



SIGNATURE SERIES BIOFALLS® FILTER

**Signature Series
2500 BioFalls® Filter**

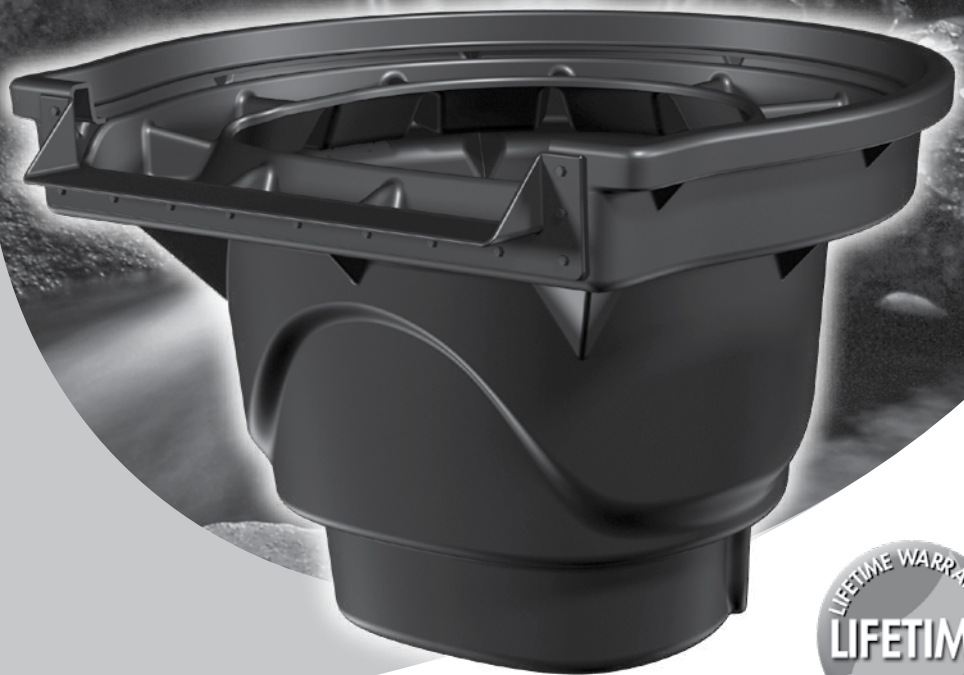
Item #09020

**Signature Series 6000
BioFalls® Filter
(2" Bulkhead)**

Item #29319

**Signature Series 6000
BioFalls® Filter
(3" Bulkhead)**

Item #29384



aquascapeinc.com



Signature Series BioFalls® Filter

Thank you for choosing the Aquascape Signature Series BioFalls® Filter. At Aquascape we connect people to water the way nature intended. Since 1991 we've been creating and field-testing water features in order to provide you with the most reliable products and best value in the water gardening industry.

Aquascape Signature Series BioFalls Filters provide efficient mechanical and biological filtration, keeping ponds clean, clear, and healthy. These filters are extremely durable and include a reversible waterfall spillway lip to provide the option of installing a natural stone spillway. The included rock and plant tray helps to naturalize the BioFalls into the surrounding area. With Signature Series BioFalls Filters, it is easy to maintain clean, clear, and healthy water. This instruction manual will guide you through the proper installation of your filter as well as recommended maintenance procedures to ensure long term effectiveness.



