

**PRO-Fit System**

# Signature Series<sup>™</sup> MicroFalls<sup>®</sup> Filter

## Installation Instructions & Owner's Manual

- **Step-by-Step Installation**  
Instructions for the Signature Series<sup>™</sup>  
MicroFalls<sup>®</sup> Filter



Made in U.S.A. for:  
Aquascape, Inc.  
St. Charles, IL 60174 • Brampton, ON L6T 5V7  
[www.aquascapeinc.com](http://www.aquascapeinc.com)

Document Created by: **Icon Digital Design & Illustration, Inc.**

<b>Document Creator Contact Information:</b> Icon Digital Design & Illustration, Inc. 1300 Iroquois Ave., Suite 260 Naperville, IL 60563 p 630.717.7515 f 630.717.7150	Document Designer:	Rick Byers	Client	Aquascape Designs, Inc.
	Designer E-Mail:	<a href="mailto:rick@icondigitaldesign.com">rick@icondigitaldesign.com</a>	Client Contact	Melissa Duffy
	Icon Job Number:	06114880	Client Contact E-Mail	<a href="mailto:mduffy@aquasapedesigns.com">mduffy@aquasapedesigns.com</a>
	Number of Colors	1/1	Client P.O. Number	B060XXX
	Number of Pages	8	Client Job Description:	SS MicroFalls Install Instructs 12-06
	Flat Size (W x H x D)	17" x 10.5"	Folded Size (W x H x D)	8.5" x 10.5"

## PRO-Fit System

# Signature Series<sup>TM</sup> MicroFalls<sup>®</sup> Filter

### Installation Instructions & Owner's Manual

*Congratulations on the purchase of the AquascapePro<sup>TM</sup> Signature Series<sup>TM</sup> MicroFalls<sup>®</sup> Filter.*

Thank you for choosing and Aquascape PRO-Fit<sup>TM</sup> System. Because we understand that you needs are different based on your preference, application or design, we want to give you the flexibility of using the different product lines that we offer within the same project without losing the ease of purchasing a kit.

Since the PRO-Fit<sup>TM</sup> System is designed to be used with different product lines, each PRO-Fit<sup>TM</sup> System will come with 2 sets of instructions: one for the skimmer (or MicroSnorkel<sup>TM</sup> and MicroCentipede<sup>TM</sup>) and one for the BIOFALLS<sup>®</sup> (Endless Cascades<sup>TM</sup>). During the construction of the pond, you may have to refer to one or the other for the necessary steps.



## STEP 1

### Hook up and level MicroFalls® Filter

- Install the bulkhead fitting in the hole provided in the back of the MicroFalls® filter. The rubber washer should be located on the inside of the MicroFalls® 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 figs. 1 & 2)
- Install the PVC slip fitting into the bulkhead to receive the pump plumbing. 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.
- Now it's time to position the

MicroFalls® filter in the desired location. The MicroFalls® 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 MicroFalls® 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 herself has installed the waterfall. Avoid creating a "volcanic look" by trying to raise the MicroFalls® filter in a flat backyard.

- Be sure to compact the area beneath the MicroFalls® 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 MicroFalls® filter

is properly set into position. Your MicroFalls® filter should be level from side-to-side and tilt forward @1/4 of a bubble on a 2' level. This will make sure the water comes over the front of the MicroFalls® filter and covers the entire spillway. (See fig. 3)

#### 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 (See Fig. 4) 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.
- 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 MicroFalls® 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.
- Double check to make sure the MicroFalls® filter is still level after installing the plumbing.



Fig. 1 Attach bulkhead fitting.

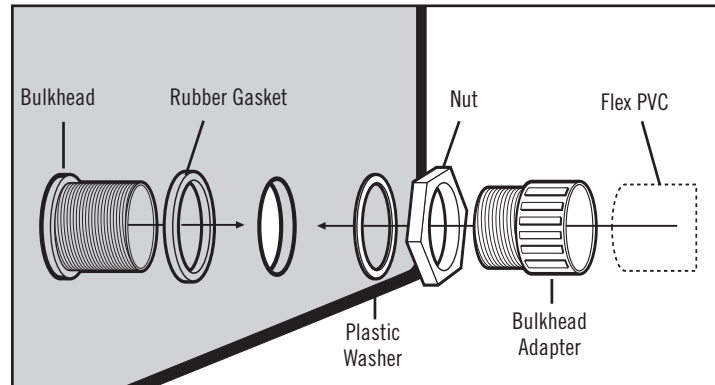


Fig. 2 Bulkhead assembly.



