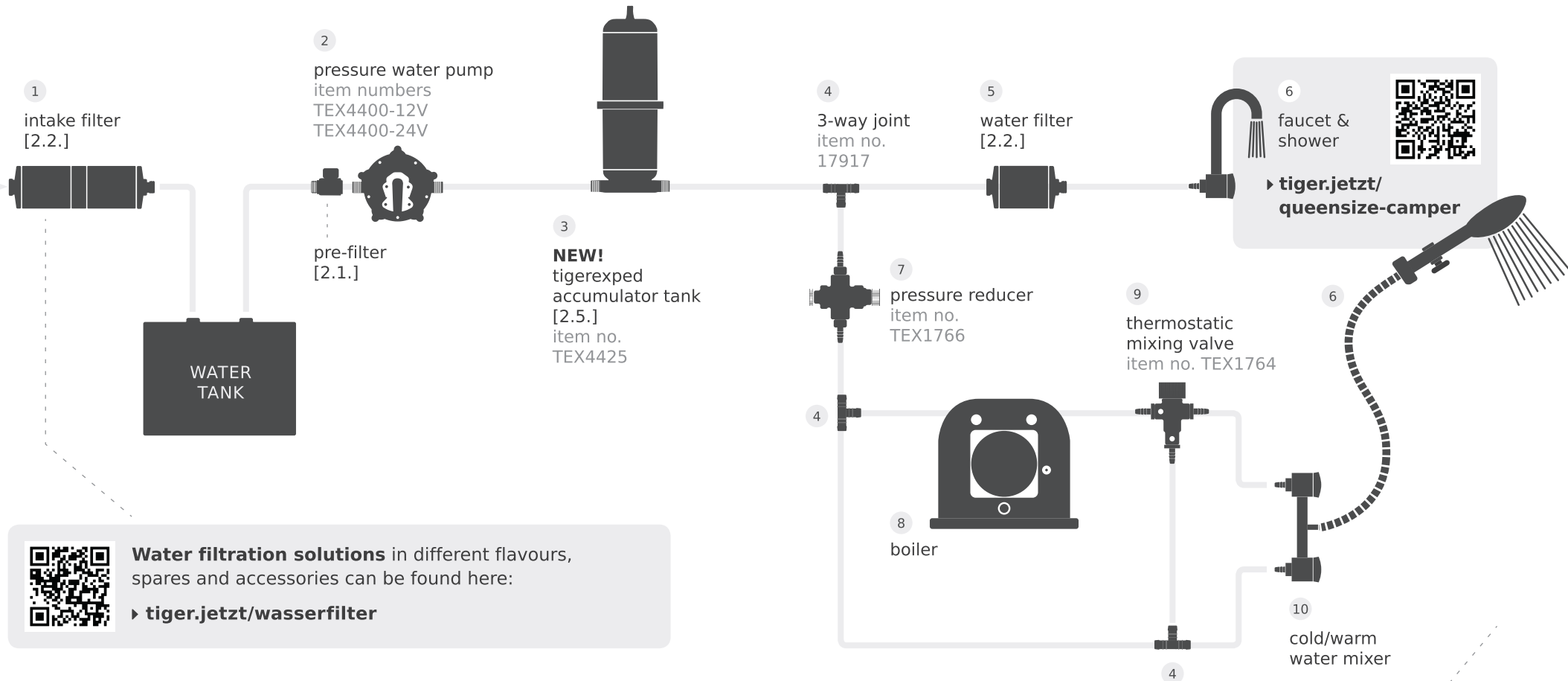
▲ Note:
Flow rate will decrease as back pressure in system rises. Especially the use of water filtration systems might lead to such effects and should be dealt with accordingly.

1. INSTALLATION OF THE PUMP

Please make sure to follow our installation instructions in order to enable the water system work quietly and always guarantee unhindered flow and pumping and therefore a long life of your pump. Also keep good access for maintenance and repairs in mind, when choosing the place of installation.

