

PRO-Fit[™] System

PondSweep[®] Skimmer

Installation Instructions & Owner's Manual

- **Step-by-Step Installation
Instructions for the
PondSweep[®] Skimmer**



PRO-Fit[™] System

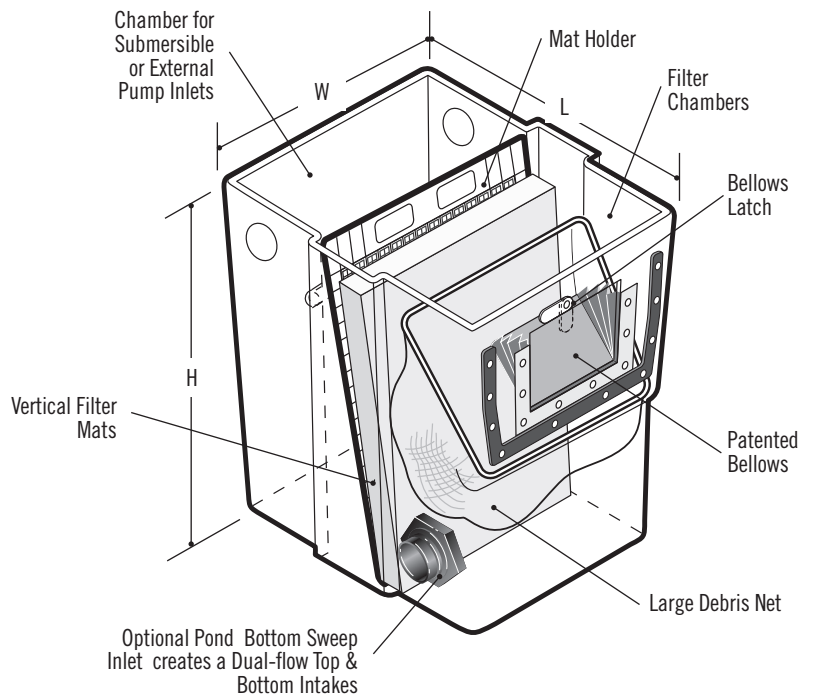
PondSweep[®] Skimmer

Installation Instructions & Owner's Manual

Congratulations on the purchase of the AquascapePro[™] PondSweep[®] Skimmer.

Thank you for choosing an Aquascape PRO-Fit[™] System. Because we understand that your 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[™] System is designed to be used with different product lines, each PRO-Fit[™] System will come with 2 sets of instructions: one for the skimmer (or MicroSnorkel[™] and Micro-Centipede[™]) and one for the BIOFALLS[®] (or Endless Cascades[™]). During the construction of the pond, you may have to refer to one or the other for the necessary steps.



STEP 1

Locate & Mark Out Your Pond Area

- We suggest that you use a plain old garden hose to define the shape of your new water feature. The hose is flexible, and can be pushed and pulled in various shapes. Step back, evaluate and modify your design until you have something that you really like.
- Double check to make sure the length and width of your layout does not exceed the amount of liner required for the pond.
- Be sure to locate the water garden close to a patio, deck, porch, or other hardscape. Also, keep in mind viewpoints of the water garden and waterfalls from inside. Try to make it visible from the kitchen, family room, or bedroom for year-round enjoyment.
- Once the water garden is shaped and defined with the hose, take a can of brightly colored, highly visible spray paint and outline the shape (around the hose) on the grass. (See fig. 1)



Fig. 1 Spray paint and outline the shape.

STEP 2

Place filters into position

- Since the BIOFALLS® filter is typically the main waterfall, it should be positioned so it's facing the main viewing areas.
- Make sure it is placed close to the edge of the Pond so you can use the pond liner to connect up to the BIOFALLS® filter - unless you're adding a stream. Adding a stream will require the BIOFALLS® filter to be set further away from the Pond and will require an extra section of stream liner.
- In order to maximize circulation, the BIOFALLS® filter and Skimmer are ideally placed on opposite ends of the pond, directly across from each other. (See fig. 2)

STEP 3

Lay plumbing

- To eliminate the need to dig a trench, lay the PVC flex pipe in place, along the edge of the pond, before excavation.
- The PVC flex pipe can withstand extreme weather conditions so it is unnecessary to dig a deep trench.
- To eliminate the frozen and potentially broken PVC flex pipe, the pipe should be sloping down from the waterfall to the skimmer or to help drain as much water from the line as possible.