Fig. 3 Level the MicroFalls® filter side to side as well as front to back.



Fig. 4 Finished bulkhead assembly.

## STEP 2

### Build the Waterfalls and Stream

Before building the waterfall, you will need to do a little preparation work. Please read the section about Stream Construction on page 5 if you plan to create a stream. We also recommend that contractors refer to *The Pond Builders Bible* and the *Waterfalls & Stream Construction* video prior to designing and installing. Do-It Yourselfers can refer to the book *Ecosystem Pond or Pond Building for Hobbyists* for more information on Stream and Waterfalls construction.

#### Installing the MicroFalls® filter Waterfall Lip:

- Prior to installing the waterfall lip make sure the face of the MicroFalls® filter and liner is clean and free of dust and debris. Use a damp towel to clean both surfaces. (See fig. 5)
- Hold the liner up against the face of the MicroFalls® 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.
- Temporarily install the waterfall lip and liner to the MicroFalls® 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 MicroFalls® filter. 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 fig. 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. (See fig. 7)

- 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.
- Apply a thick bead of fish-safe silicone sealant around the MicroFalls® filter opening. The bead should follow the path of the threaded inserts (connect the dots). (See fig. 8)
- Reattach the MicroFalls® filter waterfall lip using the pre installed screws as your guide. (See fig. 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. (See fig. 10)
- Using the waterfall lip as a guide, cut the remaining liner out of the MicroFalls® filter snout opening.
- Let dry for at least 1-hour before introducing water!

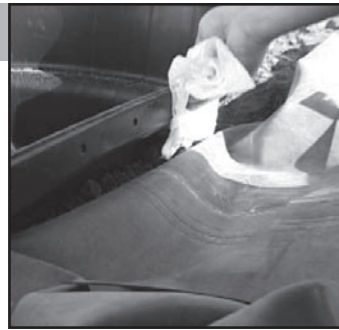


Fig. 5 Use a damp towel to clean surfaces.

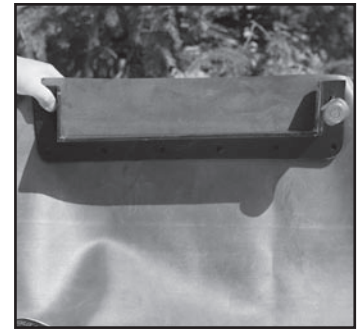


Fig. 6 Begin threading one of the screws into the filter.

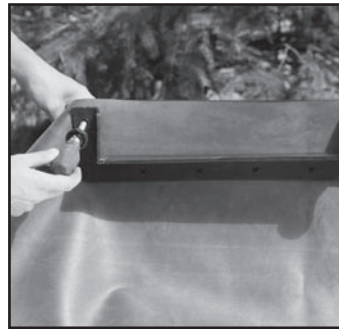


Fig. 7 Thread screws into the filter.



Fig. 8 Apply a thick bead of fish-safe silicone sealant around the MicroFalls® filter opening.

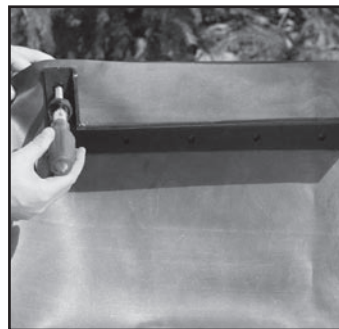


Fig. 9 Reattach the waterfall lip and liner.

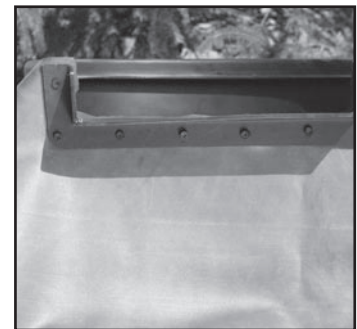


Fig. 10 Install the rest of the screws.

