TEMP111125MAN

UK/EU/USA

English

EVOLUTION AQUA

INNOVATION IN WATER

tempest

Innovative Polisher For Ponds

INSTRUCTION MANUAL

IMPORTANT:

Ensure ball valves are fitted to inlet and outlet of all Tempest filters.

Read the instructions carefully before carrying out the installation.

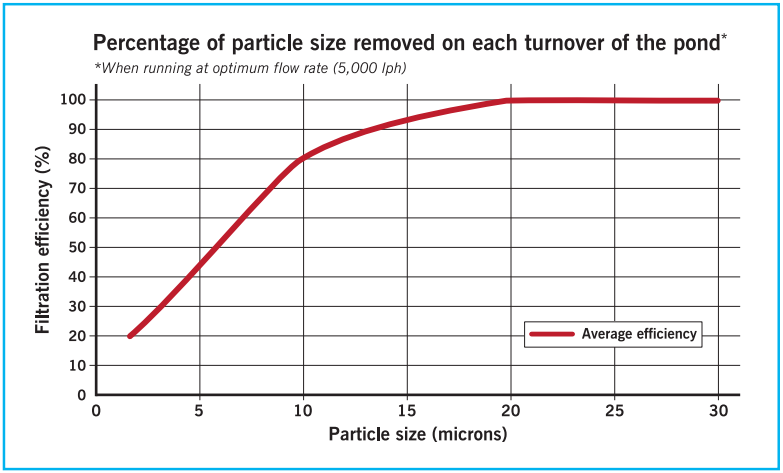
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ABOUT THE TEMPEST FILTER

The **Tempest filter** is an **innovative polishing system** for ponds that will help to deliver **crystal clear water**. Designed to be used in conjunction with **any filtration system**, the Tempest offers **additional mechanical** and **biological filtration**. The Tempest filter can also be used on **quarantine systems** up to **5,000 Litres / 1,100 Gallons / 1,320 US Gallons**.

The Tempest filter is **easy to install** and is **simple** and **quick to clean**, by way of **Air Clean Technology** - the unique, **patented air syphon design (UK Patent No. GB2550495B).** During the cleaning process, air is drawn into the filter as it empties which causes the water to agitate, effectively cleaning the **K+Media**.

Using Evolution Aqua's **K+Media** as the filter media, particles down to **one micron** can be filtered. On a single pass, testing has proven our media capable of removing all particles down to **25 micron** when used at the optimum flow rate. Not only that, **K+Media** is the result of extensive research and development and is moulded with **minerals** for **faster maturation times**.



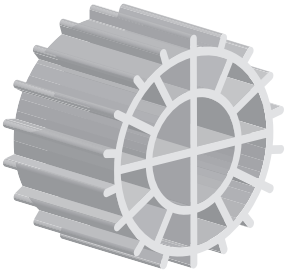
Evolution Aqua filter media has been independently tested by **IFTS** ***(Institut de la Filtration et des Techniques Séparatives)***. IFTS International Filter Testing Services is the international reference for solid-liquid separation. Founded in 1981, IFTS is an independently regulated, ISO 17025 accredited, laboratory and research center focusing on liquid filtration and separation science. IFTS quality management system is certified to ISO 9001:2015.

K+MEDIA

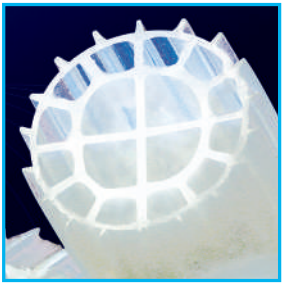
K+Media is designed and manufactured by Evolution Aqua. This advanced media, with its **innovative design** and **class leading surface area** provides enhanced biological and mechanical filtration. As Evolution Aqua extrude the **K+Media**, minerals and enzymes are added to the raw material.

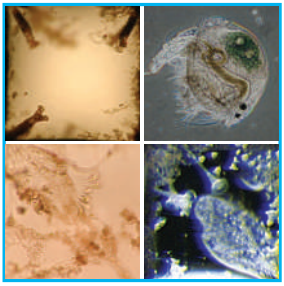
The result of this process, unique to Evolution Aqua, is a filtration media that not only outperforms most of its competitors due to its **large protected surface area**, but also answers the problem of how to speed up the time taken to mature your filter.