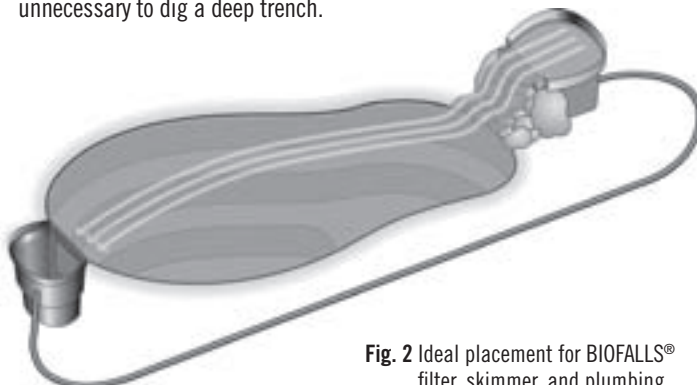


Fig. 2 Ideal placement for BIOFALLS® filter, skimmer, and plumbing.

On the Level

When excavating, it is important to make sure that all of the edges are level. This is not only to avoid an unexpected low edge, but also to make sure that the skimmer sits at the proper height to skim. There are several different methods that can be used to level, depending on the resources that are available. The most accurate method is to use a transit, either sight or laser, and take several readings around the perimeter. Transits need to be rented or bought, however, and may not be the most practical option for a one-time installation. There are two other options that utilize more common household items and may be more convenient. First, you can take a standard 2"x 4" board and lay it

across the pond or basin with a common bubble level resting on the center. The level will show if the two sides are even, and all sides can be measured in the same way by altering the angle of the board across the pond. The second method is to use a line level. A line level is basically a small bubble level attached to the end of a string. The other end of the string is then attached to a stake that is placed at any point around the perimeter. The level is then walked around and readings are taken at several different points to ensure the sides are even. Remember, the pond does not have to be perfectly level, but general readings should be taken to avoid any major problems.



At this point, please refer to the "Hook Up and Level BIOFALLS® Filter / Endless Cascade™ Manual!

STEP 4

Excavate your Pond

The shape and depth

- We suggest excavating the pond no more than 18-24" deep. This depth provides the proper water levels required for aquatic plants and is deep enough to keep fish alive during winter. See the maintenance section for more information on caring for fish.
- The excavation should be dug with a series of shelves. The shelves will add stability to the walls of the pond and will also create planting beds for different types of aquatic plants.
- The first shelf should be about 8-10" down (See fig. 3) or the height of a standard shovel.
- The second is typically down another 8-10" (See fig. 4).
- The third shelf (if desired) will be excavated down another 6" (See fig. 5), reaching a final excavation of 24".
- All of the soil removed from the excavation can be spread and compacted around the BIOFALLS® filter, creating a berm. The filter should be completely surrounded by soil by the end of the project.

Design spaces for plants

- Design your shelves wider in areas where you wish to place aquatic plants. (See fig. 8)
- Marginal and bog plants require a water depth up to about 10", so the top shelf is a perfect location for these plants. (See fig. 8)

- Water lilies will vary according to species, but a depth of 12-24" at the crown works best, so the second shelf or bottom of the pond will work great for the lilies. (See fig. 8)
- To make planting lilies easier add a few 'lily pockets'. These pockets are simply depressions or bowls cut into the soil 6-8" deep and 10-16" in diameter. The goal is to create a natural looking pond, and this is easier if plant pots are eliminated or completely hidden. (See fig. 8)
- It is typical to set the water level 2- 3" below the main viewing area (patio, deck, etc.). This will bring the water level of the pond up close to the edge of the pond without going over the sides. (See fig. 6)
- Dig a hole alongside the pond to house the skimmer filter.
- The skimmer should be excavated down to a depth so that the proposed water level in pond is approximately 3/4 inch below the top of the opening of the skimmer. (See fig. 7)
- Make sure the excavated shelf in front of the skimmer is low enough to provide access to the lower screws of the "U" frame.
- Re-check all your measurements, including length and width of pond, plant shelf depth, and overall pond depth.

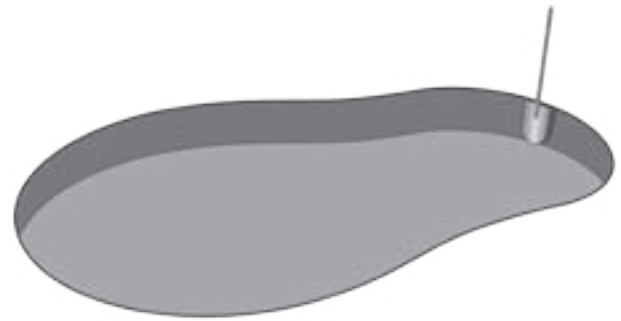


Fig. 3 Dig entire pond one shovel depth.



