

# Operation Manual

## External Aquarium Filter HW-302–304, 402B–404B, 403A, 404A 50192–50197, 50358, 50359



Illustration similar, may vary depending on model

Read and follow the operating instructions and safety information before using for the first time.

Technical changes reserved!

Due to further developments, illustrations, functioning steps, and technical data can differ insignificantly.

Updating the documentation

If you have suggestions for improvement or have found any irregularities, please contact us.



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If you should find a mistake or wish to make a suggestion for improvement, we look forward to hearing from you.

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Our postal address is:

WilTec Wildanger Technik GmbH  
Königsbenden 12  
52249 Eschweiler  
Germany

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Returns Department  
WilTec Wildanger Technik GmbH  
Königsbenden 28  
52249 Eschweiler

E-mail: **service@wiltec.info**

Tel: +49 2403 55592-0

Fax: +49 2403 55592-15

## Introduction

Thank you for purchasing this quality product. **To minimise the risk of injury we urge that our clients take some basic safety precautions when using this device. Please read the operation instructions carefully and make sure you have understood its content.**

Keep these operation instructions safe.

## Safety instructions

- The appliance has only been designed for aquarium and indoor use.
- To avoid possible electric shock, special care should be taken since water is employed in the use of this appliance. Do not attempt to repair it by yourself. Return the appliance to the authorised service facility for maintenance or discard it.
- Make sure that your outlet voltage corresponds to the stated voltage on the pump rating label.
- If the appliance is submerged into the water, **DO NOT** reach for it! Cut the power supply **FIRST** and then touch it.
- Carefully examine the appliance after installation. It should not be plugged in if its electrical components are wet.
- Do not operate any appliance with a damaged cord or plug, or with a cord or plug in abnormal state. The supply cord of the appliance cannot be replaced. If the cord is damaged, the appliance should be scrapped.
- Make sure that the electrical cord loops form a “drip loop” below the electrical outlet. The use of a drip loop will help prevent any water leaks or splashes from running down the electrical cord into your outlet. Instead of any water getting into your outlet, it will simply drip off the cord at the lowest point in the loop.
- Close supervision is necessary when the appliance is used by or near children.
- Always unplug the appliance when not in use, before putting on or taking off parts, and before cleaning.
- Do not install or store the appliance where it is exposed to moisture or to temperatures below freezing.
- Make sure the appliance is securely installed before operating it.
- Read and observe all the instructions supplied with the appliance and on the appliance.
- The pump must not run dry.
- Never use accessories which are not recommended by the appliance manufacturer. It may result in fire, electric shock and/or personal injury.
- Use the appliance **ONLY** for domestic purposes and in the way indicated in these instructions and place it in a dry environment.

## Installation

1. To set your filter up, the buckles (1) and (2) should be unclipped from the main body of the filter head; this will then separate the filter head from the filter base.





2. You can then access your filter trays to clean the filter media or add filter media. Repeat step one to refasten the filter head to the filter base.

Note: There is an orange label on the bottom of the container to help you place the lid correctly. The filter lid must be placed on the container so that the lamp is positioned over the label. This is the only way to ensure that the two switches are touching so that the circuit is closed.

\* UV unit depends on model.

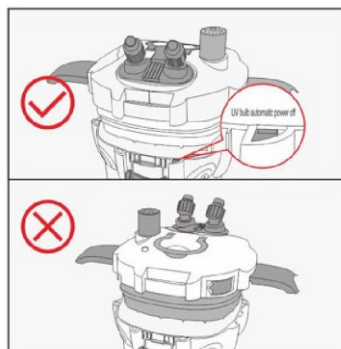
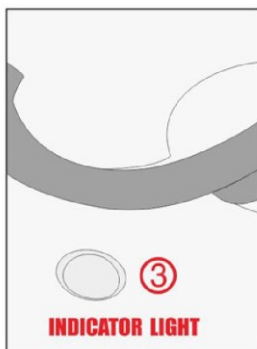
3. Push the inlet and outlet taps into the filter head and fasten using the small handle in between the taps; this is also the valve shut. After this, attach a hose to each tap and secure using the screw taps.



4. According to the diagram, then attach the input downpipes and output spray bars according to the diagram.



5. Then press down the primer button on top of the filter head; this will prime the filter drawing water in through the hose. Repeat, if necessary, until the entire pipework is filled with water.



6. The switch (3) to turn on and off the UV and indicator is in the filter side.

Please check the UV regularly when cleaning your filter to make sure it works best.

7. At any condition, when the filter base is separated from the filter head, the protect switch will turn off the device. Then the UV will be extinguished to avoid any filter base damage.