1.2. POSITIONING IN THE OVERALL SYSTEM

Also available in the **tigerexped water range**:
Drinking water hoses, connections, accumulator tank
and water filters ▶ tiger.jetzt/tex-water



1. INSTALLATION OF THE PUMP

1.3. MOUNTING LOCATION

We recommend installing the pump in the heated interior. The lowest noise development is usually achieved by mounting on the base plate. When mounted on partition walls, in cupboards or other free-standing objects, more volume is to be expected due to the absorption of vibrations.

The pump is equipped with flexible screw points to minimize noise emissions from vibration. In order to be able to use this advantage, the mounting feet must not be squeezed too much by the screw connection - a too tight screw connection eliminates the buffering effect.

Padding can be fitted under the pump to further minimize noise.

A suitable place for the pump is further:

- close to the tank
- with a good accessibility for maintenance of the pre-filter
- gives the pump some space for ventilation and to be able to dissipate heat

The pump can be mounted lying or hanging. When choosing a hanging position the pump head should point downwards to protect the motor from water ingress in the (very unlikely) event of a leak.

1.4. CONNECTORS AND HOSES

PLEASE NOTE: ALL components of the water system must withstand the maximum pressure of the pump or the maximum pressure which is set by the optional pressure regulator.

1.5. FLEXIBLE WATER PIPE SYSTEM

It is recommended to use a flexible hose suitable for drinking water (see tigerexped item numbers 36533 / 36532) and not a rigid pipe for the water supply. Vibrations and thus operating noises as well as the stress on connections and threads are highly reduced as a result. However, if a rigid line is to be installed or already exists, a short piece of flexible hose (approx. 20") should be used between this and the pump to avoid possible damage caused by vibration.

1.6. INNER DIAMETER

If more than two tapping points are intended to be operated at the same time, a suction hose with an inner diameter of at least 1/2" must be used. The main distribution line of the pump outlet should also have an inner diameter of 1/2", branches and individual supply lines to the outlets at least 3/8" (suitable connection piece, item no. 35669). If water is drawn from one or at most two fittings at the same time, an inner diameter of 3/8" is sufficient for all connections.

1.7. CONNECTORS, DISTRIBUTORS, TAPS

When choosing branching or distribution elements, ensure that the internal diameter is sufficient, so the flow doesn't get obstructed. Cleverly designed branching of the water system can reduce the number of connectors required, which results in a positive effect on the water flow.

Fittings should also ensure adequate flow. Cartridges of 1, better 1.5" are recommended (see, for example, the high-quality stainless steel folding taps from Queensize Camper in the tigerexped range under item no. VAR35889).

All connections and fittings should be secured with hose clamps to prevent leakage and air intrusion into the water line.

1.8. FURTHER FLOW OPTIMIZATION

Avoid constrictions in the water pipe cross-section due to connection elements. Also particular attention must be paid to prevent the hose from kinks or tight curves. This applies specifically to the direct pump inlet or outlet.

1.9. AVOID INLET PRESSURE

In general, any pressure on the inlet side of the pump should be avoided. Under no circumstances may 30psi be exceeded.

2. ACCESSORIES

The tigerexped water pump comes with the necessary accessories. This and other accessories can / should be used as follows:

2.1. PRE-FILTER

The pre-filter included in the scope of delivery must be integrated into the system prior to the pump. It protects the pump from contamination by coarser particles and from defects caused by these. Damage caused by a missing filter is not covered by the warranty.

2.2. USE OF DRINKING WATER FILTERS

In addition to the pre-filter to protect the pump, drinking water filters can be integrated into the system to ensure water quality. They have to be installed on the pressure side of the pump. We recommend the drinking water system from Alb Filter in the tigerexped water range, with a highly effective 0.1 micron germ barrier and sintered activated carbon.

NOTE: Water filtration generally has a flow-inhibiting effect. The combination of the powerful tigerexped water pump with the flow-optimized hollow fiber membrane from Alb Filter ensures the best possible values for sufficient pressure at the tap or shower (flow diagrams, see the corresponding products in our shop at [▶ tiger.jetzt/alb-filter](#))

2.3. USING A CHECK VALVE

Using a check valve, the opening pressure must not exceed 2 psi.