Fig. 4 Dig second shelf one shovel depth and start excavation of skimmer hole.

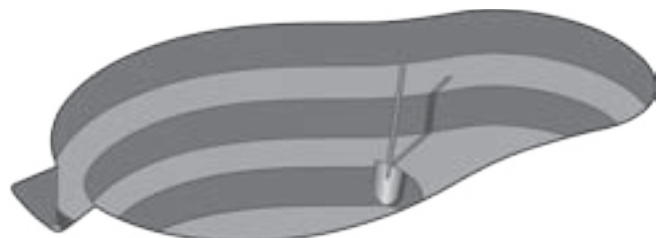


Fig. 5 Dig a third shelf, if desired.

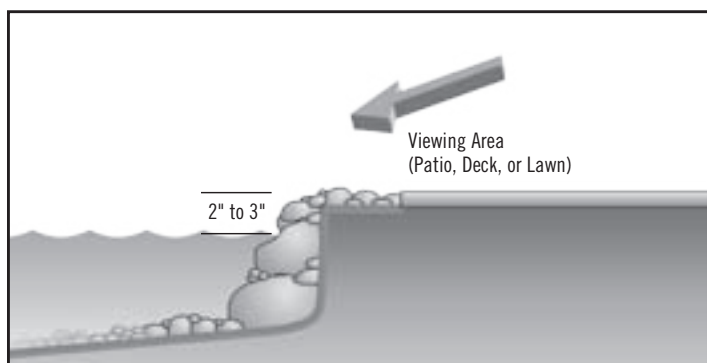
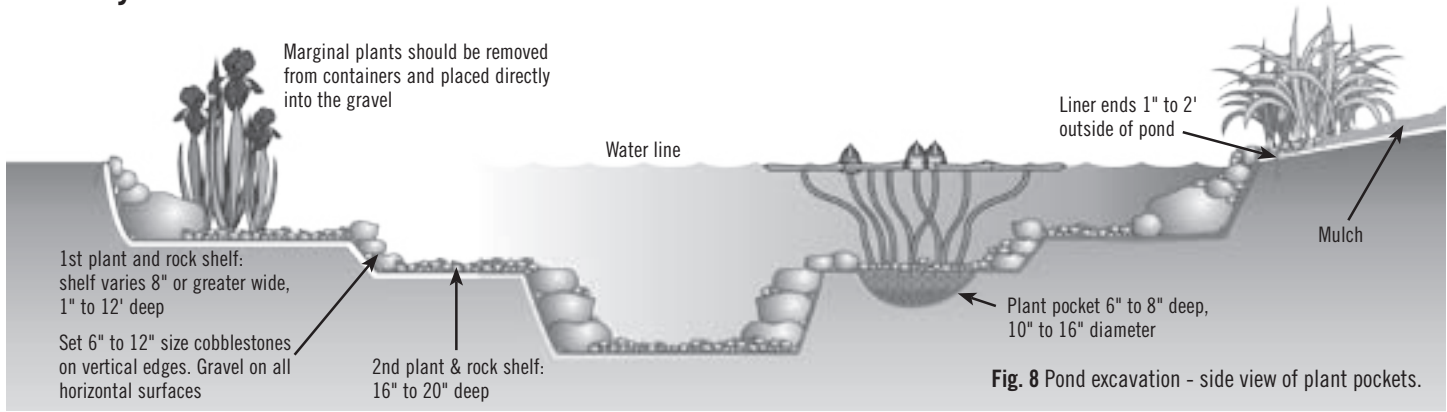


Fig. 6 Set water level 2" - 3" below viewing area.



Fig. 7 Dig the pond to its max depth and finish excavation of the skimmer hole.

Excavate you Pond cont ...



