

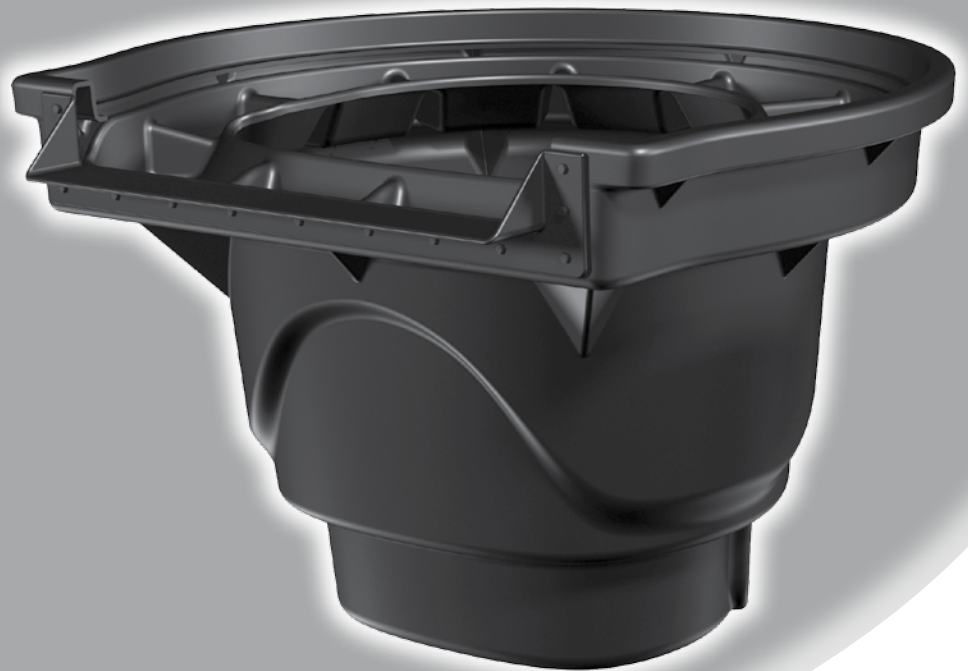


Signature Series™ BioFalls® Filter

**Waterfall Filter
Ideal for Ponds
up to:**

**2,500 gallons
(Signature Series™ 2500)
– or –
6,000 gallons
(Signature Series™ 6000)**

For Models:
• Item #09020
#29319
#29384



Thank you for choosing the Signature Series™ BioFalls® Filter. At Aquascape our goal is to provide our customers with the best valued products in water gardening. We hope you enjoy your purchase and thank you for choosing Aquascape.
Your Paradise. Our Passion.®



Signature Series™ BioFalls® Filter

Aquascape professional-grade BioFalls® Filters provide the most filtration and highest water flows in the market. Durable rotational-molded polyethylene ensures maximum strength, and withstands whatever Mother Nature can dish out. All Aquascape BioFalls® Filters include a lifetime warranty!

Below you will find QR codes that will provide further inspiration, troubleshooting, and maintenance help.