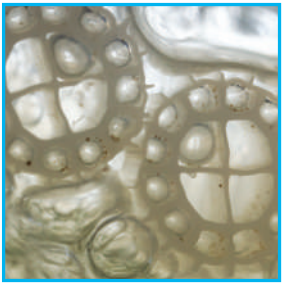
- **Class leading total surface area 1350m² per m³**
- **Vast protected surface area 1025m² per m³**
- **Filters mature faster with K+Media**
- **Minerals incorporated into each piece during extrusion**
- **Unique design for stable bio-film development**
- **Exceptional solids removal**



K+Media







TEMPEST FILTER PARTS



Tempest Filter filled with 7 litres of K+Media



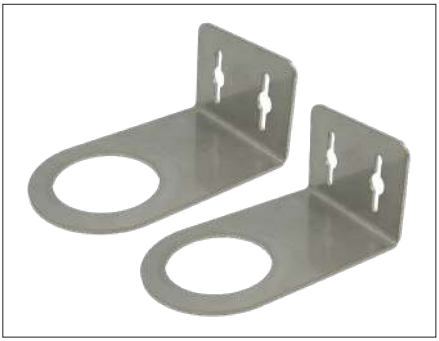
Waste Valve Assembly



Ball Valves
Qty x 2



1½" Pipe (90mm Length)
Qty x 2



3mm Stainless Steel Mounting Brackets
Qty x 2

YOU WILL ALSO REQUIRE:

- **Solvent Weld Adhesive**
- **Tools and fixings for installation**

EUROPEAN MODELS ONLY:

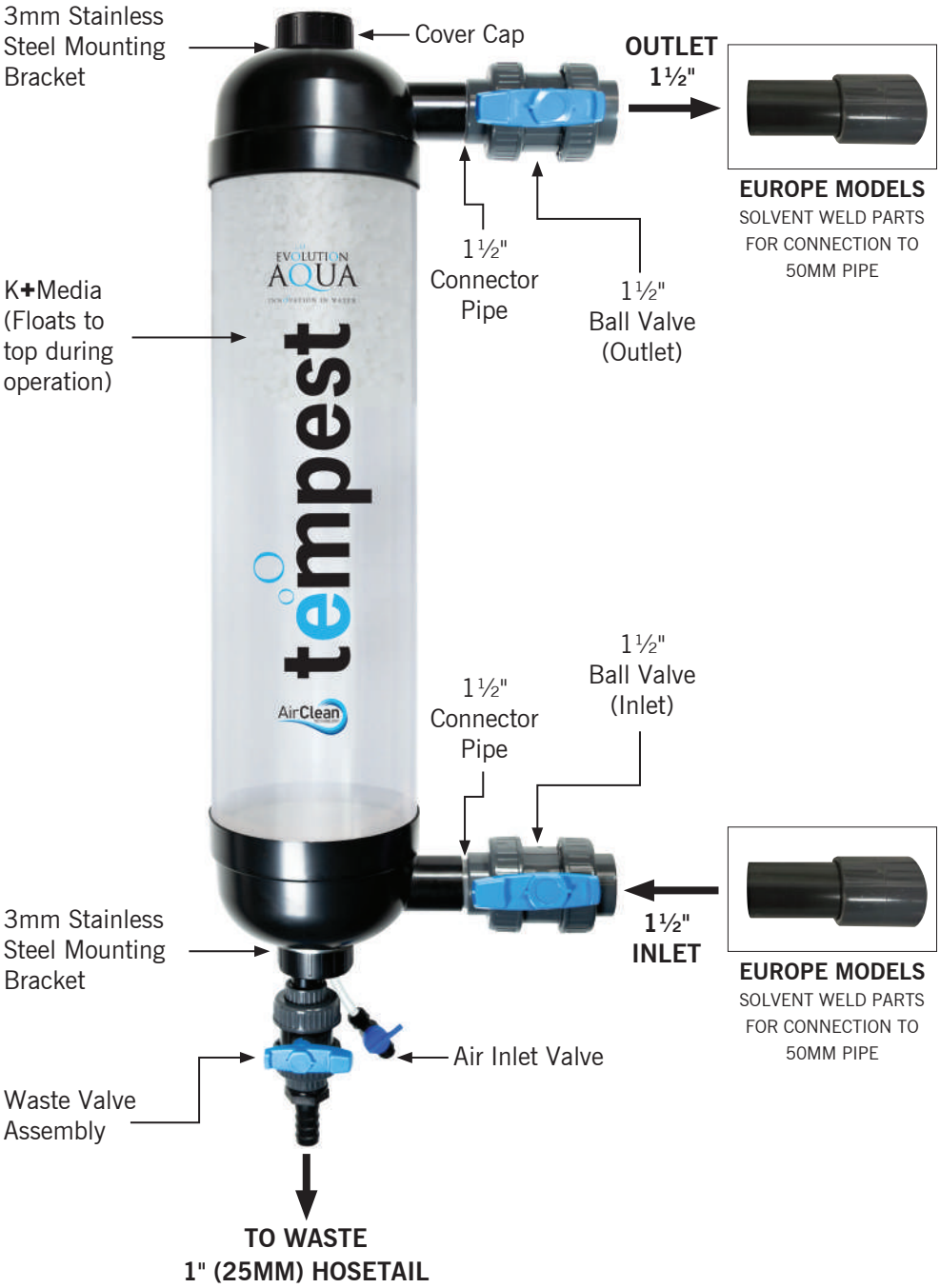
On European filters only, to make connections to 50mm pipe on the inlet and outlet, we also include:

Qty x 2: 1½" Pipe (90mm Length)

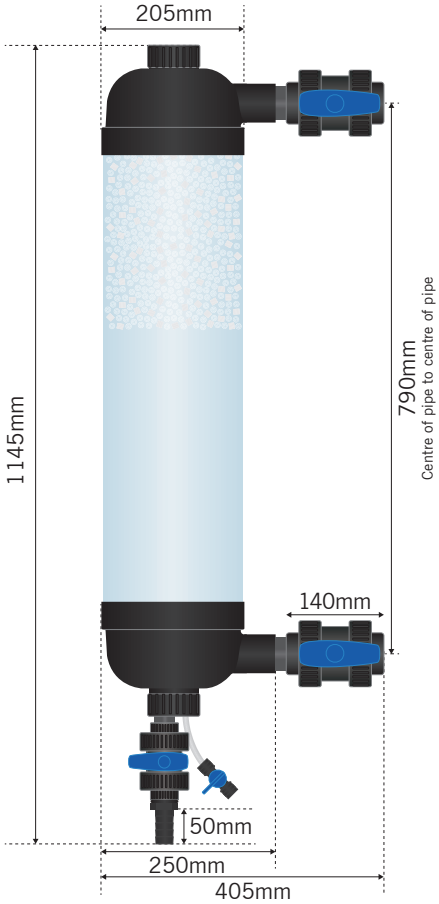
Qty x 2: 1½" to 50mm convertor (K81-25-55)

(These parts can be found in a bag inside the packaging alongside the Tempest)

TEMPEST FILTER OVERVIEW



TEMPEST FILTER SPECIFICATIONS



INLET	1½" (UK / USA) / 50mm (EU)
OUTLET	1½" (UK / USA) / 50mm (EU)
DRAIN HOSETAIL SIZE	1" (UK / USA) / 25mm (EU)
MAXIMUM FLOW RATE	7,500 LPH / 1,650 GPH / 1,980 US GPH
OPTIMUM FLOW RATE	5,000 LPH / 1,100 GPH / 1,320 US GPH
K+MEDIA SUPPLIED	7 Litres
WATER VOLUME IN FILTER	27 Litres / 5.9 Gallons / 7.1 US Gallons

The Tempest filter can also be used on quarantine systems up to 5,000 litres / 1,100 gallons / 1,320 US gallons.

SETTING UP THE TEMPEST

PARTS NEEDED: You will need solvent weld adhesive and a brush for gluing. Follow best practice for applying solvent weld adhesive.



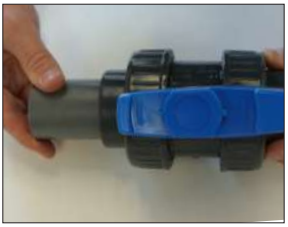
The collars and inserts on the ball valves are supplied loose in the packaging box.



Double check that the o-ring is seated correctly on the exposed end of the ball valve.



Screw the collar and insert onto the threaded end. Repeat for both ball valves.



Glue the length of 90mm pipe into one end of the ball valve.



Glue the other end of the pipe into the outlet on the Tempest. The ball valve handles should be facing you when installed.



Repeat the process for the ball valve at the bottom of the filter (inlet).



Double check the hosetail is screwed hand tight into the waste valve with the O-ring fitted.



The waste valve assembly will look like this.

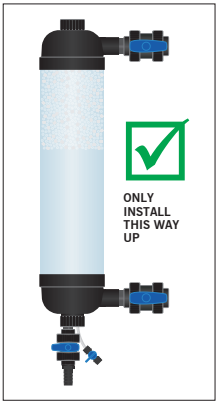
INSTALLING THE TEMPEST

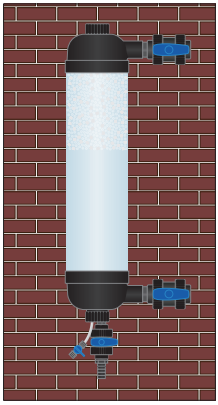
The Tempest filter can be mounted to a wall, wooden frame or timber post using the stainless steel mounting brackets included.