STEP 5

Install Underlayment and Liner

- Remove any sharp objects from the excavated hole that may damage the liner.
- Unfold the underlayment fabric and place it into your excavated pond. Starting from the bottom, remove the slack from the underlayment, making sure it conforms into all of the elevations.
- Now place the EPDM Fish-Safe liner on top of the underlayment. (See fig. 9)
- The installation process is the same as the underlayment, starting at the bottom and contouring the liner up and out of the pond.
- Try to get the large folds out, but the main goal is to make sure that it's lying flat and going into all corners. Don't try to get it perfect—you will hide the liner with rocks and gravel later.
- Make sure the liner is high enough around the edges of the pond. This should not be a problem if you measured out the pond and excavated it correctly. Problems can be fixed by readjusting the liner into the excavation, backfilling (making the pond smaller) in areas where there is not enough liner, or simply buying a larger liner.



Fig. 9 Place the liner on top of the underlayment following the same installation procedures. Make sure liner is positioned in such a way that allows it to extend and completely cover the opening of the skimmer.

STEP 6

Installing the Skimmer

Set up and Level the Skimmer

- You've already roughed out a hole for the skimmer during the excavation phase. Use a 2' bubble level in order to make sure your Skimmer is properly set into position. Your Skimmer should be level from side-to-side and front to back.
- Make sure skimmer is set so the desired water level in the pond is approximately 3/4" below the top of skimmer opening. (See fig. 10)
- Install any cross braces before backfilling
- Once the skimmer is set, the outside pipe from the waterfalls may be inserted into the hole on the side. Do not cut off this pipe until installing the pump. The trench for this pipe can be backfilled once it is inserted into the skimmer box.

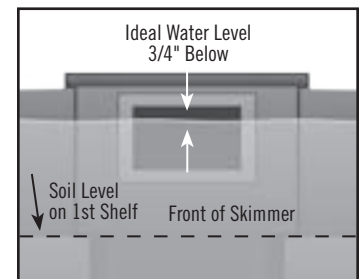


Fig. 10 Cross section of ideal water level viewed from front of skimmer.

Attaching the Liner and Bellows Weir for the SK302P, SK700PRO, SK900PRO

- Apply a bead of silicone to the face of the skimmer. (See fig. 11)
- Place the liner against the skimmer and hold it in place with the supplied clips. Make sure that there is enough slack in the liner in the front of the skimmer. This will prevent the liner from pulling away if there is any settling. (See fig. 12)
- Install the “U” frame using an awl to help align the holes. Start at the top of the “U” frame and using the awl as a guide, start your first screw. Next, install the top screw on the other side and then repeat with the rest of the screws. (See fig. 13-15)
- With all of the screws started, cut the liner using the inside of the “U” frame as a guide. (See fig. 16)
- Tighten screws squishing out the silicone along entire edge of “U” frame. Apply a second bead of silicone to inside edge of frame and smooth out with your finger. (See fig. 17-18)
- Insert the ratchet fasteners into bellows from the outside of flap as shown. (See fig. 19)
- Pull the bellows flap through the skimmer opening and secure to the skimmer with the fasteners. (See fig. 20-21)
- Install the latch tab with the supplied nut and bolt. (See fig. 22-23)

CAUTION: Be careful when using power screwdrivers or powered drills when installing the screws or bolts. Over tightening can crack the liner retention frame and can strip the holes in the vault



Fig. 11 Apply a bead of Silicone to the face of the skimmer.



Fig. 12 Place the liner against skimmer and hold in place with the supplied clips.



Fig. 13 Install the “U” frame using an awl to help align the holes.



Fig. 14 Start at the “U” frame and using an awl as a guide start your first screw.



Fig. 15 Install the top screw on the other side and then repeat with the rest of the screws.



Fig. 16 With all of the screws started, cut the liner using the inside of the "U" frame as a guide.

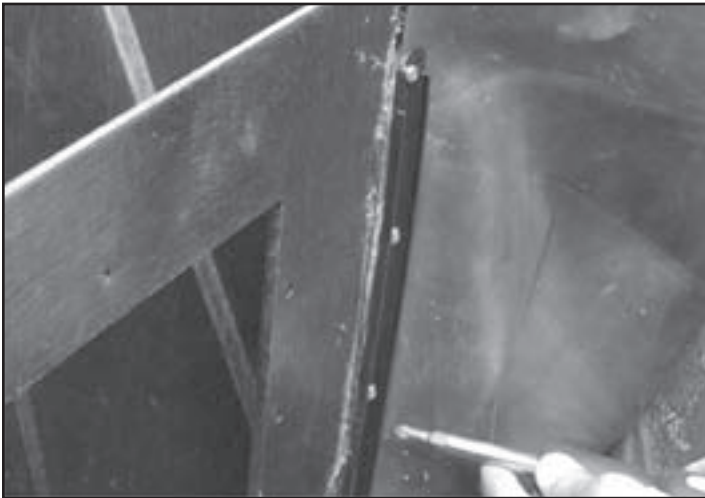


Fig. 17 Tighten the screws squishing out the silicone along the edge of "U frame.