2.4. USE OF SEALANT OR SEALING TAPE

The threads of the tigerexped water range are precisely worked and seal without the use of additional tools. However, if a sealant is to be used, take care not to overtighten, since parts of the sealant could be cut off through the thread and get into the pump. For this reason, liquid, hardening sealants should also be used sparingly.

2.5. ACCUMULATOR TANK

We recommend using an accumulator tank in a pressurized water system. This reduces pump cycles, minimizes the overall noise emission and ensures an even smoother water flow at the tapping points.

The tigerexped accumulator tank (item no. TEX4425) is designed for use with other tigerexped water components and, with its compact design, offers the ideal addition to the system.

3. ELECTRICAL CONNECTION

A separate circuit for the tigerexped water pump with dedicated protection and without additional consumers should be provided.

3.1. WIRING

The wiring is made by connecting the positive cable (red) to the positive pole of the battery and the negative cable (black) to the negative pole of the battery.

The cable cross-section to be used depends on the distance from the pump to the battery:

Ft.	0-20	20-30	30-50	50-65
AWG	14	12	10	8

3.2. FUSING

The circuit should be protected with a 25A fuse on the positive lead.

3.3. CHECK VOLTAGE

After installation, the voltage applied to the pump should be checked while the pump is operating. The measured voltage should never be more than 4% below the current battery voltage

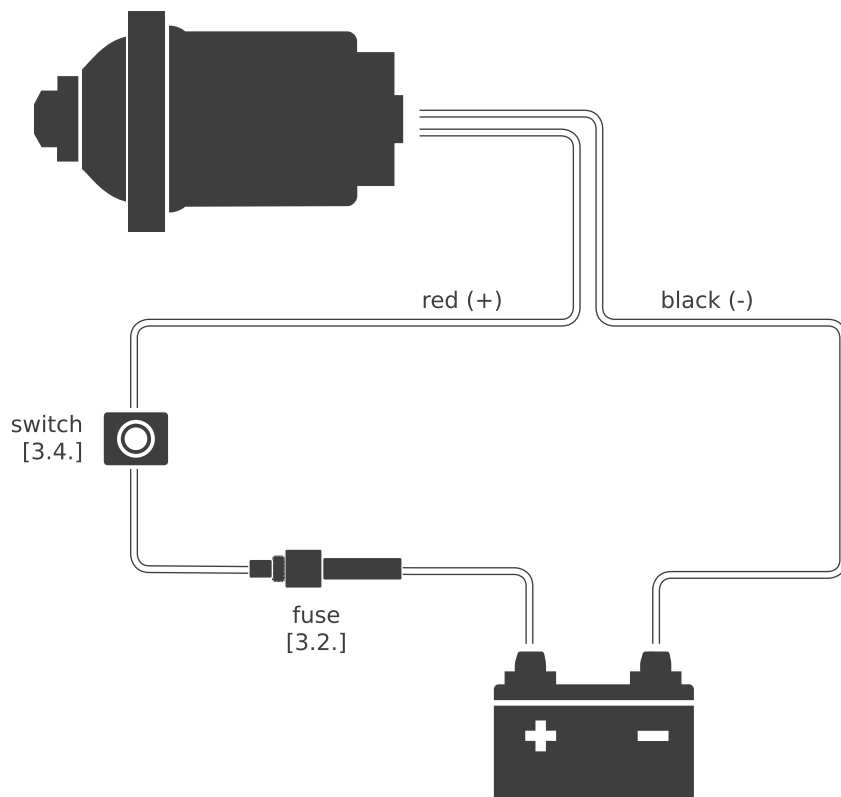
3. ELECTRICAL CONNECTION

3.4. SWITCH

A switch should be installed in an easily accessible location to control the power supply to the pump. For example, our super-flat stainless steel switches with LED for up to 20A (item no. VAR35882) suite this demands very well.