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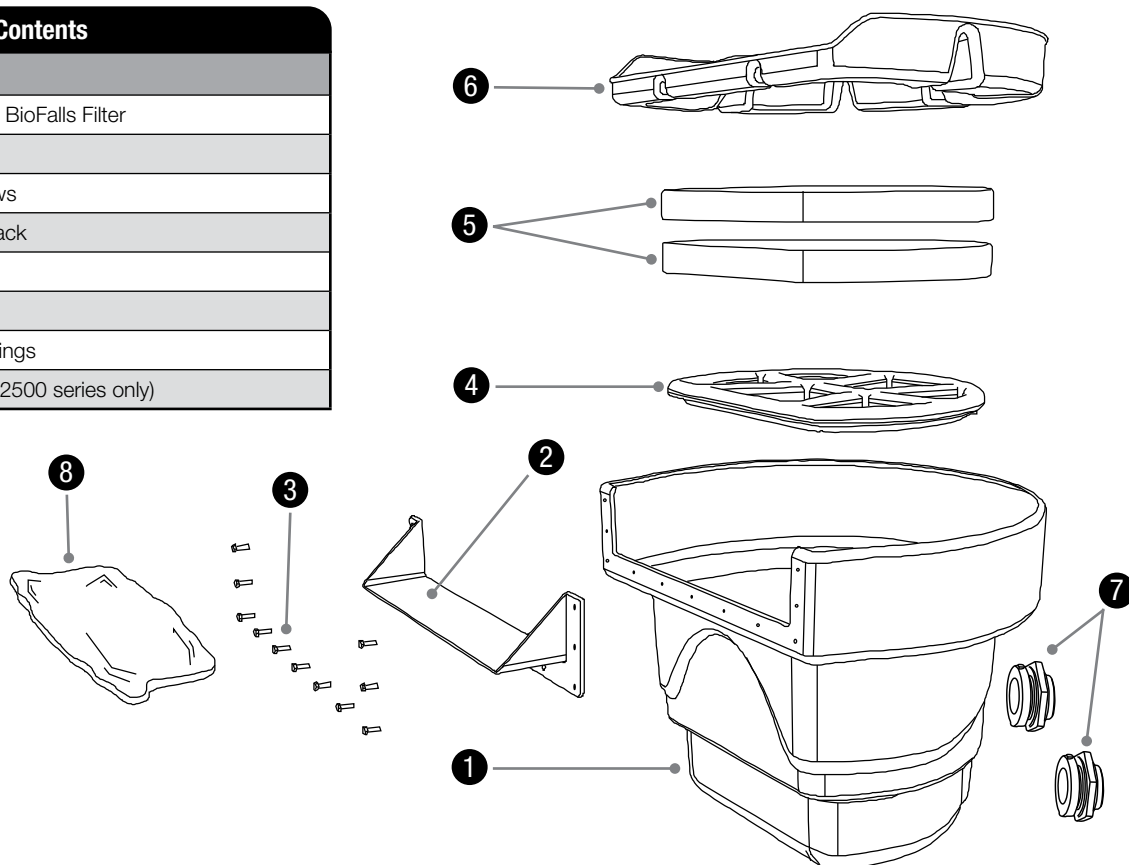
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Contents	
No.	Description
1.	Signature Series BioFalls Filter
2.	Filter Lip
3.	(16) Brass Screws
4.	Filter Support Rack
5.	(2) Filter Mats
6.	Rock Tray
7.	(2) Bulkhead Fittings
8.	Waterfall Stone (2500 series only)



Recommended Products



Black Silicone
Sealant 4.7 oz
(#22010)



Christy's Red
Hot Blue Glue
(#29969)



BioFalls® Filter
Drain Kit
(#29015)

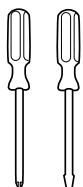


Pond and Waterfall
Foam Sealant
(#21053)