WATCH A VIDEO ABOUT OUR SIGNATURE SERIES BIOFALLS



DOWNLOAD A FREE COPY OF OUR CATALOG



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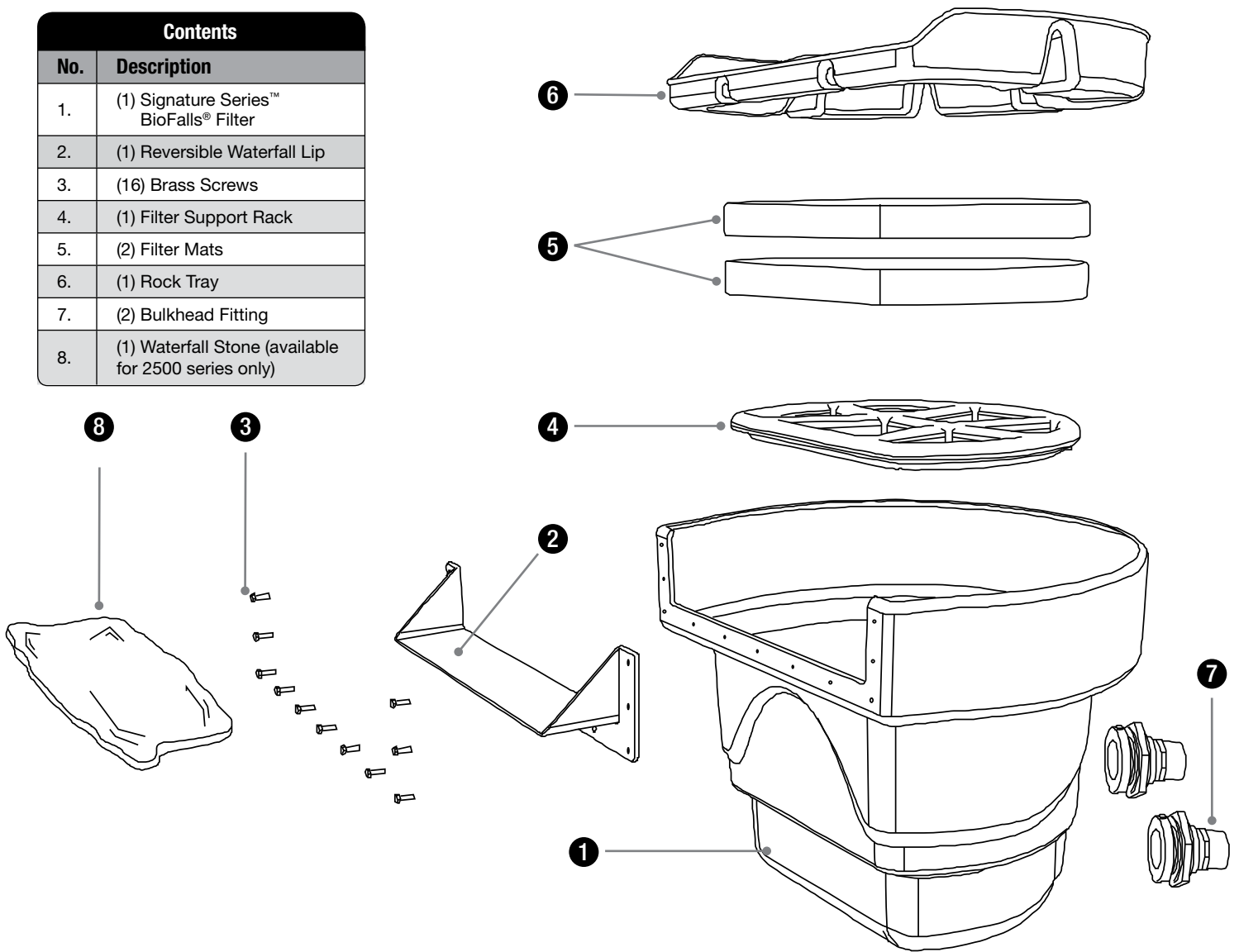
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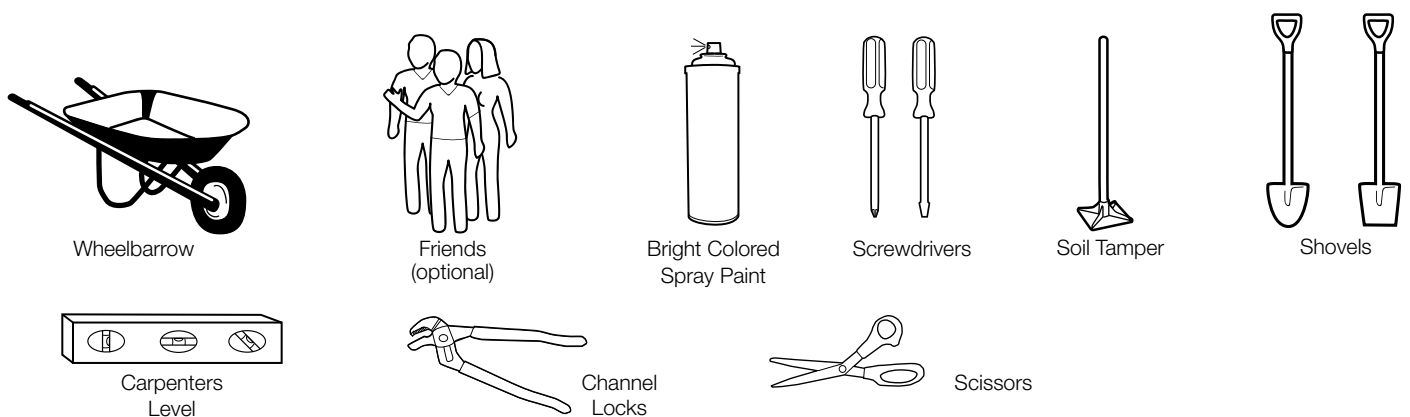
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7.	(2) Bulkhead Fitting
8.	(1) Waterfall Stone (available for 2500 series only)