3.5. RECOMMENDATION FOR USE

We recommend to switch off power supply to the water pump and releasing pressure from the water system by briefly opening a water tap when leaving the vehicle. In case of unnoticed leaks the pump would keep pumping water until the tank is empty, according to its function. This could lead to extensive water damage.



4. INDIVIDUAL PUMP SETTINGS

The switch-off pressure of the tigerexped water pump is factory-set in order to provide a perfect interaction with the bypass regulation. If you desire specific settings for the individual installation, it can be increased or decreased to a limited extent. However, it is recommended to keep the factory setting. Damage caused by misalignment of the pump is not covered by the warranty.

4.1 INCREASE / DECREASE CUT-OFF PRESSURE

CAUTION!

It is recommended not to change the setting of the pump.

The cut-off pressure can be increased by turning the screw in the center of the pump head clockwise. Turn counterclockwise to decrease.

Start with small changes (half a turn) and check the switch-off behavior. Never turn the screw in or out completely.

4.2 BYPASS SETTINGS

CAUTION!

It is recommended not to change the setting of the pump.

The bypass directs water back from the pressurized side to the non-pressurized side of the pump, reducing water flow pulsation. Its setting can be changed using the Allen screw on the pump head (not the pressure switch screw). Turning the screw clockwise increases the bypass pressure, turning it counterclockwise decreases it. We strongly recommend that the bypass setting is only carried out by specialists. Unprofessional interventions in the pump settings lead to loss of warranty.

5. COMMISSIONING

The tigerexped water pump is dry when delivered, to avoid contamination during storage and transport times. The first flow must therefore fill the pump, which (depending on the suction height) takes a little more time.

6. MAINTENANCE OF THE PRESSURIZED WATER SYSTEM

Drinking water systems must be maintained regularly to avoid contamination with dirt and bacteria and to ensure unhindered flow.

This includes:

- Regular cleaning (rinsing with clear water) of the pre-filter at intervals that correspond to the water quality
- Cleaning aerators, shower heads and other extraction valves
- Cleaning / disinfecting water tanks and pipes
- Changing optional drinking water filters
- Check the connections and fittings for tightness, because vibrations while driving can loosen screws from hose clamps and attachments.

A lack of maintenance and resulting contamination is the most common reason for loss of performance or failure of the pump. Repeated, brief actions of the pump without water being drawn off, can be an indicator for that.

7. WINTERIZE

If, during cold temperatures, the vehicle is not used and not heated, the pump and the entire water system must be protected against damage caused by freezing.

To empty the water system, proceed as follows:

- Empty the water tank completely with the drain valve, if available
- If there is no drain valve, open all tapping points and empty the tank using the water pump. For large water supplies: pump for 15 minutes, pause for 15 minutes to cool the pump!
- Open all taps (including the valve or drain at the lowest point of the water system) and drain the remaining water from the lines. Remember the drain on the boiler, especially if it does not trigger itself when there is a risk of frost!
- Disconnect the plumbing from the water pump fittings (keep a tub ready to catch water) and run the pump until it's empty.
- Remove the cartridges from optional drinking water filters and store them according to the manufacturer's specifications.
- Turn off power to the pump.
- Leave all taps open to allow any residual water that may freeze to expand.

If antifreeze is to be used:

- Pour a sufficient quantity of anti-freeze/water mixture into the previously emptied tank.
- Open tapping points individually until the colored liquid comes out.
- Close all tapping points.
- Turn off power to the pump.

CAUTION!

When using antifreeze, please make sure that you use a non-toxic product that is suitable for drinking water!

DO NOT use automotive antifreeze for this purpose, as it is highly toxic! Using the above procedure to completely drain the system, antifreeze is not required at all.

8. TROUBLESHOOTING

Possible problems and where to look for causes:

8.1. PULSATING FLOW, REPEATED SWITCHING ON AND OFF WITHOUT WATER EXTRACTION

- Lines or fittings, too small in diameter.
- Check lines for kinks.
- Clean water taps and filters.
- Check connections for air leaks.