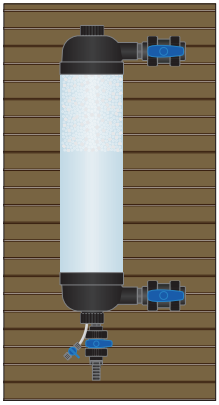
The Tempest filter can **ONLY** be installed vertically with the waste air valve assembly at the bottom of the filter. You can choose to have the ball valves facing the left or right, depending on your set-up.

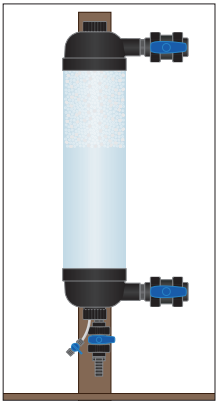
IMPORTANT: The filter will weigh approximately **30kg** when filled with water so ensure your fixing points can take the weight.

IMPORTANT: Always plan out your installation prior to gluing any pipework or fittings.

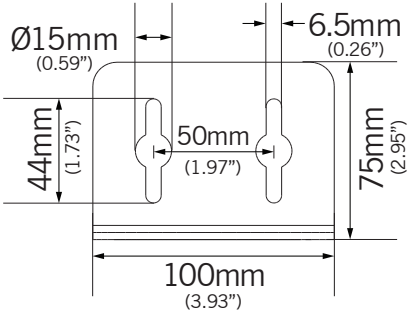


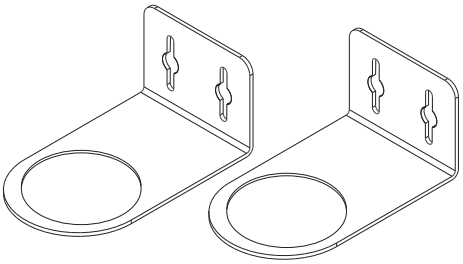






Source suitable screws and fixings to fit the mounting brackets to enable the filter to be securely mounted.





INSTALLING THE TEMPEST



Place the filter in position to work out the locations of the top and bottom brackets. Ensure there is enough space to access the waste assembly.



Fit the bottom bracket first. Use a spirit level to ensure the bracket is level. Use suitable fixings for your installation.



Re-fit the filter, with the top collar unscrewed. Check the filter is vertical and place the top bracket over the top of the filter.



Use a spirit level to ensure the bracket is level and mark the two hole locations.



Use suitable fixings to secure your installation.



Screw on the top collar and hand tighten to secure the filter.

INSTALLING THE TEMPEST



Make sure the o-ring is seated correctly in the waste valve assembly and carefully screw the collar onto the thread. DO NOT OVERTIGHTEN.



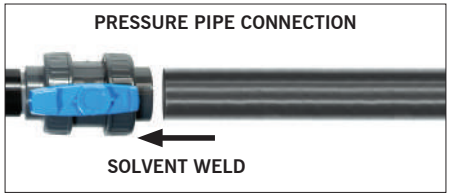
Ensure the collar is not twisted when screwing it on as this will cause damage to the thread.



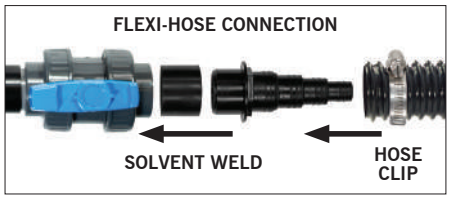
The Tempest filter is now ready to be connected to pipework.

CONNECTING TO YOUR PIPEWORK

PRESSURE PIPE - It is highly recommended to connect the Tempest to **1½" pressure pipe**. Use solvent weld adhesive to glue the pipe into the ball valves.

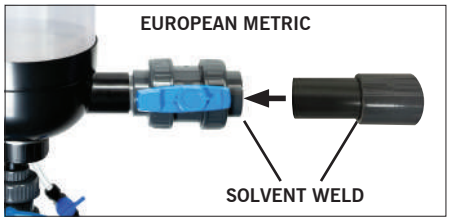


FLEXI-HOSE - If using flexible hose you will need to fit a reducing sleeve (**EA Code: M35-050**) and a 1½" solvent stepped hosetail (**EA Code: HOSETAIL15**) inside each ball valve.