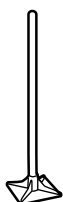
Recommended Tools



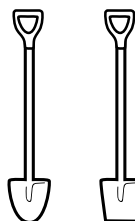
Brightly Colored
Spray Paint



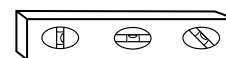
Screwdriver



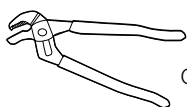
Soil Tamper



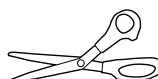
Shovel



Carpenter's
Level



Channel
Locks



Scissors

Instructions

STEP 1

PLACE BIOFALLS FILTER

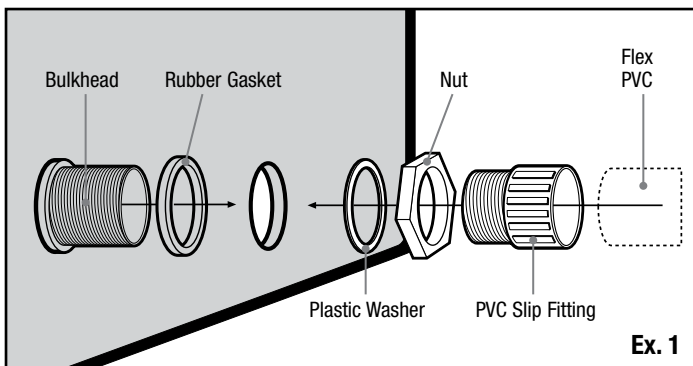
- If starting a new pond, the BioFalls filter will be used to create your waterfall and should be positioned so it's facing a main viewing area.
- Make sure it is placed close to the edge of the pond so you can connect the pond liner to the BioFalls filter.
- If you are using the BioFalls filter on an existing pond, you will need an extra piece of liner approximately 4' x 6'. The extra liner should be long enough to attach to the BioFalls® lip and have plenty left to hang over the side of the pond to prevent water loss.
- If you are using the BioFalls in conjunction with a skimmer, we recommend the BioFalls be placed directly across the length of the pond from the skimmer.

STEP 2

HOOK UP AND LEVEL BIOFALLS

- Install the two bulkheads into the back of the Signature Series BioFalls Filter (Ex. 1).

NOTE: The bulkhead fitting is reversed threaded. Ensure that the rubber gasket is installed on the inside of the filter (Ex. 1).



- Tighten the nut on the outside until the rubber washer begins to bulge, approximately one turn past hand-tight (Ex. 2). Do not over-tighten the nut.



- The filter has two openings on the back, allowing several plumbing options.

1. For single pump applications attach one pump plumbing line into one bulkhead and utilize the plug or optional drain kit (not included) in the other.
2. For double pump applications, attach each pump plumbing line into a bulkhead.

- Install the PVC slip fitting into the desired bulkhead(s) to receive the pump plumbing. To provide a watertight seal, use silicone sealant (not included) or teflon tape (not included) to coat the threads of the fittings.

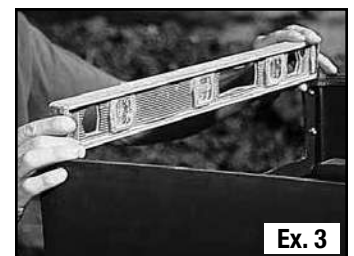
NOTE: Use the angle of the outlets to your advantage by using the bulkhead that works best with the direction of the plumbing coming from the pump.

- For single pump applications with no drain kit, install the included plug into the outside of the second, unused bulkhead. If installing the optional drain kit (not included), see page 5 for proper installation.
- Position the BioFalls Filter in the desired location. The BioFalls Filter should be set at, or slightly below, the grade of the yard. Simply remove a section of sod or a few inches of soil in order to create a firm foundation for the BioFalls Filter to sit.



DESIGN TIP - Keep the waterfall to the scale of the yard. The goal should be to create the perception that Mother Nature has installed the waterfall. Avoid creating a "volcanic look" by trying to raise the BioFalls Filter in a flat backyard.

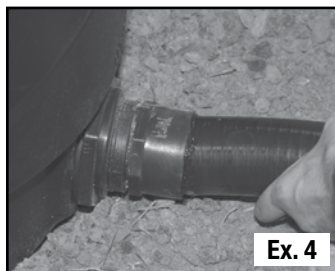
- Be sure to compact the area beneath the BioFalls Filter box using a soil tamper or some other heavy flat object that can be pounded onto the soil. This will help prevent any future settling.
- Use a 2' bubble level to make sure your BioFalls Filter is properly set into position (Ex. 3). Your BioFalls Filter should be level from side-to-side and tilt forward at 1/4 of a bubble on a 2' level. This will make sure the water covers the entire spillway.



ATTACHING FLEXIBLE PVC PIPE

- The filter is now ready for the flexible PVC to be glued into place using PVC cement specified for use with flexible piping.
- If your PVC cement does not state that priming isn't required, prime the inside of the PVC fitting and the outside of the pipe where the flexible PVC cement will be applied.

- After priming, apply the cement to the fitting and the PVC pipe and fit the two pieces together (Ex. 4).
- Hold the pipe into the fitting for at least 60 seconds to allow the glue to slightly set.
- Wait 10-15 minutes to let the glue completely set before you begin to bury the filter.