RECOMMENDED TOOLS



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.

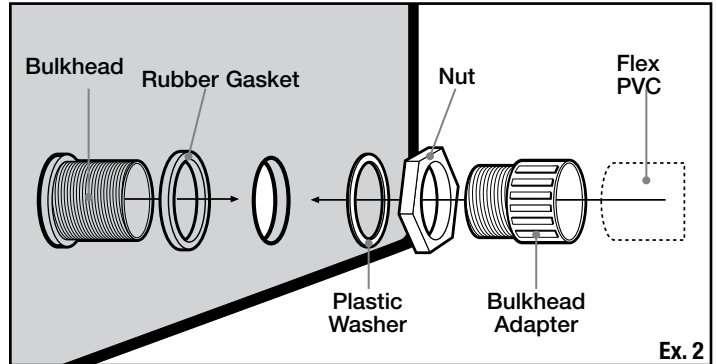


Ex. 1

STEP 2

HOOK UP AND LEVEL BIOFALLS®

- Install the two bulkheads into the back of the Signature Series™ BioFalls® Filter. 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 in the other. Use the angle of the bulkheads to your advantage by using the bulkhead that works best with the direction and sweep of the plumbing coming from the pump.
 2. For double pump applications, attach each pump plumbing line into a bulkhead.
- **Optional Drain Kit** – The Signature Series™ BioFalls® Filter is available with an optional drain kit. The drain kit is attached to the second bulkhead on single pump applications. The drain kit allows the ability to conduct water changes and makes annual cleaning of the filter easier. (See Installing the Drain Kit section on page 5.)
- Install the bulkhead fitting in the hole provided in the back of the BioFalls® Filter. The rubber washer should be located on the inside of the BioFalls® Filter. Tighten the nut on the outside until the rubber washer begins to bulge. This should only be approximately one turn past hand-tight. Be careful not to over tighten the nut, which could possibly crack the bulkhead. Please note that the bulkhead fitting is reverse threaded. So, in other words, turn the nut counterclockwise to tighten! (See Ex. 1 & 2.)
- Install the PVC slip fitting into the desired bulkhead to receive the pump plumbing. The PVC plug fitting provided can be installed in the 2nd bulkhead fitting if it is not going to be utilized. Use some of the silicone sealant or teflon tape (not included) to coat the threads of the fittings in order to help provide a watertight seal.



Ex. 2

- Now it's time to 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 hand 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 in order to make sure your BioFalls® Filter is properly set into position. 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 comes over the front of the BioFalls® Filter and covers the entire spillway.

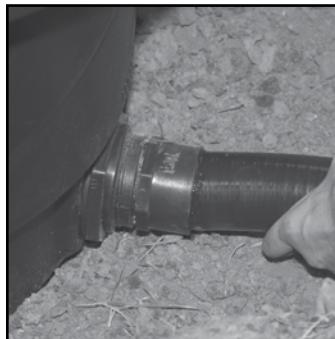


STEP 2 CONT...