EUROPEAN MODELS ONLY

Solvent weld 90mm length of 1½" connector pipe to 1½" to 50mm convertor (K81-25-55). Solvent weld this assembly into inlet and repeat process for outlet.



TEMPEST FILTER INSTALLATION IDEAS

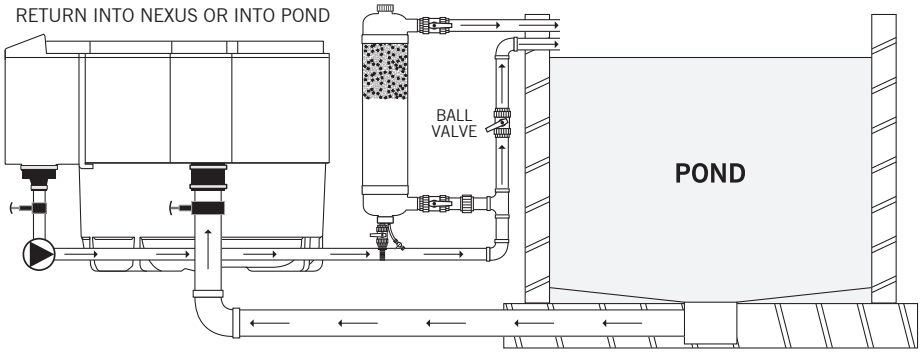
FLOW RATES

To allow the Tempest filter to give the best performance, it is important that the flow rate is no more than the **5,000 litres per hour**. Use a circulating pump that is fitted in accordance to the manufacturers instructions and set to the appropriate flow rate. These installation examples show a by-pass that will enable you to increase the flow through the pond.

TYPICAL INSTALLATIONS WITH A FILTER

Install a Tempest Filter after a primary filter on a **GRAVITY FED SET-UP**, such as the **Nexus+**, and after a UV Clarifier, such as an evoUV. The ball valves on the Tempest Filter enable connection to 1½" pressure pipe.

The installation example shown below has a by-pass that will enable you to increase the flow through your pond while maintaining the optimum flow through the Tempest Filter. Installing ball valves on the pipe work will help you regulate the flow. The return from the Tempest can go back to the centre of your **Nexus+** or back into the pond.



IMPORTANT: Ensure ball valves are fitted to inlet and outlet of the Tempest filter.

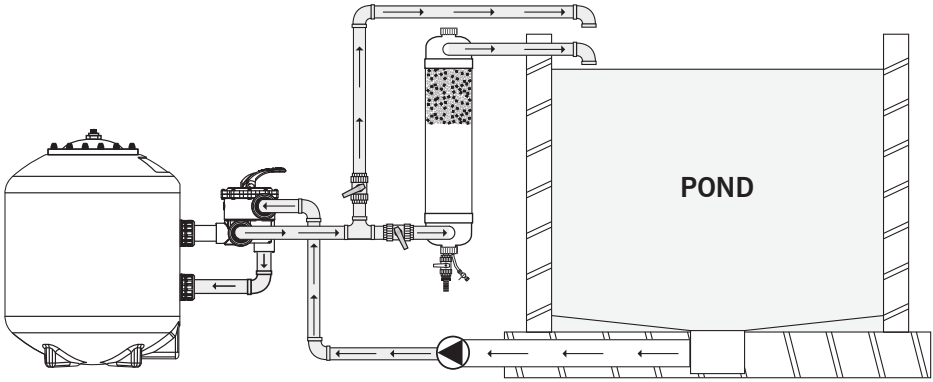
IMPORTANT: Optimum flow rate through the Tempest filter is 5,000 LPH / 1,100 GPH / 1,320 US GPH

TEMPEST FILTER INSTALLATION IDEAS

TYPICAL INSTALLATIONS WITH A FILTER

Installed on a pressurised system with a K+Advanced Filter, **Nexus+**, EazyPod. The ball valves on the Tempest Filter enable connection to 1½" pressure pipe.

The installation example shown below has a by-pass that will enable you to increase the flow through your pond while maintaining the optimum flow through the Tempest Filter. Installing ball valves on the pipe work will help you regulate the flow. The return from the Tempest and the K+ Advanced Filter go back to the pond.



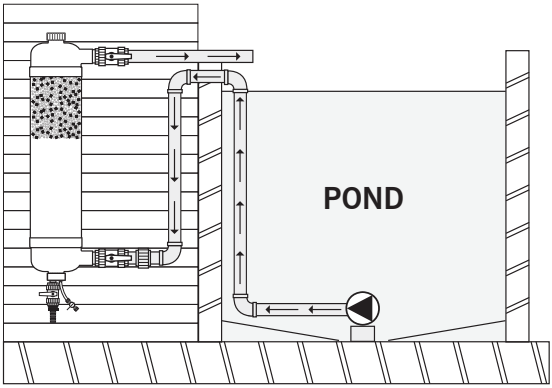
IMPORTANT: Ensure ball valves are fitted to inlet and outlet of the Tempest filter.

