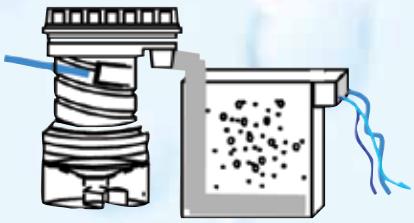
ECO-Series

Installation Instructions for Vortex Solids Filter

Thank you for purchasing the Eco-Series Vortex Solids Filter. You are about to experience the Eco-Series difference in water feature products, components that are simply designed right for the home owner. The simple, purposeful designs of all Eco-Series products provide you with reliable, trouble free installation and maintenance performance for all your water feature designs.

FILTER APPLICATIONS

The Vortex Filter can be installed in many different applications. It's universal design makes it the perfect filter for almost any type of filter design.



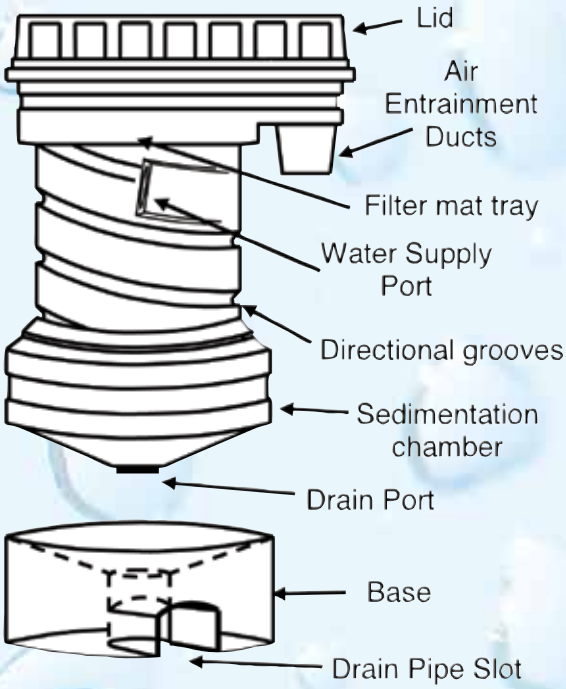
Prefilter and aerator on waterfall filter applications. Separates solids, fine particulate mechanical filter and aerates bio-media.

Remote waterfall filter. Filled with biological media, this unit works like any other waterfall filter. It's cone shaped bottom makes cleaning easy. Placed away from the pond, this filter is easy to conceal.

Vortex solids separator. At 4,500 gallons per hour or less, the Vortex Filter is a great solids separator. Cone shaped bottom is easy to clean. Fine filter mat ensures 100% capture of debris.

HOW IT WORKS

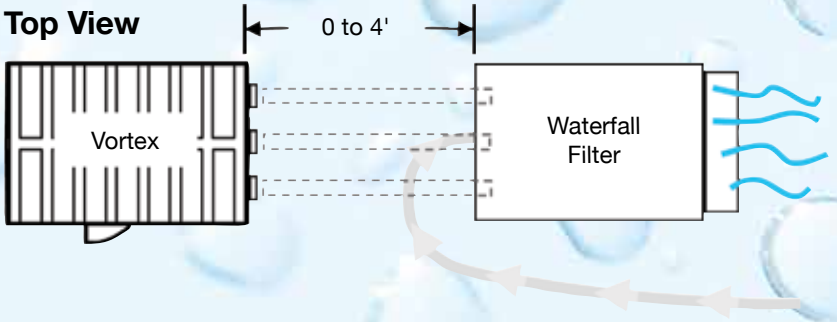
As part of a Waterfall filter system The Vortex Solids Filter was designed to improve the performance, and ease the maintenance chores of typical waterfall filters. The Vortex Solids Filter does this by first providing proper pre-filtering. This is accomplished in the Vortex Filter by solids separation and fine particulate mechanical filtration. Incoming water enters the unit at a slight downward angle. Heavier solids are thrust outward by centrifugal force and directed towards the bottom by the directional grooves in the Vortex Filters mid section. Once in the wider settling cone, these heavier solids drop out of the moving column of water for easy flushing out by opening the drain valve. Medium density debris gathers towards the center of the rotating water column, where they either; make their way to the bottom and drop out, linger long enough to lose their buoyancy and drop out, or, get captured in the fine particulate filter mat for easy removal. The Vortex Filter also greatly improves the performance of your bio-media through aeration. The Vortex Filters unique 'air entrainment ducts' simply mix water with air and then releases it into the bottom of your waterfall filter through slotted pipes that run laterally along the bottom.