HOOK UP AND LEVEL BIOFALLS®

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.
- 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.
- 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.
- Before you start to backfill around the filter, install the support racks. Otherwise, you may not be able to get it in place. Refer to Signature Series™ contents diagram on page 3.
- 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 in order to reduce settling. Any additional soil can be spread around the far side of the pond in order 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.

INSTALLING THE DRAIN KIT: (OPTIONAL)

1. Prime and glue a stub of PVC Flex Pipe into the fitting on one of the bulkheads.
2. Prime and glue the ball valve.
3. Attach to the other end of the PVC Flex Pipe.
4. Prime and glue the desired length of PVC Flex Pipe into the other side of the ball valve and run the pipe to the desired location to discharge the water when performing water changes or flushing out the BioFalls® Filter while cleaning (4).
5. Prime and glue all of the gray valve fittings and 24" of pipe onto the top of the valve (5).

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



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 spillway (see Ex. 3).

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 (see Ex. 4).



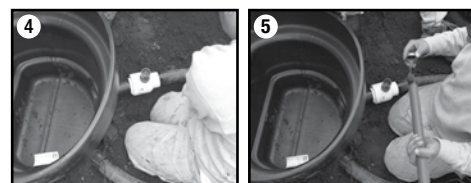
Ex. 3 The reversible waterfall lip attached facing outward



Ex. 4 The reversible waterfall lip attached facing inward

INSTALLING THE BIOFALLS® FILTER WATERFALL LIP:

- 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.
- Hold the lip 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 waterfalls. (continued on pg. 6)



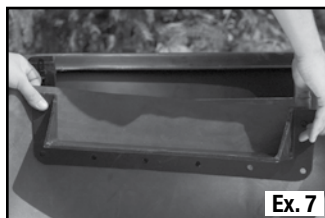
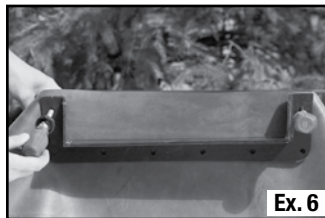
STEP 3 CONT...

ATTACH LINER TO BIOFALLS® FILTER

- 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.

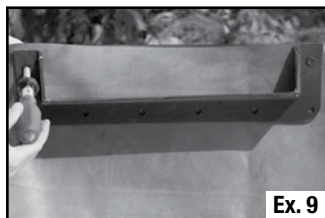
- Temporarily install the waterfall lip and liner to the BioFalls® Filter loosely with the two top corner screws and one center screw below the waterfall lip. Using an awl or nail, poke the first hole through the waterfall lip and liner penetrating into the corresponding threaded insert on the BioFalls® Filter. (see Ex. 5) Remove the awl or nail while holding the waterfall lip and liner in place, and begin threading one of the screws into the filter (see Ex. 6). Repeat this process for the screw on the opposite side. When installing the waterfall lip inward we recommend installing a third temporary screw at the center—most screw hole along the bottom.



- Now remove the waterfall lip, trying to keep the screws still penetrating through the liner. These screws will serve as your guide when reinstalling the waterfall lip. (see Ex. 7)



- Apply a thick bead of fish-safe silicone sealant around the BioFalls® Filter opening. The bead should follow the path of the threaded inserts. (See Ex. 8).



- Reattach the BioFalls® Filter waterfall lip using the pre-installed screws as your guide. We recommend threading the lower center one first when installing the waterfall lip in the inward direction (see Ex. 9).

- With all temporary screws secured back into position, you may now punch the remaining screw holes with the awl or nail and thread in the remaining screws.
- Outward waterfall lip position will require the liner to be trimmed back at this point.
- 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, thereby allowing a greater surface area for beneficial bacteria to colonize and help clean the water. The mats are simply set on top of the filter support rack. Media bags and BioBalls™ are provided for additional filtration substrate. Fill the media bags with BioBalls™ and spread out over the surface of the filter mat.