Fig. 18 Apply a 2nd bead of silicone to the inside edge of frame and smooth out with your finger.



Fig. 19 Insert the ratchet fasteners into bellows from the outside of flap.



Fig. 20 Pull the bellows flap through the skimmer opening and secure to the skimmer with the fasteners.



Fig. 21



Fig. 22 Install the latch tab with the supplied nut and bolt.



Fig. 23

Attaching the Liner and Bellows Weir for the SK1200PRO

- Make sure that there is enough slack in the liner in the front of the skimmer. This will prevent the liner from pulling away if there is any settling. Drape the liner over the front of the skimmer and attach it using the spring clips. Check that the liner is smooth across the face of the skimmer. (See fig. 24)
- Attach the liner retention frame using the top two holes before cutting the liner. Cut the liner even with all four sides of the opening in the skimmer vault, being careful not to stretch the liner. (See fig. 25)
- Apply a bead of silicone between the liner and the skimmer vault following the hole pattern in the vault. Gently

press the liner to the silicone to spread the silicone.

- Pass the bellows flange through the opening from the inside, placing it on top of the liner and between the liner and the frame. This step is easier if the latch tabs are used to hold the bellows in place. (See fig. 26)
- Now install the remaining screws through the retention frame, the pre-punched bellows hole, and then the liner. Tighten all screws to spread the silicone and seal the liner to the vault. Be careful not to over tighten any screws. (See fig. 27)

Note: Power tools are not recommended for installing the screws and may strip the nut inserts.

- Let dry for at least one hour before introducing water!

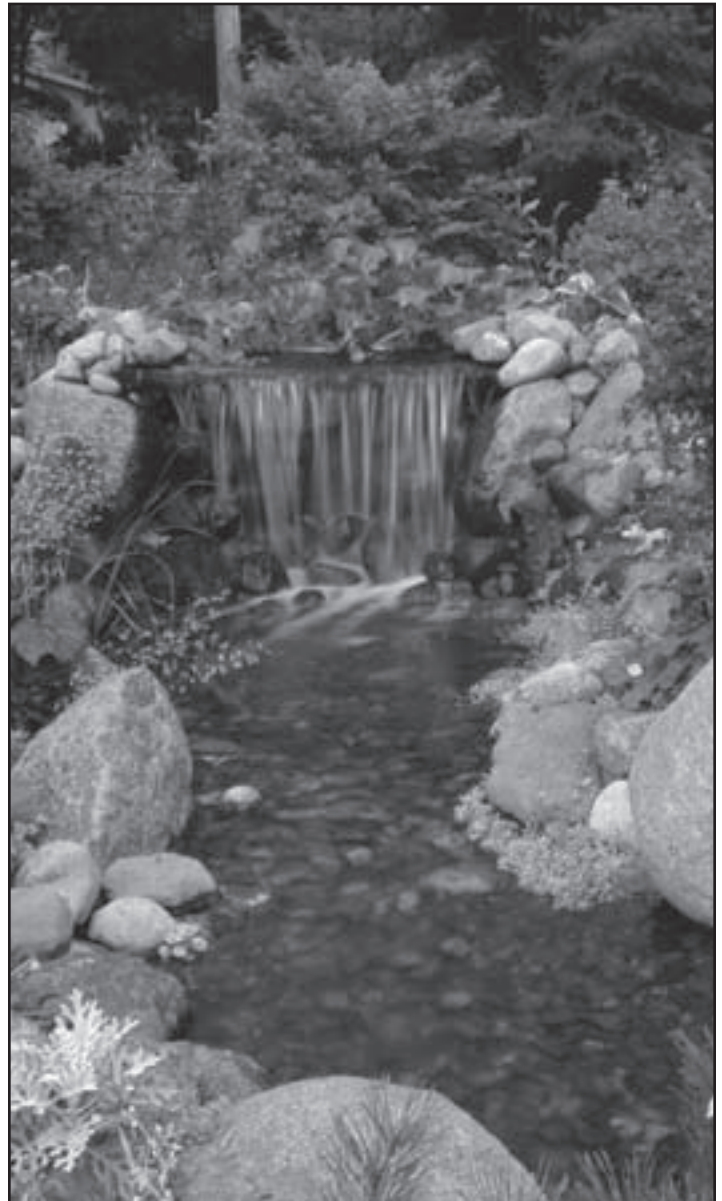




Fig. 24 Drape the liner over the front of the skimmer and attach it using the spring clips and check that the liner is smooth across the face of the skimmer.