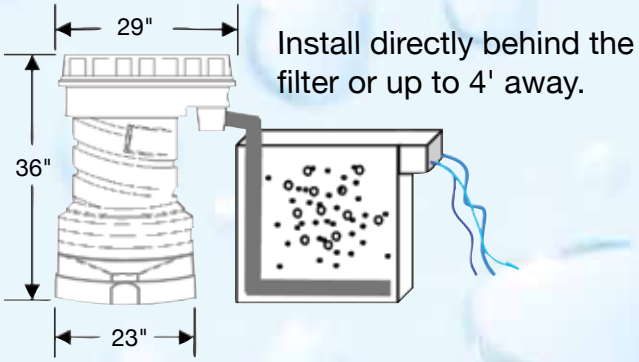
STEP ONE - POSITIONING

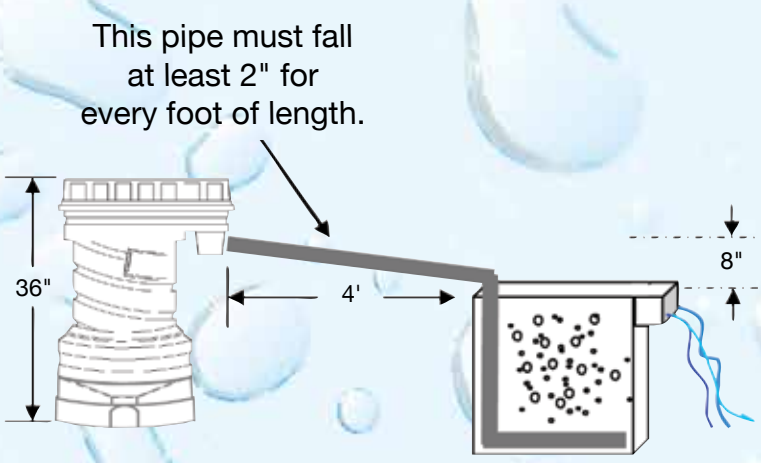
The Vortex Filter works best when positioned 0 to 4' behind your filter.

Top View

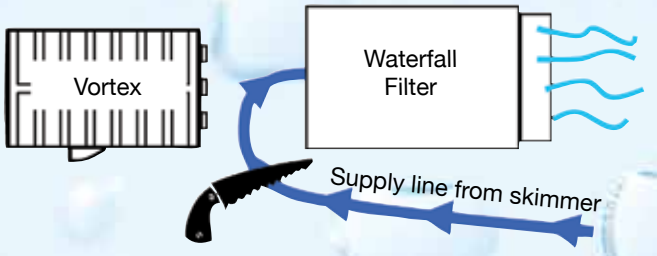


Side View

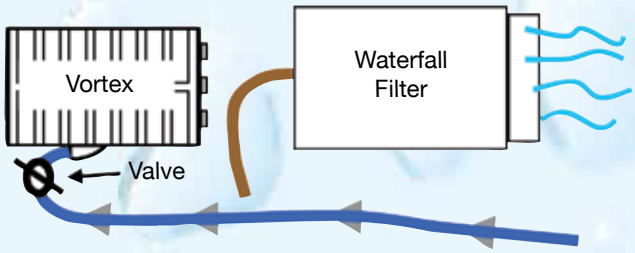




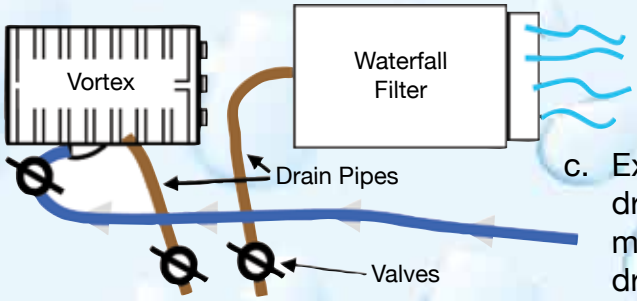
STEP TWO - PLUMBING: USING EXISTING FILTERS, DRAINS AND SUPPLY



a. Unearth and cut the supply line.