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



- Media net (BioBalls™ sold separately)
- Two Poly-Flo ESA biological Filter Mats provide 50% more surface area than traditional filter mats

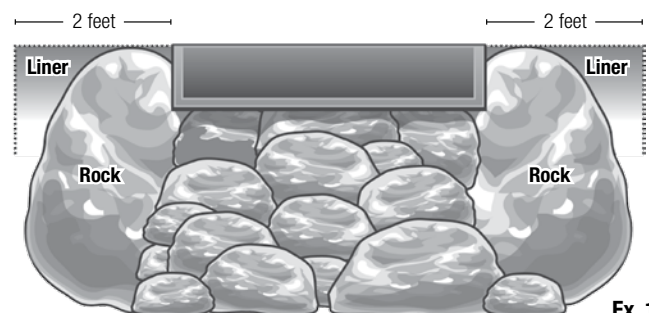
STEP 5

BUILD THE WATERFALL

Before building the waterfall, you will need to do a little preparation work. Please read the section about Stream Construction on page 7 if you plan to create a stream. Use QR code provided for more detailed video instruction.



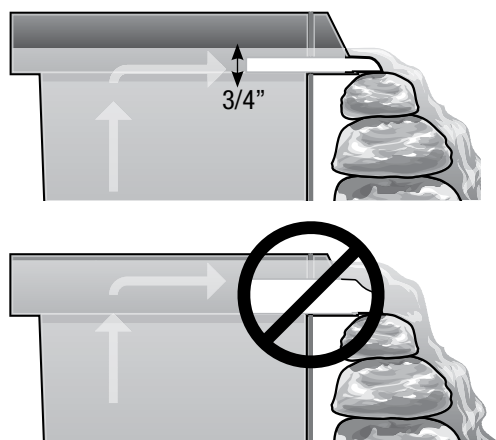
- Place two larger boulders on either side of the waterfall you are creating in order to “frame” the waterfalls. The water will be running between the two larger boulders you’ve set in place (see Ex. 10).
- You can now begin to stack the rocks between the two larger boulders. These are the rocks that 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.



STEP 6

BUILDING A STREAM (OPTIONAL)

- Small stones and gravel can be used to fill the gaps between the larger waterfall stones. (See Ex. 11)
- The BioFalls® Filter is designed with a plastic lip for the water to cascade off. You can use the BioFalls® Filter plastic waterfall stone or even piece(s) of thin (no more than 3/4" thick) natural slate (see Ex. 13). This stone can be attached to the BioFalls® Filter using Black Waterfall Foam. The Black Waterfall Foam will come in handy when filling other gaps between the stones that water is flowing over. The foam keeps the water flowing over the top of the waterfall stones. Without the Black Waterfall Foam, you will lose some of the impact of your waterfall as water travels beneath the rocks.



Ex. 11 If using a natural rock for your waterfall lip, make sure that it is fairly thin. (no more than 3/4")

ROCK TRAY

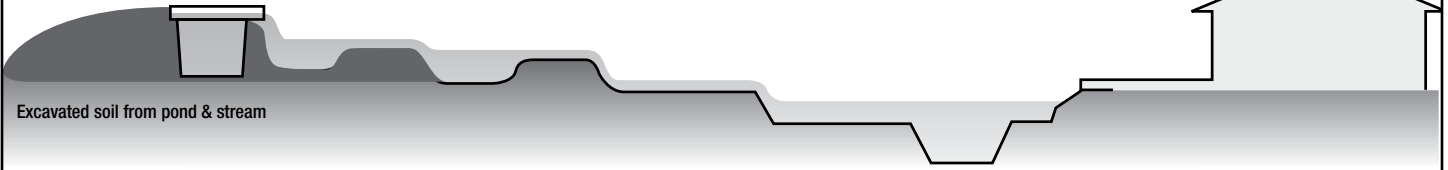
- The Signature Series™ BioFalls® Filter comes with an upper support rack that also serves as an easy way to help disguise the filter into the landscape using small boulders, aquatic plants, and gravel. Arrange the stones, gravel, and plants in the rack in such a way as to hide the back and top of the filter.
- 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.