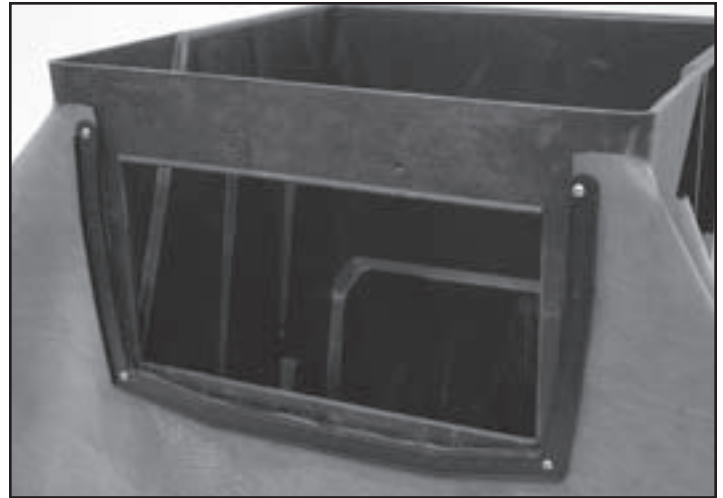


Fig. 25 Cut the liner even with all four sides of the opening in the skimmer vault.



Fig. 26 Pass the bellows flange through the opening from the inside, placing it on top of the liner and between the liner and the frame.

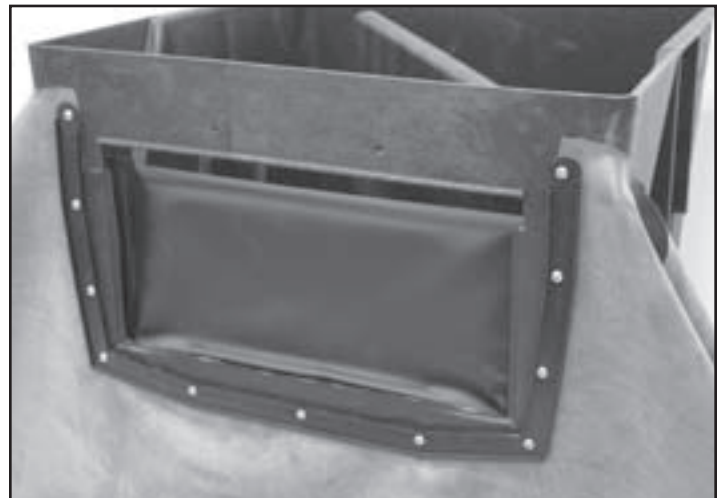


Fig. 27 Tighten all screws to spread the silicone and seal the liner to the vault.

STEP 7

Add Rock and Gravel

- You can expect to use several tons of stone and gravel for your water feature. Talk to your dealer for help choosing the quantity and sizes of stone and gravel.
 - Be careful when placing any large boulders so you don't damage the liner.
 - The opening on the front of the skimmer can be hidden by placing boulders on either side and bridging a stone across, creating a cave effect.
- Rocking in the Pond**
- Start from the bottom and set the largest character boulders first against the vertical walls; then stack the smaller boulders on top. (See fig. 28)
- Note:** Make sure the boulders do not block the water flow into the skimmer.



Fig. 28 Starting at the bottom, set the largest character boulders first then fill in with the smaller ones.

Add Rock and Gravel cont ...

- Cover all remaining flat surfaces with a couple inches of decorative gravel. This will help lock the boulders in place, as well as cover the remaining liner, protecting it from ultraviolet rays, and giving bacteria a place to colonize, not to mention it just looks better.
- This is also a good time to add lilies to the plant pockets. Remove the lily from the pot and place it into the lily pocket. Top-dress the lily with a layer of gravel to hold the soil into place. Lilies, if not on hand at this time, can be added after the pond is filled. (See fig. 29)

Underwater Lights

- After the boulders are in position, set your underwater lights in between your boulders so they are hidden from view. For the greatest effect, lights should face away from the main viewing area. (See fig. 30)
- See lighting system instructions for placement, positioning, and installation of underwater lights.
- 10-watt waterfall lights can be installed in the stream and waterfall later in the project.