Ex. 4

INSTALLING OPTIONAL DRAIN KIT

- If desired, a filter drain kit (#29015) is available separately. The kit can be attached to the second bulkhead on single pump applications (Ex. 5), allowing the ability to conduct water changes and easy filter cleaning.
- Install the PVC slip fitting into the second bulkhead. To provide a watertight seal, use silicone sealant (not included) or teflon tape (not included) to coat the threads of the fitting.
- Prime and glue a section of flexible PVC pipe into the PVC slip fitting.
- Prime and glue the ball valve to the flexible PVC pipe (Ex. 6).
- Prime and glue the desired length of flexible PVC pipe into the other side of the ball valve. Then, run the pipe to the desired location to discharge the water during cleaning (Ex. 7).
- Prime and glue the gray valve fittings and 24" pipe onto the top of the valve (Ex. 8).



Ex. 5



Ex. 6



Ex. 7



Ex. 8

NOTE: The 24" pipe can be cut to the desired length once all of the soil is built up around the filter.

BACKFILL THE BIOFALLS FILTER

- Before you start to backfill around the filter, install the filter support rack and rock tray. Otherwise, you may not be able to get it in place.

- We also recommend having someone stand inside the filter to keep it in place and level while it's being backfilled.
- The excavated soil from the pond can be backfilled around the sides and back of the BioFalls Filter, creating a berm.
- Tamp the soil while backfilling to reduce settling. Any additional soil can be spread around the far side of the pond to create a planting bed for perennials and annuals.

NOTE: If installing into an existing pond, you may need to bring in extra dirt to backfill and create a berm around the BioFalls.

- Double-check to make sure the BioFalls Filter is still level after installing the plumbing.

STEP 3

ATTACH LINER TO BIOFALLS FILTER

- There are two options when attaching the lip for the Signature Series BioFalls Filter:
 1. The reversible waterfall lip can be attached facing outward. This method is recommended for first-time installers, providing a solid ledge cantilevering off the front of the BioFalls Filter to build the waterfall (Ex. 9).



Ex. 9

2. The reversible waterfall lip can also be attached facing inward. This method allows more creativity when constructing the waterfalls, allowing the designer a flat unobstructed BioFalls Filter face for placing large boulders on the left and right side of the unit (Ex. 10).



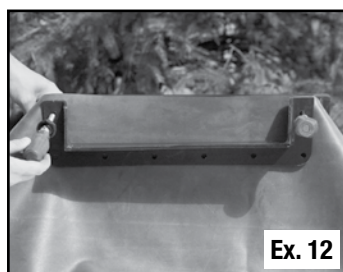
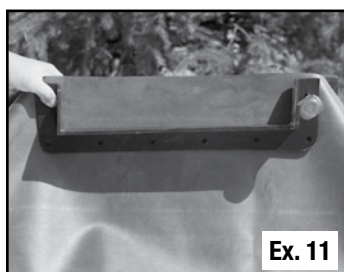
Ex. 10

- Prior to installing the waterfall lip, make sure the face of the BioFalls Filter and liner is clean and free of dust and debris. Use a damp towel to clean both surfaces. Make sure both surfaces are dry before the next step.
- Hold the liner up against the face of the BioFalls Filter, covering the U-shape spillway opening. Be sure to leave slack at the base of the filter to avoid stretching the liner when rocks are stacked to build the waterfall.

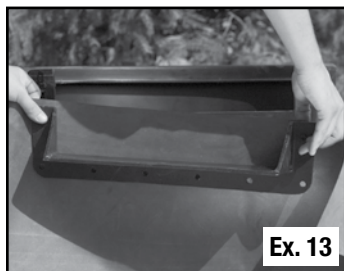
- For inward waterfall lip installation you will need to cut two vertical slits into the liner along the left and right side of the opening. The flap of liner can simply fall into the inside of the BioFalls Filter when attaching the waterfall lip.

NOTE: Ignore this step if you are installing the waterfall lip outward and proceed to the following step.