#### Creating the Waterfall

- 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 fig. 11)
- 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.

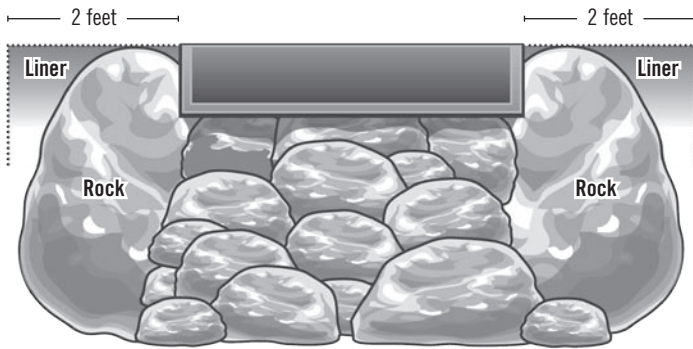
- Small stones and gravel can be used to fill the gaps between the larger waterfalls stones.
- The MicroFalls® filter is designed with a plastic lip for the water to cascade off. You can use the MicroFalls® filter plastic waterfall

stone or even piece(s) of thin (no more than 3/4" thick) natural slate (See figs. 12 & 13). This stone can be attached to the MicroFalls® 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,

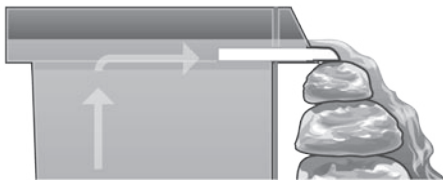
you may lose some of the impact of your waterfall as water travels beneath the rocks.

- Place smaller rocks on the rock ledge inside the MicroFalls® filter to help hide it in the landscape. The rock tray inside the MicroFalls® filter will help disguise the rest of the unit into the landscape. (See fig. 14)

## Creating the Waterfall cont ...



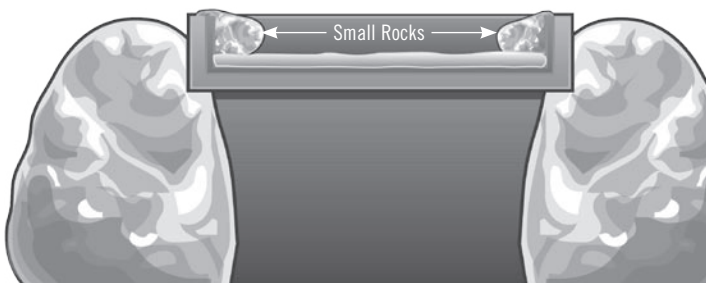
**Fig. 11** Place two larger boulders on either side of the waterfalls you are creating in order to “frame” the waterfalls.



**Fig. 12** If using a natural rock for your waterfall weir, make sure that it is fairly thin (no more than 3/4”).



**Fig. 13** If a thick rock along with a larger flow pump is used, the water flow may be so great that it will flow over the sides of the MicroFalls® filter.



**Fig. 14** Place smaller rocks on the rock ledge in the MicroFalls® filter.

## Waterfall Lights

- After the boulders are in position, set your waterfall accent lights. The lights can be placed beneath the waterfall shining upwards.
- See lighting system instructions for placement, positioning and installation of waterfall lights.



## Building the Stream

- Placing the MicroFalls® 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 MicroFalls® filter 6 - 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 fig. 15)

### Excavation of the Stream

- Lay out the stream from the MicroFalls® filter to the pond. The typical width of a stream should be between 2 - 4 feet wide (*Note: the wider the stream, the less movement of water you will have*). Vary the width of the stream throughout to mimic what would occur in nature. (See fig. 16)
- 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 check dam at each waterfall. (See fig. 17)
- To make the stream look much 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.