IMPORTANT: Optimum flow rate through the Tempest filter is 5,000 LPH / 1,100 GPH / 1,320 US GPH

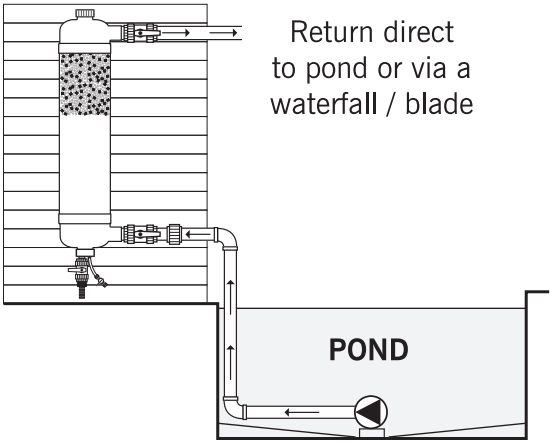
TEMPEST FILTER INSTALLATION IDEAS

TYPICAL STANDALONE TEMPEST FILTER INSTALLATIONS

Install a Tempest Filter on a quarantine system up to 5,000 litres, at the side of a pond or above the pond. The balls valves on the Tempest Filter enable connection to 1½" pressure pipe. If installing the Tempest Filter using flexible hose you will need to fit a reducing sleeve **(EA Code: M35-050)** and a 1½" solvent stepped hosetail **(EA Code: HOSETAIL15)** inside each ball valve.



OPTIMUM FLOW RATE:
5,000 LPH
1,100 GPH
1,320 US GPH



IMPORTANT: Ensure ball valves are fitted to inlet and outlet of the Tempest filter.

IMPORTANT: We always recommend fitting unions when installing in line equipment on your system which help when removing the filter.

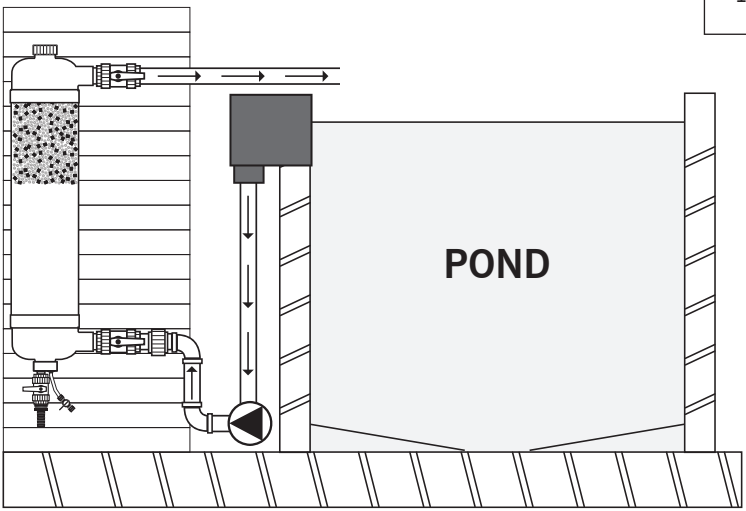
TEMPEST FILTER INSTALLATION IDEAS

SKIMMER LINE INSTALLATION

Install a Tempest Filter on a skimmer line.

The ball valves on the Tempest Filter enable connection to 1½" pressure pipe. If installing the Tempest Filter using flexible hose you will need to fit a reducing sleeve **(EA Code: M35-050)** and a 1½" solvent stepped hosetail **(EA Code: HOSETAIL15)** inside each ball valve.

OPTIMUM FLOW RATE:
5,000 LPH
1,100 GPH
1,320 US GPH



IMPORTANT: Ensure ball valves are fitted to inlet and outlet of the Tempest filter.