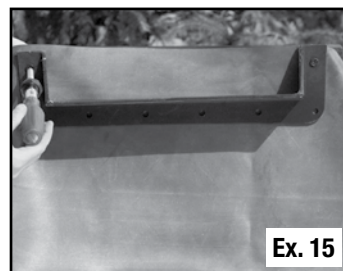
- Temporarily install the waterfall lip and liner to the BioFalls Filter. Using an awl or nail, poke the first hole through one of the two top corner screws (Ex. 11).
- Remove the awl or nail while holding the waterfall lip and liner in place, then thread one of the screws into the filter (Ex. 12). Repeat this process for the screw on the opposite side. When installing the waterfall lip inward, we recommend installing a third screw at the center screw hole along the bottom.



- Now remove the waterfall lip with the screws still penetrating through the liner (Ex. 13). These screws will serve as your guide when reinstalling the waterfall lip.
- Apply a thick bead of fish-safe silicone sealant (not included) around the BioFalls Filter opening. The bead should follow the path of the threaded inserts (Ex. 14).



- Reattach the waterfall lip using the pre-installed screws as your guide.
- Thread the top two corner screws and lower center screw into place to secure the lip to the filter (Ex. 15). We recommend threading the lower center screw first when installing the waterfall lip in the inward direction.
- Poke the remaining screw holes with the awl or nail and thread in the remaining screws.
- For outward lip installation, the liner will need to be trimmed.
- Let dry for at least one hour before introducing water.



STEP 4

INSTALLING THE FILTER PADS AND MEDIA BAGS

- The filter mats provided with the Signature Series BioFalls Filter are high surface area (HSA) mats containing 50% more surface area than normal filter mats, allowing a greater surface area for beneficial bacteria to colonize and clean the water (Ex. 16).
- Set the filter mats on top of the filter support rack.
- A biological filter media net is included to hold biological filter media (not included) which will help keep pond water clean and healthy (Ex. 16).
- Fill the filter media net with biological filter media. For best results, use Aquascape BioBalls Biological Filter Media - 100 count (#98464).



NOTE: Recommended BioBalls quantities: 2500 series - 200 BioBalls, 6000 series - 400 BioBalls.

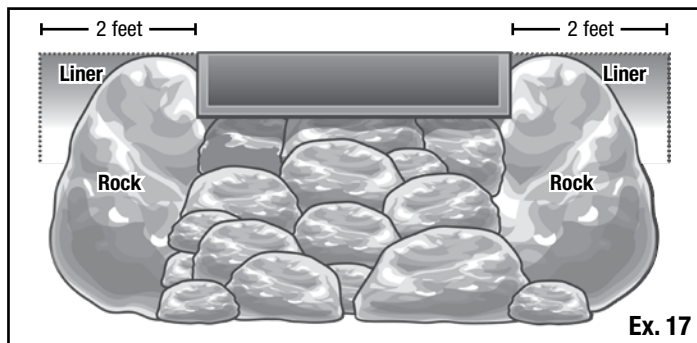
- In higher flow applications with lightweight biological filter media, use a rock or cobble to anchor the media in place if needed.

NOTE: Overfilling media bags will prevent them from spreading out over the filter mats and will cause interference with the rock rack.

STEP 5

BUILD THE WATERFALL

- Place two larger boulders on either side of the waterfall to “frame” the waterfall. The water will be running between the two larger boulders (Ex. 17).
- You can now begin to stack rocks between the two larger boulders (Ex. 17). These are the rocks that the water will be running over, so take your time and be creative. Start with the larger rocks on the bottom and work your way up to the smaller ones on top.
- Small stones and gravel can be used to fill the gaps between the larger waterfall stones (Ex. 17).



- For outward waterfall lip installations, you can use the included plastic waterfall stone (2500 series only) or a piece of natural slate no more than 3/4" thick.
- Secure the plastic waterfall stone or slate to the lip using Aquascape Pond and Waterfall Foam Sealant (#21053).
- Use Aquascape Pond and Waterfall Foam Sealant to fill gaps between stones to direct water flow as desired. This will keep the water flowing over the top of the waterfall stones, not beneath them.

ROCK TRAY

- The Signature Series BioFalls Filter comes with an upper support rack that makes it easy to disguise the filter into the landscape using small boulders, aquatic plants, and gravel. Arrange the stones, gravel, and plants in the rack to hide the back and top of the filter (Ex. 18).