Fig. 29 Loose gravel should be placed around the lily to keep the soil from being stirred up in the pond after the water is added.



Fig. 30 Set your underwater lights in between your boulders so they are hidden from view.

STEP 8

Wash Rocks and Gravel

- Using a garden hose, rinse the rocks and gravel from the highest part of the pond down to the bottom.
- Place an AquascapePro clean-out pump or the pump purchased with the pond kit in the lowest

area of the pond. Use discharge hose or an extra section of PVC Flex pipe to pump the muddy water. This step helps the pond clear up faster.



STEP 9

Connecting the Check Valve to the Pump

- If you have helpers, while the waterfall is being constructed, one person could be working on the installation of the pump, check valve, filter mats, and overflow. (fig. 31 and fig. 32)

Important: Bring the pipe through the side of the skimmer before attaching the fittings.

- Remove the threaded collar and slip the pipe adapter from the check valve. **Make sure that you**

put the threaded collar on the pipe before you glue the fitting on the pipe.

- Slide the threaded collar onto the flexible PVC pipe.
- Using the flexible PVC primer and glue, attach the slip pipe adapter to the flexible PVC pipe, and thread the check valve into the pump discharge and place the pump into the skimmer box.

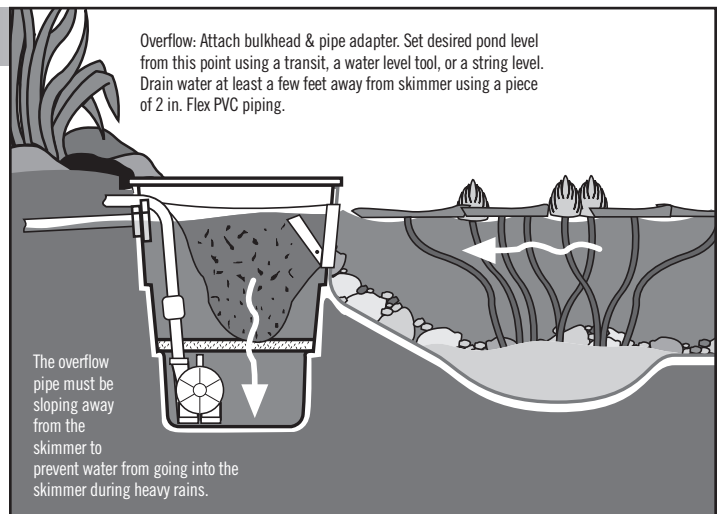
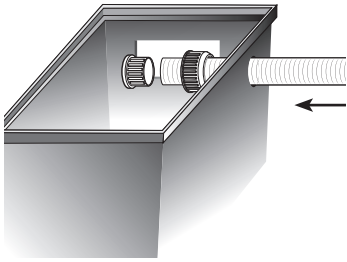
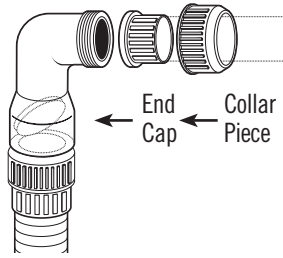


Fig. 31 Pond Overflow

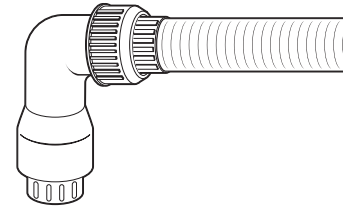
Fig. 32 Check valve assembly.



1. Feed flex PVC pipe through back of skimmer first.



2. Slide collar piece over PVC, then glue pipe end cap to PVC tubing.



3. Slide collar up to check valve and hand tighten. It's as simple as that!

STEP 10

Fill Pond

Fill up the pond with water. The pond should be filled just below the level of the overflow in the skimmer.



Optional Items to Enhance Skimmer Performance & Lower Maintenance

Optional Brushes

The 700, 900, and 1200 skimmers can be fitted with 4" diameter brushes to improve the filtration capacity of your skimmer. These are easy to install using the instructions supplied with these brush kits. The brushes collect debris before the mat and therefore extend the time interval between mat cleanings. (fig. 33-36)

The benefits of Brushes:

1. Collect pond debris without blocking the flow of water.
2. One row of brushes holds as much dirt as two mats.
3. Skimmers can hold more debris before they need to be serviced.
4. Brushes protect the mat and prevent it from clogging.
5. Use both brushes and a mat to ensure proper brush cleaning.