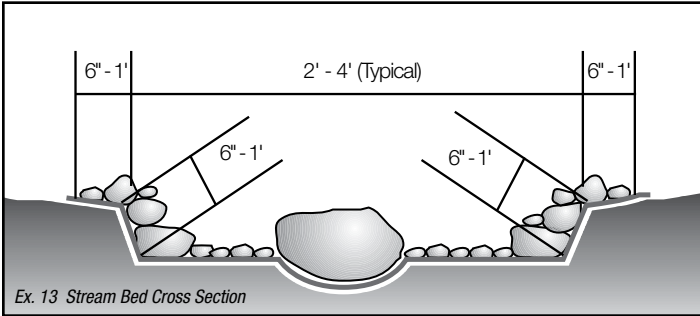
- Placing the BioFalls® Filter away from the edge of the pond is always a good idea. This allows the creation of a meandering stream to add a touch of nature to your water garden.
- We typically place the BioFalls® Filter 6 to 10 feet from the edge of the pond. Twisting and turning the stream makes it look more natural and will require a minimum 10' x 15' piece of liner (see Ex. 12).
- 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 (see Ex. 13).
- 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. (See Ex. 14 a,b,c)
- 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. 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.
- Where the liner overlaps the pond, you will not need to seam the liners together as long as you have a 6-inch waterfall or higher. Simply overlap the stream liner over the top of the pond liner.
- Place rocks of varying sizes around the perimeter of the stream. During excavation of the stream, you dug a few areas where larger rocks will go. Put some of the Black Waterfall Foam 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.



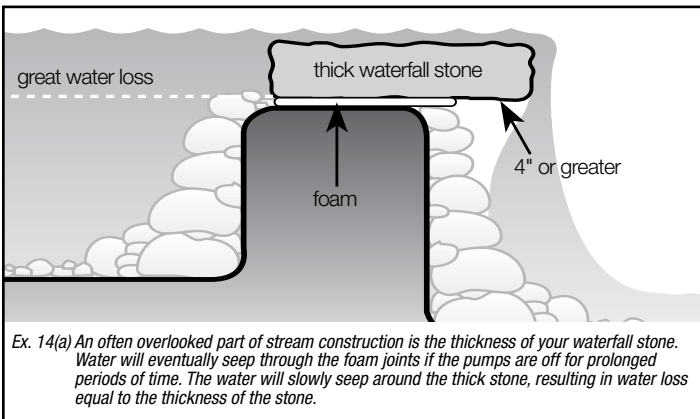
Flat Backyard: This is easy to work with; you may need to bring in fill material if you want a fast-moving stream. Otherwise, create a combination of deep stream with fast upper stream.



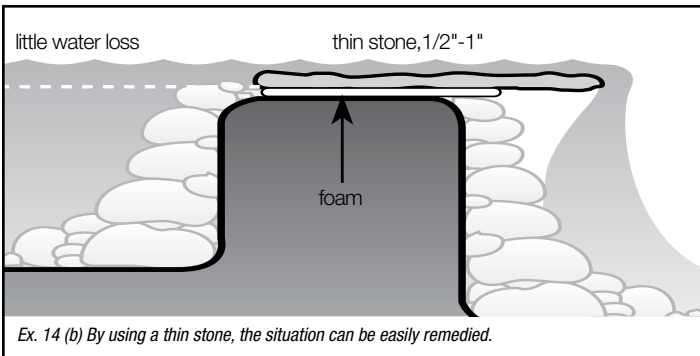
Ex. 12



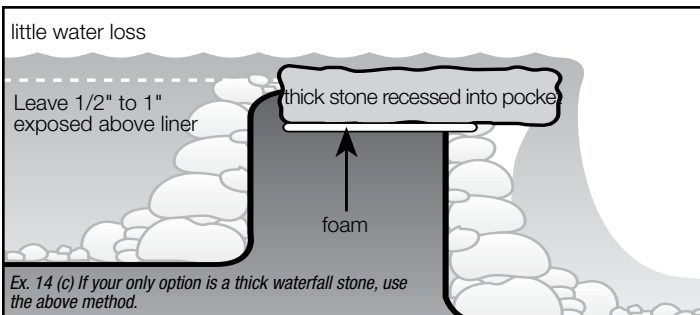
Ex. 13 Stream Bed Cross Section



Ex. 14(a) An often overlooked part of stream construction is the thickness of your waterfall stone. Water will eventually seep through the foam joints if the pumps are off for prolonged periods of time. The water will slowly seep around the thick stone, resulting in water loss equal to the thickness of the stone.