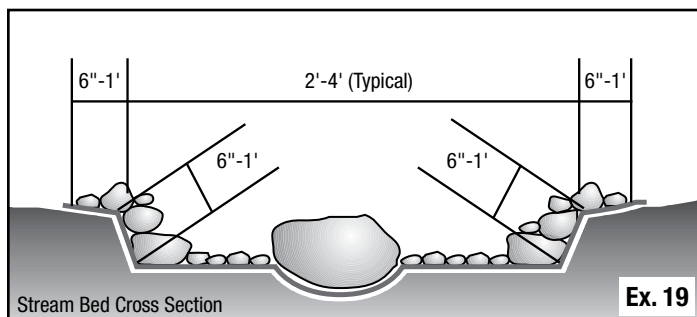
Ex. 18

- The rack sits in the upper portion of the BioFalls Filter. The filter mats can be removed for annual cleaning through the wider opening at the front of the rack.

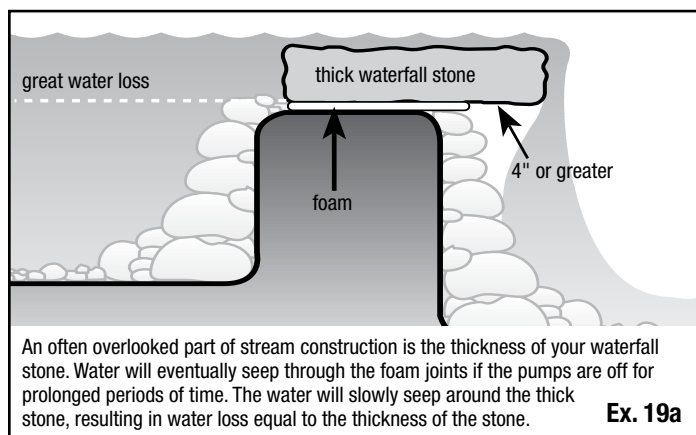
STEP 6

BUILDING A STREAM (OPTIONAL)

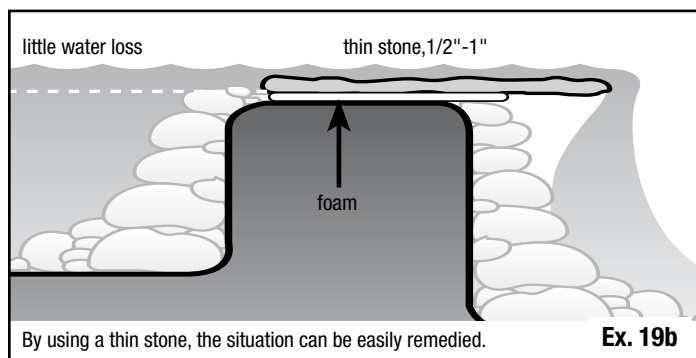
- Placing the BioFalls® Filter away from the edge of the pond allows the creation of a meandering stream.
- Twisting and turning the stream makes it look more natural.
- The typical width of a stream should be between 2-4 feet wide. Vary the width of the stream throughout to mimic what would occur in nature (Ex. 19).



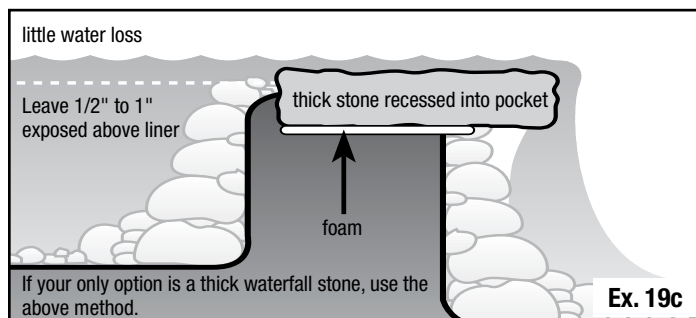
- Excavate the stream to a depth of 6 inches to 1 foot. Vary the depth in the corners and in smaller pools along the run of the stream to allow water to pool in those areas.
- If your stream is being built on a slope, you will need to create a few waterfalls in it. To hold the water back when the pump is shut off, you need to build a dam at each waterfall (Ex. 19 a,b,c).