### Installation of Liner and Rocks

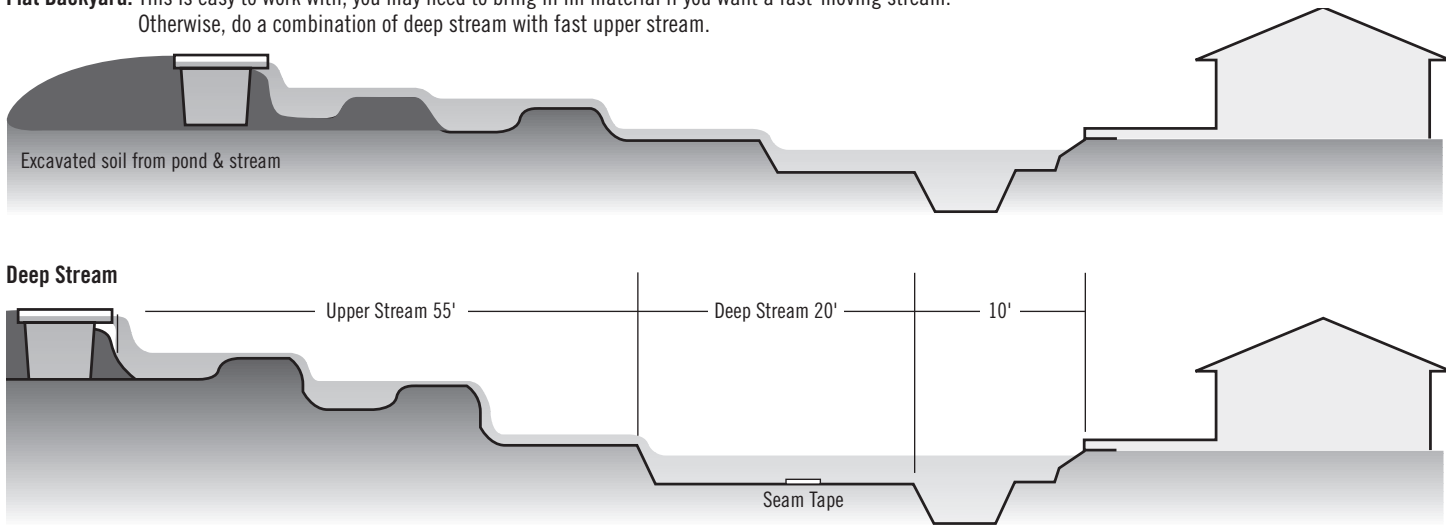
- Connect the liner to the MicroFalls® filter as described above.
- Where the liner overlaps the pond, you will not need to seam the liners together as long as you have a 6-inch waterfall or higher. Simply overlap the stream liner over the top of the pond liner.
- Place rocks of varying sizes around 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.

### Deep Streams

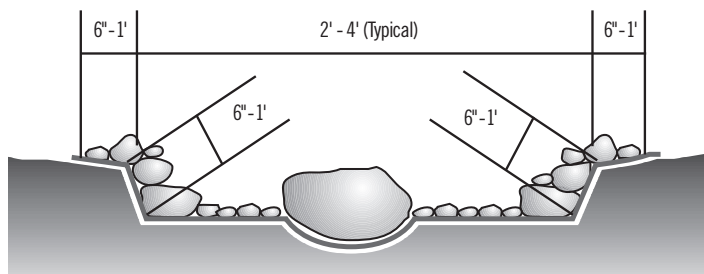
- A deep stream is simply an extension of the pond itself. By adding a deep stream to a pond, you allow the fish from the pond to swim to other areas that would otherwise not be possible. One important construction technique you will need to master, is a double-seam.

**Fig. 15**

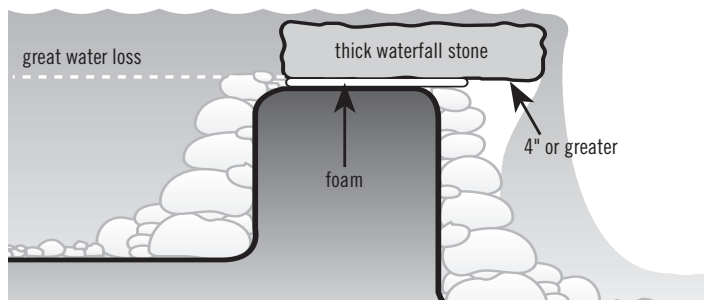
**Flat Backyard:** This is easy to work with; you may need to bring in fill material if you want a fast-moving stream. Otherwise, do a combination of deep stream with fast upper stream.