Ex. 14 (b) By using a thin stone, the situation can be easily remedied.



Ex. 14 (c) If your only option is a thick waterfall stone, use the above method.

STEP 7

BRING IN THE TOPSOIL

- Add topsoil to the berm and surrounding area in order to provide a good substrate for future landscape plantings.
- 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. 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. 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.

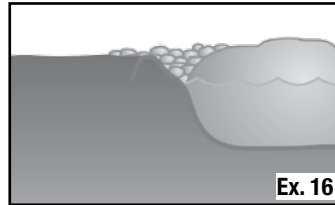


STEP 10

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 (see Ex. 15), always leaving several inches above the water level as a precaution. The remaining liner edges can be covered with gravel (see Ex. 16).

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 and any surrounding plants added.



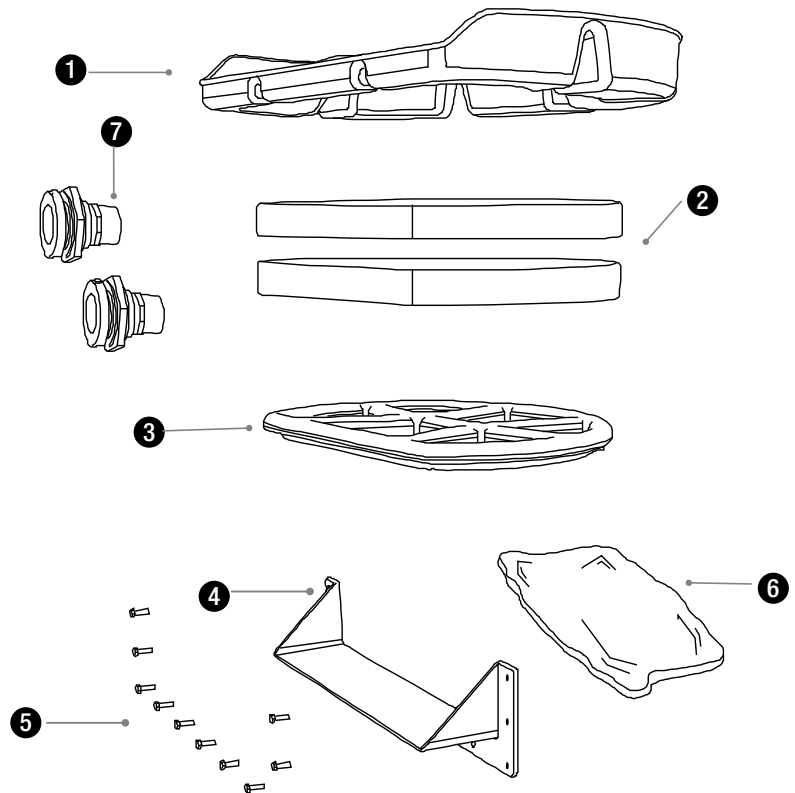
GENERAL MAINTENANCE FOR THE SIGNATURE SERIES™ BIOFALLS® FILTER

The Signature Series™ BioFalls® Filter is the starting point of your waterfall. The filter mats and filter media provide a home for the beneficial bacteria to live that help clean the pond and provide crystal clear water. 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, 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

No.	Item #	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)
5	54011	Signature Series™ BioFalls® Filter 2500 Brass Screw Set 1/4"–20 x 3/4" (13/bag)
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 defect for the lifetime of the product if properly installed and maintained. If upon Aquascape's inspection, the Signature Series™ BioFalls® Filter shows evidence of a manufacturing defect, Aquascape's liability is limited, at Aquascape's option, to the repair of the defect, or the replacement of the defective product. There are no warranties either expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose, which extend beyond the warranties contained in this document. Aquascape shall not be liable for any incidental, consequential or other damages arising under any theory of law whatsoever.

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