Ex. 19a



Ex. 19b



Ex. 19c

- To make the stream look more natural, you should place some larger boulders into it. To make this work properly, excavate the area where the rock will be placed a few inches deeper (Ex. 19). This will allow the rock to sit into the bottom of the stream, not just on the streambed.
- Once you have the stream excavated, you can place the liner into it.
- Simply overlap the stream liner over the top liner. As long as you have a 6" waterfall or higher, you will not need to seam the liners together.
- Place rocks of varying sizes around the perimeter of the stream (Ex. 19). During excavation of the stream, you dug a few areas where larger rocks will go. Put Pond and Waterfall Foam Sealant into these divots and place the rocks on top. The foam will allow the water to be diverted around and over the rocks instead of underneath them.

STEP 7

BRING IN THE TOPSOIL

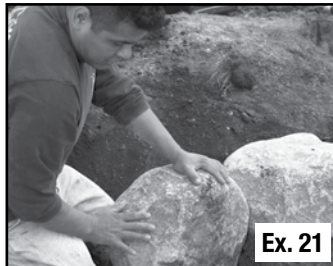
- Add topsoil to the berm and surrounding area to provide a good substrate for future landscape plantings (Ex. 20).
- The entire area may be mulched and any plant material installed if necessary.



STEP 8

BUILD RETAINING WALL

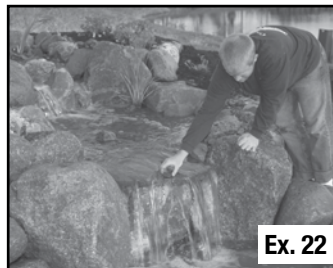
- Finish off the berm where the BioFalls Filter is buried by building a small retaining wall out of boulders (Ex. 21). This step may or may not be needed, depending on the size of the berm and the transition into the existing landscape.



STEP 9

PLUG IN AND TWEAK THE WATERFALL

- Plug the pump in and test the waterfall. Tweak the waterfall by placing smaller stones and gravel on the waterfall cascades (Ex. 22). This will change the appearance and sound of the water. Have fun playing with the water coming over the falls until you achieve the desired effect.

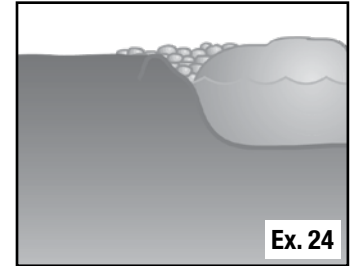


STEP 10

TRIM THE LINER

- With everything running, go around the perimeter of the waterfall and stream with a pair of scissors and trim off any excess liner (Ex. 23), leaving several inches above the water level as a precaution. The remaining liner edges can be tucked in, backfilled, and covered with gravel (Ex. 24).

NOTE: Do not trim the liner until the waterfall is running. Prematurely trimming the liner may cause leaks!



STEP 11

MULCH THE BERM

- The entire area surrounding the BioFalls can now be mulched (Ex. 25) and any surrounding plants added.