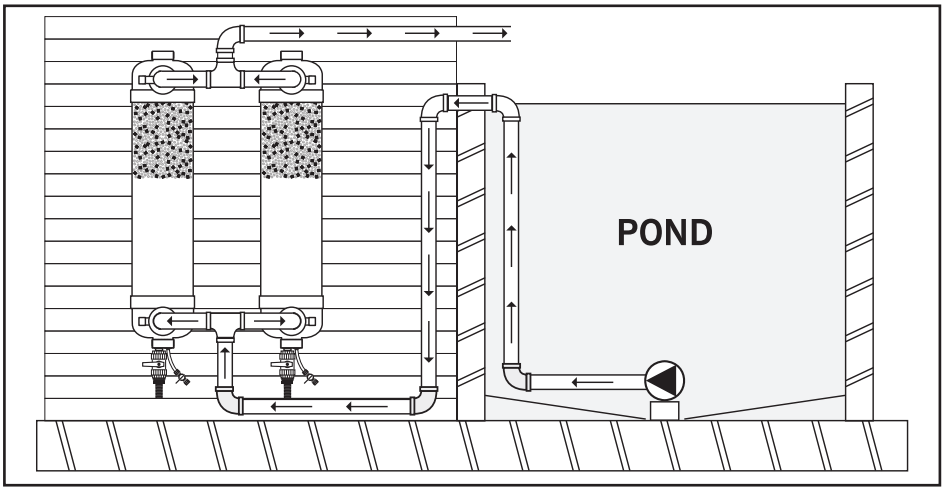
IMPORTANT: We always recommend fitting unions when installing in line equipment on your system which help when removing the filter.

TEMPEST FILTER INSTALLATION

MODULAR TEMPEST FILTER INSTALLATIONS

On larger systems that require a higher flow rate, multiple Tempest filters can be installed in a modular system. The ball valves on the Tempest Filter enable connection to 1½" pressure pipe. If installing the Tempest Filter using flexible hose you will need to fit a reducing sleeve **(EA Code: M35-050)** and a 1½" solvent stepped hosetail **(EA Code: HOSETAIL15)** inside each ball valve.

IMPORTANT: It is important that each Tempest can be isolated using the ball valves so that cleaning can be carried out independently.



Although on the installation above we show two filters into one return line, independent return lines will allow you to observe the flow rate through both Tempest filters and balance accordingly.

IMPORTANT: We always recommend fitting unions when installing in line equipment on your system which help when removing the filter.

IMPORTANT: Optimum flow rate through each Tempest filter is 5,000 LPH / 1,100 GPH / 1,320 US GPH

TEMPEST FILTER START UP

Before running water through the Tempest please double check:

- All valves are fitted and are hand tight
- Be sure the o-ring is inside the threaded collar on the waste assembly valve
- Make sure the hosetail with O-ring is screwed into the waste assembly valve
- The stainless steel fixing brackets are securely holding the Tempest
- Any additional pipework is fitted correctly
- Inlet and outlet ball valves are open
- Waste assembly ball valve is closed
- Air inlet valve is closed

Once satisfied, you can turn on the circulating pump.

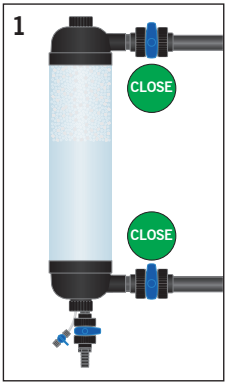
As water enters the Tempest the media will float to the top and the water will flow out of the outlet, returning to the filter or pond, depending on your set-up.

PLEASE NOTE: It will take a few days before the media starts to behave as it should. During this time it is likely to clump together and not agitate freely during cleaning. This will only last a few days.

CLEANING THE TEMPEST FILTER

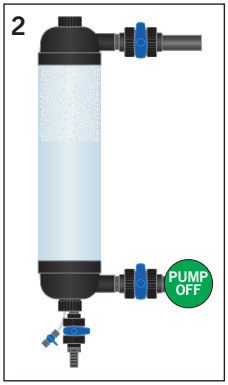
The Tempest filter should be cleaned regularly as required. A cleaning process drops 25 litres of water to waste.

IMPORTANT: The pump must be turned off and balls valves closed before opening the tap on the waste valve assembly.

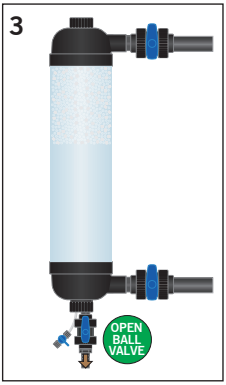


1. Close both ball valves

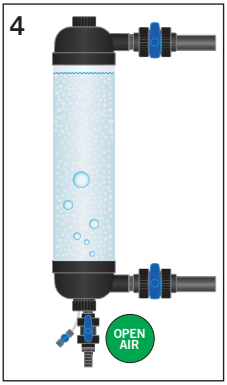
Close the top (outlet) ball valve first followed by the bottom ball valve (inlet).