### Replacing the UV light tube

Applies only to models equipped with a UV unit



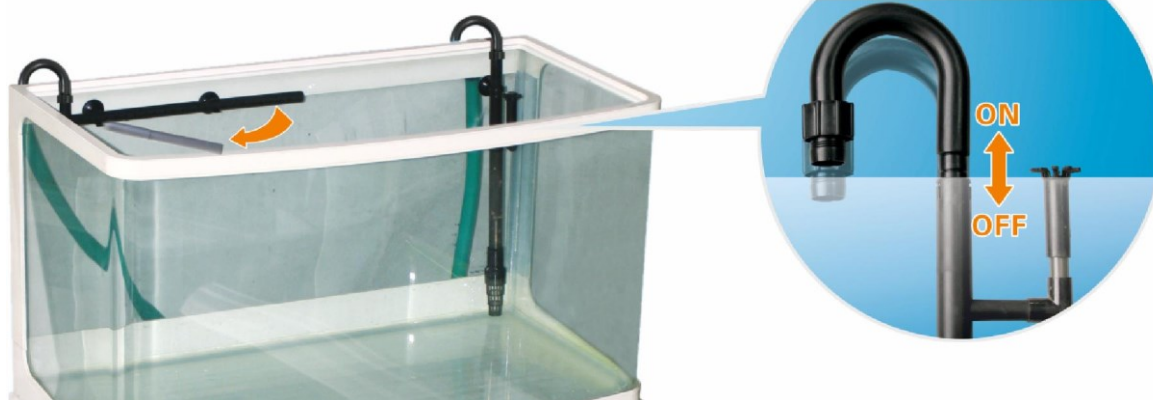
1. According to the diagrammatic presentation (1), carefully open the filter basis lid. Take off the lid and reverse it, then hold the quartz tube and lightly turn it clockwise, just as the picture shows.

2. When the quartz hose tube gap and the light tubes connection gap are accordant, pull out the quartz tube.





3. Pull out the old light tube.
4. Install the new light tube and the quartz tube.



#### Technical data

Item	Model	UVC power (W)	Output (l/h)	Transportation height (m)	Weight (kg)	Cable length (m)	Dimensions (mm)	Baskets (number)
50197	HW-302	—	1000	1.4	3.5	1.8	280 × 280 × 430	3
50195	HW-303	—	1400	2.0	4.5	1.8	250 × 250 × 430	3
50193	HW-304	—	2000	2.5	5.5	1.8	290 × 290 × 480	4
50196	HW-402B	9	1000	1.4	3.5	1.8	230 × 230 × 390	3
50194	HW-403B	9	1400	2.0	5.0	1.8	250 × 250 × 430	3
50192	HW-404B	9	2000	2.5	6.0	1.8	300 × 300 × 450	4
50359	HW-404A	—	2000	2.5	9.0	1.8	300 × 300 × 450	4
50358	HW-403A	—	1400	2.0	8.0	1.8	250 × 250 × 430	3

Energy supply: 220–240 V AC, 50 Hz,  
Protection type: IP44



## Operation and troubleshooting\*

Problem	Cause	Solution
Pressing the primer button, filter does not operate	Wrong input and output bar connection	Reconnect input and output bar connection; dirt water side is input side.
Motor does not operate.	Power off	Turn on power.
	Shaft break	Replace shaft.
	Impeller missing or motor blocked due to foreign materials such as pebbles and shells	Set impeller, clean out drive system.
Waterflow inhibited	Hose adapter very dirty	Dismantle hose adapter unit, clean interior with brush.
	Incorrect tube connections	Check if tubes are entangled or crimped
	Excessive dirt build-up in hoses	Periodically clean inside of hoses, intake and pipes.
	Filter material plugged	Remove filter material, wash with water from tank.
Abnormal sound when starting filter	Air entering from hose connection	Check if hose connections are airtight.*
	Air remaining inside filter case	Leave power on; slightly shake filter to remove remaining air.
Abnormal sound while operating filter	Dirty, displaced, or distorted O-rings.	Control all O-rings if seating at correct position, carefully clean them if necessary.
	Air remaining inside filter.	Slightly shake filter basis several times to remove remaining air.
	Damaged impeller/drive magnet or spindle	Replace damaged piece.
	Water too dirty	Clean away dirt.

\* Further notes on maintenance, cleaning and troubleshooting are to be found on the next.



## Filter operation and troubleshooting

### *Noise reduction/external air*

Especially the suction intake and the connected suction surface must be checked for tightness and to be adjusted according to the aquarium water level. If this is not possible due to aquarium technical reasons, seal the whole suction surface so that no external air can get into the filter.