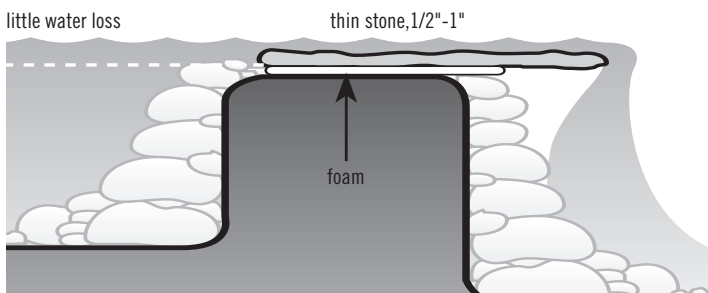
**Fig. 16 Stream Bed Cross Section**



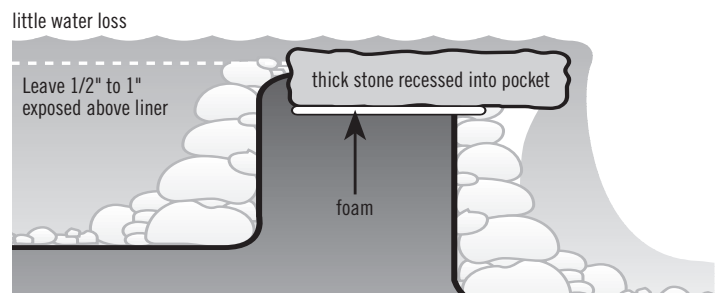
**Fig. 17**



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.



By using a thin stone, the situation can be easily remedied.



If your only option is a thick waterfall stone, use the above method.

## STEP 3

### 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 4

### Build the Retaining Wall

- Finish off the berm where the MicroFalls® 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 5

### Plug in and Tweak the Waterfall

- As soon as the Pond/Pondless® Waterfall feature is filled and all of the black waterfall foam is dry (if used on project), you may plug the pump in and test the waterfall.
- You can “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.

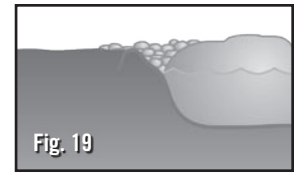


## STEP 6

### Trim the Liner

With everything running, go around the perimeter of the pond with a pair of scissors and trim off any excess liner (**See fig. 18**), always leaving several inches above the water level as a precaution. The remaining liner edges can be covered with gravel. (**See fig. 19**)

**Note:** Do not trim the liner until the waterfall is running and the pond is filled to the desired level. Prematurely trimming the liner may cause leaks!



## STEP 7

### Mulch the Berm

- The entire area surrounding the pond can now be mulched and any surrounding plants added.



## STEP 8

### Clean Up

- You're at the final stages of the project! All that is needed now is to clean up the mess you've made around the yard.



## STEP 9

### Owner's Manual and Bacteria

- Refer to the following pages in this instruction booklet for care and maintenance of your new water feature.
- The pond kits include water treatments designed to reduce maintenance and keep the water crystal clear. Contact your installer or

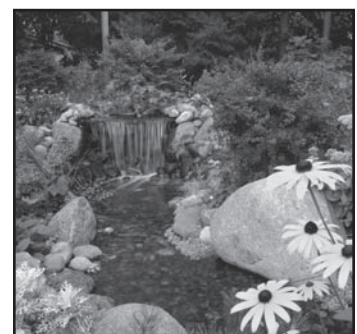
supplier for more information on the complete water treatment line available from Aquascape.



## STEP 10

### ENJOY!

No further explanation needed for this step!



For more information on care and maintenance, please refer to Aquascape's *Ecosystem Pond* or *Pond Building for Hobbyists* books or visit [www.aquascapeinc.com](http://www.aquascapeinc.com)