2. Switch pump off

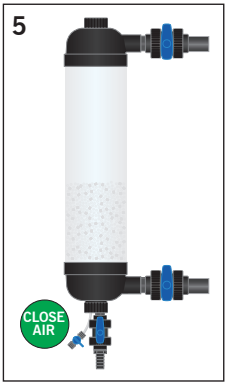


3. Open waste ball valve



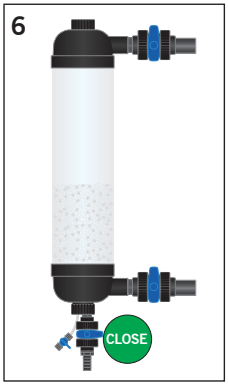
4. Open air inlet valve

Air enters the filter causing the filter media to move and clean as the water drains to waste.

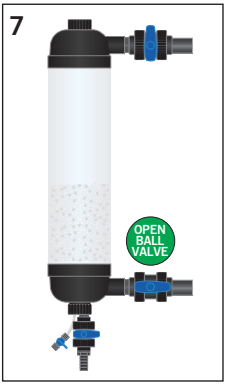


5. Close air valve

All the water should have emptied from the filter and the media will be at the bottom.

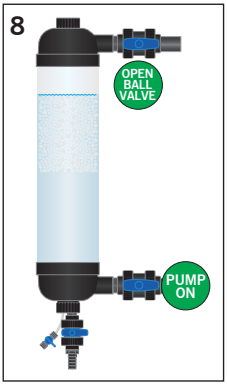


6. Close waste ball valve



7. Open inlet ball valve

Open the inlet valve first.



8. Switch pump on and open outlet ball valve

Water will re-fill the tube, media will rise to the top and return to the pond.

TIP: Repeat this procedure, if necessary. Gradually opening the outlet ball valve after you've turned the pump back on can also reduce any potential carry over and the amount of air returning to the pond.

TROUBLESHOOTING

Scan the QR code to see our online FAQs for tips and troubleshooting information.

Filter media not cleaning

1. Check the air inlet tube and non-return valve are not blocked. This can be cleared by blowing air through the tube.
2. Check the ball valves are fully closed.
3. If the media is very dirty this may cause the pack to clump together. Multiple cleans should clear this.
4. If the black end cap at the bottom of the filter is full of waste it is possible to clear this. Close the inlet and outlet ball valves, switch the pump off and open the waste valve assembly valve to drain the Tempest. Then unscrew the waste assembly, allowing you to access and clean inside the end cap to remove the debris.

Filter media not agitating freely

It will take a few days before the media starts to behave as it should. During this time it is likely to clump together and not agitate freely during cleaning. This will only last a few days.

Waste water does not drain when the valves on the waste assembly are open

If the black end cap at the bottom of the filter is full of waste it is possible to clear this. Close the inlet and outlet ball valves, switch the pump off and open the waste valve assembly valve to drain the Tempest. Then unscrew the waste assembly, allowing you to access and clean inside the end cap to remove the debris.

Waste valve assembly is leaking

Check o-ring is seated correctly inside waste valve assembly.

Water in the Air Valve Line

If water leaks from the air inlet valve when opened, debris may be stuck in the non-return valve. Drain the Tempest to waste, then blow air into the air inlet valve to clear the blockage.

The ball valves are stiff

You can remove the ball valve handle *(use a rubber hammer if tight)* and use the handle as a key to loosen the internal part of the valve. Be sure not to loosen it too much as the valve must remain water tight.

GUARANTEE

This product is guaranteed against defects in material and workmanship for 2 years from the date of purchase, under normal usage. The guarantee DOES NOT APPLY in case of improper use, negligence, lack of maintenance or accidental damage to the Tempest filter. If the Tempest fails due to a manufacturing fault within this period it will be either repaired or replaced free of charge. Liability is limited to replacement of the faulty product only; no other costs will be reimbursed. This guarantee is not transferable and does not affect your statutory rights. This guarantee does not confer any rights other than those expressly set out above.

The manufacturer or supplier shall not be responsible, or held liable for any damages caused by defective components or materials of this product; or for loss incurred by interruption of service; or any consequential/incidental damages and expenses arising from the production, sale use or misuse of this product or any other consequential loss.

Any warranty claim must be accompanied by a valid, dated proof of purchase.

Evolution Aqua and its dealers shall not be held liable for any loss of fish, plants or any other livestock as a result of any failure or defect of this product.

The installation and use of your product outside of our recommendations as printed in this manual may also void the warranty.

REGISTER YOUR WARRANTY ONLINE

The easiest way to register your warranty is to visit our website online at

www.evolutionaqua.com/product-warranty

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