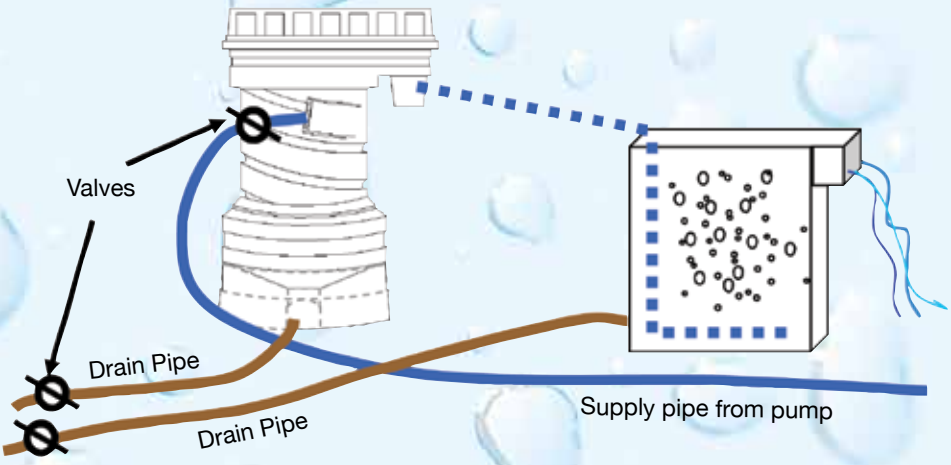


b. Extend the supply line to the supply port on the Vortex Filter. Install a valve to control the flow of water into the Vortex Filter.



c. Extend the old line from the waterfall filter to a convenient drainage location. Install a valve to drain the filter. This line may need to be protected from freezing in winter. Add a drain line and valve to the Vortex Filter as well.

STEP TWO - PLUMBING: NEW CONSTRUCTION



Install Adaptors
Install male adaptors into the 'Air Entrainment Ducts' in the front of Vortex Filter. Use Teflon tape on all threaded connections to prevent leaks.

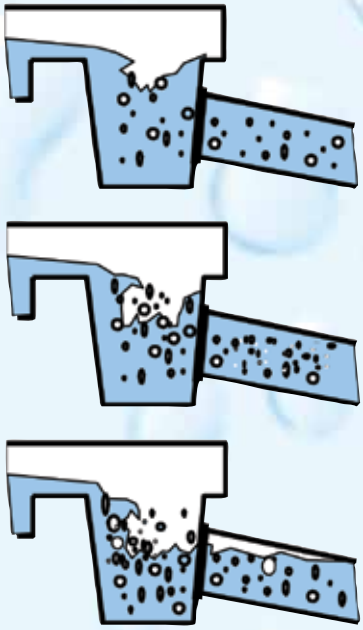
Install Down Pipes
Extend outward from the Vortex Filter with solid or flex pipe. Install elbows to turn downward into the filter. Install elbows at the bottom of the filter.

Slotted Air Pipes
Install the slotted horizontal pipes that come with your unit. Leave 3" space from the end. Do not glue any joints that are in the filter in case of adjustment.

Each Air Entrainment Duct is designed to handle approximately 1,000 to 1,500 gallons of water per hour. Because of the multitude of pumps available and different rating systems for flow rates, in addition to unknown factors such as head height, length of horizontal runs, amount and type of fittings, etc. some experimenting and adjusting will be necessary for optimum performance.

STEP THREE - OPTIMUM PERFORMANCE

Once the system is up and running, we can fine tune it to get the maximum performance from your Vortex Solids Filter. First… examine the flow rate into your Vortex Filter. The Air Entrainment Ducts should be able to easily handle the flow rate. If water backs up and covers all ducts without purging, then slow down the flow rate by adjusting your flow valve. (Most pumps can handle restriction up to 30% without risk of damage to the pump).



Water crashing into the ducts capture air. If the flow is heavy, water will back up creating head pressure.

When the head pressure is great enough, it will force the water through faster. (purging)

When purging, water traps more air, slowing down flow. Incoming water keeps this cycle going continuously.

Lower flow rates may maintain a more constant water level in the 'Air Entrainment Ducts' with minimal or no purging. You can get just as good air entrainment from a non-purging duct. If the flow is to weak, you may not get enough air entrainment, in which case, plug an entrainment duct to send more water to the remaining ducts.

The pre-filter mat captures fine debris. A good cleaning once a week will keep your filtration system working at it's best.

Tip….You can partially block a duct with a brick or stone in the Vortex Filter. This will allow area's of the media to get enriched periodically with more air and water flow. Routinely enrich different area's of your filter by moving the brick or partially plugging a duct.

EasyPro™ pond products

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