8.2. PUMP MOTOR RUNNING, BUT NO OUTPUT

- blocked/reduced inlet or outlet.
- Air leak in intake line.
- Damaged pump diaphragm.
- Insufficient power to start the motor properly.
- Valves clogged with dirt.
- Crack in pump housing.

8.3. PUMP MOTOR DOES NOT START

- Loose or faulty wiring.
- No power on pump circuit.
- Blown fuse.
- Defective pressure switch.
- Defective engine

8.4. PUMP DOES NOT TURN OFF WITH ALL TAPS BEING CLOSED

- Damaged membrane.
- Leak in the pressure line.
- Defective pressure switch.
- Insufficient voltage.
- Clogged valves in the pump head.

8.5. LOW FLOW AND PRESSURE

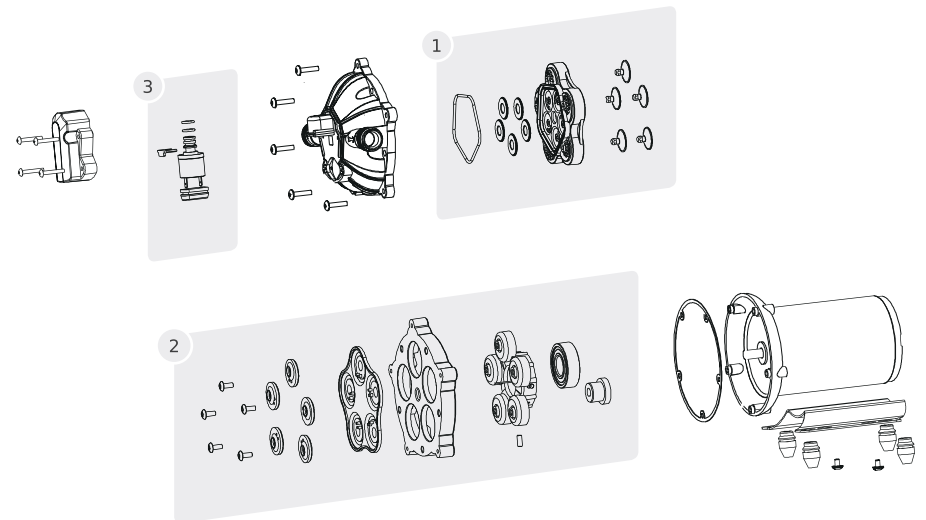
- Air leak at pump inlet.
- Accumulation of dirt in the pump or line.
- Defective bearing (than possibly also loud noises).
- Damaged diaphragm.
- Defective engine.

8.6. EXCESSIVE OPERATING NOISE

- Squeezed mounting feet due to tight screw connection.
- Vibrating mounting surface.
- Loose screws.
- Vibration when using rigid piping.

9. SPARE PARTS

The following spare parts for the tigerexped water pump are available:



	item	item no.
1	valve assembly	TEX4400-VLVST
2	diaphragm assembly	TEX4400-MBRN
3	pressure switch	TEX4400-PRSW

SCOPE OF DELIVERY

- 1× automatic pressure water pump
with a five-chamber membrane
- 1× Pre-filter 1/2" NPT
- 2× 10 mm 1/2" NPT fittings

INSTALLATION

The following material is required to install the tigerexped water pump:

- flexible, reinforced hose with twice the burst pressure of the pump's outlet pressure
(see item no. 36532 (blue) / 36533 (red))
- 4 hose clamps and screws made of stainless steel
(item no. 18190, Assembly tool item no. 19052)
- 4 screws to attach the pump to the mounting surface
- 1 switch
(item no. TEX4240-12V / TEX4240-24V)
- 1 fuse 25A (ATO/ATP 16963 or MIDI 16550)
- screwdriver
- optional: drinking water sealant

CAUTION!

Please follow the instructions in this manual for installation. A not recommended procedure may damage the pump. Improper installation or operation that causes damage to the pump is not covered by the warranty.

For a safely functioning overall system, we recommend installing the water pump with matching accessories, such as the tigerexped accumulator tank.

texdev^{GmbH}

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