Bottom Sweep Assembly

Your PondSweep® Skimmer works even better using the optional Bottom Sweep. Each Bottom Sweep kit comes with detailed instructions. The Bottom Sweep option is a simple plumbing addition to new or old ponds that pulls water & debris from the pond bottom into the skimmer box. (fig. 37)

The benefits of Bottom Sweep:

1. A cleaner pond. Less chance for debris to accumulate at the pond bottom.
2. A clearer pond.
3. Less need to fully drain a pond for complete maintenance.
4. Better water quality, especially for larger fish like koi or high fish loads typical of older ponds.

Different Brush Configurations



Fig. 33 SK700PRO with one row of brushes and the mat in front position. Must have high pond water level so bellows remain close to vertical position.



Fig. 34 SK700PRO with one row of brushes and the mat in rear position. Use with external pumps.



Fig. 35 SK900PRO with one row of brushes and the mat in middle position. (Net not shown)

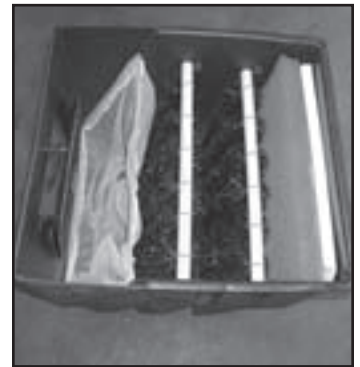


Fig. 36 SK900PRO with two rows of brushes and the mat in rear position. Use with external pumps.

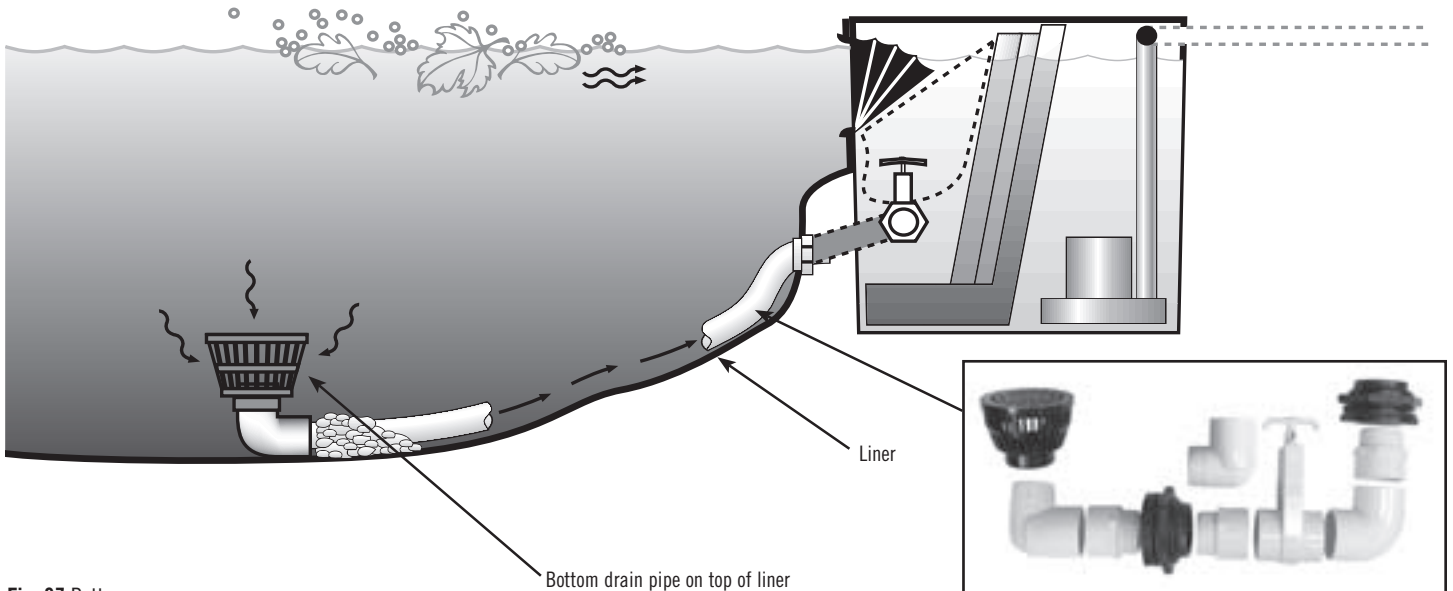


Fig. 37 Bottom sweep.

Bottom drain pipe on top of liner

Bottom sweep components

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