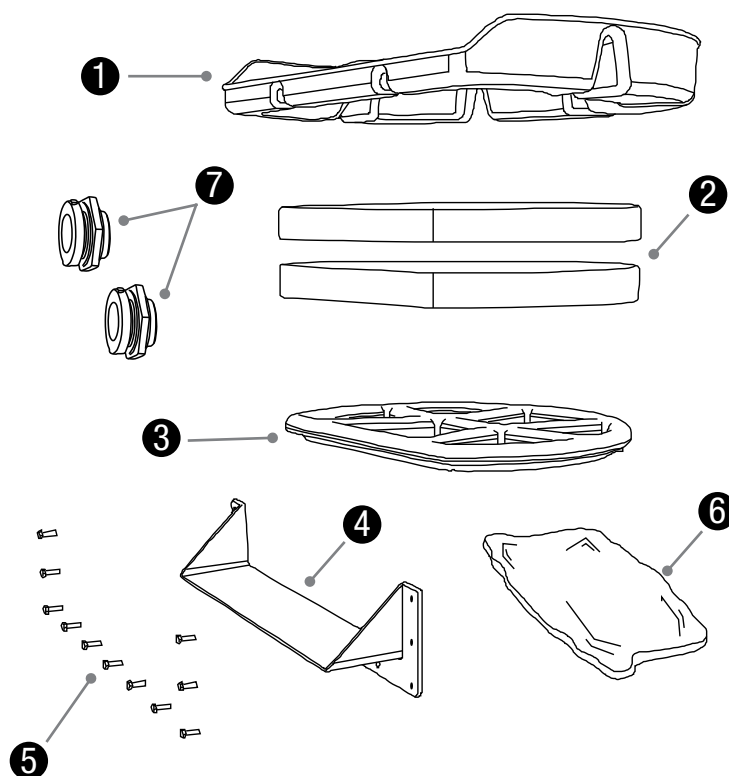


General Maintenance

- The Signature Series BioFalls Filter is designed to require once-a-year cleaning when used in combination with a Signature Series Skimmer or Pondless® Waterfall Vault prefilter. These filters ensure that large debris is filtered from the water before it reaches the Signature Series BioFalls Filter. The Signature Series BioFalls Filter also has an optional drain kit (see page 5), which allows for easier water changes and annual cleaning of the filter.
- DO NOT clean the filter mats or filter media bag in the Signature Series BioFalls Filter more than once a year. Cleaning them, especially with chlorinated tap water, more than once-a-year will reduce or kill the beneficial bacteria growing on these filters. Replace old filter mats after several years when they begin to tear or fall apart.

Replacement Parts

Signature Series BioFalls Filter Replacement Parts	
No.	Description
1.	29283 – Signature Series BioFalls Filter 2500 Rock Tray
2.	29010 – Signature Series BioFalls Filter 2500 Mat
3.	29281 – Signature Series BioFalls Filter 2500 Support Rack
4.	29220 – Signature Series BioFalls Filter 2500 Lip
5.	30078 – Signature Series BioFalls Filter 6000 Brass Screw Set 1/4"-20 x 3/4" (8/bag x2)
6.	29282 – Signature Series BioFalls Filter 2500 Waterfall Stone
7.	29103 – 2" Bulkhead Fitting
7.	29104 – 3" Bulkhead Fitting (Signature Series BioFalls Filter 6000 Only)
1.	29316 – Signature Series BioFalls Filter 6000 Rock Tray
2.	29318 – Signature Series BioFalls Filter 6000 Mat
3.	29317 – Signature Series BioFalls Filter 6000 Support Rack
4.	29324 – Signature Series BioFalls Filter 6000 Lip



Warranty Information

LIFETIME WARRANTY

Aquascape warrants that the Signature Series BioFalls Filter will be free of manufacturing defects for the lifetime of the product if properly installed and maintained. Proof of purchase required. Warranty does not cover damage resulting from negligent handling, misuse or lack of reasonable maintenance or care. If upon Aquascape's inspection, the BioFalls shows evidence of a manufacturing defect, Aquascape's liability is limited, at Aquascape's option, to the repair of the defect, replacement of the defective product, or refund of the original purchase price. The warranty excludes costs of labor, removal of product, shipping and expenses related to the installation and re-installation of the product. All products that include plumbing (tubing, pumps, check valves) need to be properly drained and winterized otherwise warranty is null and void. No liability for loss or damage of any nature or kind, whether arising out of or from the use of the product, whether defective or not defective, is assumed by Aquascape, Inc. or its affiliates. Aquascape shall not be liable for any incidental, consequential or other damages arising under any theory of law whatsoever.

ONE YEAR WARRANTY

Aquascape warrants that the plastic internal parts of the BioFalls will be free of manufacturing defects for one year from the date of purchase of the product if properly installed and maintained. Proof of purchase required. Filter pads and media are consumable items and are not covered under any warranty. If upon Aquascape's inspection, the parts shows evidence of a manufacturing defect, Aquascape's liability is limited, at Aquascape's option, to the repair of the defect, replacement of the defective product, or refund of the original purchase price. The warranty excludes costs of labor, removal of product, shipping and expenses related to the installation and re-installation of the product. No liability for loss or damage of any nature or kind, whether arising out of or from the use of the product, whether defective or not defective, is assumed by Aquascape, Inc. or its affiliates. Aquascape shall not be liable for any incidental, consequential or other damages arising under any theory of law whatsoever.

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or call us at US (866) 877-6637 CAN (866) 766-3426