### *Evacuating air from filter system*

Take the return-flow hose that conducts the water from the filter to the tank and put it into a clean bucket that is placed below the filter. Leave the hose inside the bucket and carry out the deaeration process (evacuate the air) by activating the manual pump. Please make sure that the potential flow is adjusted to the inlet-outlet connector. As soon as no air bubbles can be seen, seal the hose with a finger and install it again on the return pipe at the top edge of the aquarium as intended.

### *Leakage after installation or cleaning*

If a slight leakage still persists after the filter installation or the filter cleaning, the problem is most likely the sealing between the hose connector adaptor and the filter head (cover lid).

The plug-in adaptor that the hoses are connected to has two O-rings on the lower side that seal the connection inside the filter lid. If these O-rings are dirty, displaced (out of place) or damaged, they cannot seal properly anymore and water escapes into the filter lid/aquarium filter cover.

The leak point is then the lowest point of the filter cover/lid and appears typically at the lateral clamping points that connect the cover lid with the filter basis.

The remedy is here as simple as the failure itself. You must rinse and check the O-rings. Make sure that the spots where the O-rings must be inserted and positioned are free of dirt. On these particular spots, algae formation can appear and impair or damage the O-rings sealing if no regularly cleaning is carried out. This problem can also appear in case of a new installing because of sand, for instance.

Please allocate sufficient time for rinsing and cleaning; if this is not done carefully and thoroughly, aquarium canister filter may still leak after the O-ring sealings have been cleaned. If, despite a thorough cleaning, the water leakage at the spots above-mentioned still persists, you must check the O-ring seating inside the adaptor. This requires opening the inlet/outlet adaptor. Please contact an expert.



## Parts list



Nº	Name	Nº	Name	Nº	Name
1	Inlet and outlet connection	7	Curved outlet tube	13	Curved inlet tube
2	Filter head	8	Connection tube	14	T-shaped dirty water inlet tube
3	Filter canister	9	Spray bar tube	15	Outlet tube
4	UV tube	10	Spray bar tube cover	16	Outlet cover
5	Filter cover	11	Dirty water inlet	17	Fixing suction cups
6	Filter baskets	12	Connecting tube	18	Flexible tubes



Ceramic rings



Filter sponge



Filter cotton



Bio balls



## Basics – Filter media

The delivered filter media represents only the basic filter material needed for your aquarium.

Please inform yourself regarding what filter materials are suitable for your aquarium because these can differ depending on the fish and plants living there.

Please use one filter cotton for only one filter stage. This should be regularly renewed because dirty filter cotton can quickly lead to a decrease in filter efficiency.

Aquarium external filters consist of several layers. The water sucked in is filtered in several stages. The lowest layer consists of bio balls. These balls offer bacteria a large settling area and retain coarse dirt. Above that, a layer of ceramic rings should follow. On the top level, we recommend a filter sponge covered with a filter cotton. (This is an example; please adapt it to your practical aquarium.)

Additionally, and temporarily, you can place here another layer of activated carbon (in a net or partly available as filter mat), and this will be one of the filter layers. This should not be permanent, but only be used after a medication treatment and for turbid water with suspended particles. (Not included.)

When you purchase a new aquarium filter or after it has been fully cleaned, the useful bacteria must be enriched again. For this reason, there are special bacteria cultures that can be supplied in the aquarium to facilitate their settlement.

Basically, put the filters from bottom to top as follows:

1<sup>st</sup> stage: mechanical/semi-biological filtering

2<sup>nd</sup> stage: biological filtering

3<sup>rd</sup> stage: chemical filtering (activated carbon, peat, phosphate, etc.)

If necessary, the aquarium filter can be extended to 4 stages by adding a mechanical or biological filter stage.

## Disposal regulations

EU guidelines regarding the disposal of scrap electric appliances (WEEE, 2012/19/EU) were implemented in the law related to electrical and electronic equipment and appliances.

All WiTec electric devices that fall under the WEEE regulations are labelled with the crossed-out wheeled waste bin logo. This logo indicates that this electric equipment must not be disposed with the domestic waste.

The company WiTec Technik GmbH has been registered in the German registry EAR under the WEEE-registration number DE45283704.

Disposal of used electrical and electronic appliances (intended for use in the countries of the European Union and other European countries with a separate collection system for these appliances).

The logo on the article or on its packaging points out that this article must not be treated as normal household waste but must be disposed to a recycling collection point for electronic and electrical waste equipment. By contributing to the correct disposal of this article you protect the environment and the health of your fellow men. Environment and health are threatened by inappropriate disposal.



Material recycling helps reduce the consumption of raw materials.

Additional information on recycling this article can be provided by your local community, municipal waste disposal facilities, or the store where you purchased the article.

Address:  
WiTec Wildanger Technik GmbH  
Königsbenden 12 / 28  
D-52249 Eschweiler

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