

## **PONDBUILDER ECO-SYSTEM**



A Biological Waterfall Box

Filters harmful waste and toxins from water, keeping your pond clean and clear. Provides excellent surface area for beneficial bacteria growth while making a simple and artistic way of creating a waterfall. Easy to camouflage-especially when using the Landscape Lid<sup>™</sup>M.

Black PVC Flex Hose

Carries water from skimmer box up to the biological waterfall box. Much easier to install than rigid PVC.

**Aquatic Plants** 

Add beauty to any pond! Plants can be placed throughout or along the pond's edge. There are many varieties: floating, marginal, sinking, oxygenators and lilies. Watergarden kits are great when your desire is to keep many colorful and beautiful adquatic plants.

**Rocks & Gravel** 

Provides additional surface area for beneficial bacteria to colonize. Protects liner from harmful UV rays and damage from animals. Creates a very natural look.

F Fish

Adding colorful koi and goldfish creates an even more dramatic display. Watergardens are great for Goldfish and Koi.

F High-Efficiency Pump

Pump sits in back pump chamber protected from clogging by nets and filter mats. PondBuilder pumps are recommended as they will use far less electricity and are meant to operate continuously.

**G** Mechanical Skimmer Box

Simplifies routine maintenance by removing floating debris before it sinks to the bottom of the pond. Protects the pump and hides unsightly plumbing.

Protective Underliner

A non-woven, protective underliner fabric forms a soft padding for the liner.

Fish-Friendly Rubber Liner

Super-strong Rubber EPDM liner is the best choice when building a pond. Very flexible - conforms to pond's curves and slopes.



STEP 1

### Choose Skimmer Location

 a. The skimmer should be positioned at the pond edge, opposite the waterfall, to circulate the water properly.

#### **Excavation of Skimmer Area**

- Set skimmer box in intended area and spray outline of skimmer for area to be excavated.
- b. The skimmer should be positioned so that the face of the skimmer will meet with the pond liner at the side of the pond. Excavate the hole a few inches larger than the width and length of the skimmer box.
- c. The skimmer should be set at a depth that positions the top of the skimmer box approximately 5" above your desired pond water level. This will set your water level 1" below the top edge of the snout opening allowing clearance for surface debris to flow into the skimmer during normal operation.

# STEP 3

### **Install Overflow Assembly**

a. From inside the skimmer, screw the threaded PVC 90 degree elbow into the overflow spinweld located on the back of the skimmer box (use Teflon tape on the threads). You can rotate the elbow fitting to one side to control the pond water level. The water level in the pond and skimmer will be able to rise until it begins overflowing into the top of the elbow. The further the elbow is angled down the lower the maximum pond water level will be maintained.

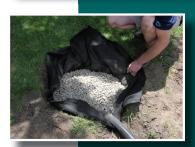
Use additional flexible hose to take overflow water from skimmer to drainage or low area.



















b. From outside the skimmer, screw the male adapter into the overflow spinweld (use Teflon tape on the threads). Then glue flexible PVC hose into the male adapter and run the hose to wherever you'd like the overflow water to drain to.

### STEP 4

#### **Insert UniSeal Fittings**

a. From outside the skimmer, insert the UniSeal rubber fittings into the pipe discharge holes of the skimmer. When you are ready to run your pipe into your skimmer you will slide the pipe in through the UniSeal (you may need to lubricate the UniSeal slightly to slide the pipe through). If you are only using one discharge line insert the PVC slip plug into the unused UniSeal.

### STEP 5

### **Install Automatic Water Fill Assembly**

- a. If you have purchased the optional Pond-Builder Automatic Water Fill Assembly for this system install it now using the instructions provided with the auto-fill kit.
- b. If you are not using the auto-fill kit, from the outside of the skimmer, install the plug into the auto-fill spin weld.

# STEP 6

#### **Position & Backfill Skimmer**

- a. Your skimmer should be level from front to back and side to side.
- Make sure the base below your skimmer is compacted well to prevent settling in the future.

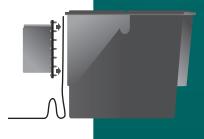
- c. Once the skimmer is properly positioned insert the support pipe and begin filling the soil in around the back and sides. Be sure to pack the soil as you go to help keep the skimmer in position and to limit any settling around the skimmer. You should pack the soil tight enough so that the skimmer is held in position tightly but not so much as to distort the sides of the skimmer.
- d. When installing the larger skimmers, it helps to have someone stand inside the skimmer during the backfill process to keep the skimmer from moving while you are packing the dirt around it.



#### **Attach Rubber Liner to Skimmer**

- a. Bring the liner up to the skimmer and check the positioning of the liner against the skimmer. Use the liner clips to temporarily hold the liner to the face of the skimmer. Be sure the liner follows the contours of the pond and the face of the skimmer. It is a good idea to leave a little slack in the liner where it transitions from the pond ledge to the face of the skimmer. This will ensure that the weight of any rockwork and water in the pond do not pull down on the liner where it is attached to the skimmer.
- b. Kneel in front of the skimmer and have the following within reach: cordless screwdriver (set to lowest torque), 5/16" nut driver bit, 3" bit extension, plastic nail (included), skimmer snout (included), silicone (included), stainless steel self-drilling screws (included), black vinyl screw caps (included), utility knife (with new blade), & a clean rag.
- c. Kneeling in front of the skimmer remove the liner clips and fold the liner back toward you leaving it rest on your lap. Using the clean rag wipe down the face of the skimmer. Also, wipe the surface of the liner that will be coming in contact with the area you cleaned on the skimmer box.















- d. Apply a bead of silicone along the sides and bottom of the opening of the face of the skimmer. Use one of the two guide holes at the top corners of the opening as the starting point and begin by running your bead straight down from that point. The bead of silicone should be about an inch out from the edge of the opening; this will position it in-line with the screws when we attach the skimmer snout.
- e. Bring the liner back up into position against the face of the skimmer. Hold the liner in place again with the liner clips to help keep it from moving around as we prepare to attach the snout. Gently run your fingers along the liner over the area you applied the silicone and flatten the bead out slightly. This will help ensure a more even distribution of the silicone as we compress it while screwing down the snout.
- f. Push the guide nails through the guide holes and liner from the inside of the skimmer (this will puncture a small hole in the liner). Place the snout into position by sliding the top corner holes of the snout over the guide nails. (The snout should be installed so that the snout door hinges at the bottom). While holding the snout in position remove one of the guide nails and drive the first screw into that hole. Keeping the snout in position, remove the other guide nail and drive a screw into the second guide hole. With the snout now held into position by the first two screws, continue driving the remaining screws into the pre-drilled holes around the snout. Be sure to install screws into all pre-drilled holes to prevent water from leaking around the snout.
- g. From inside the skimmer use your utility knife to cut out the liner in the snout area so water can flow from the pond into the skimmer. Simply follow the edge of the skimmer opening with your knife to cut away liner. This works best with a new, sharp blade.

- h. At this time you can also trim away any excess liner that extends above the front top edge of the skimmer box.
- i. Use your remaining silicone to run an additional bead along the joint inside of the snout where the skimmer, liner, and snout come together. Use your finger to smooth out the excess silicone.

#### **Install Black Screw Caps**

a. Push the black screw caps onto each of the screw tips on the inside of the skimmer box. We recommend placing a small dab of silicone on the end of the screw first before pushing the black cap over the screw. This will help keep the screw caps in place.

# STEP 9

### Install Submersible Pump (not included)

- a. Screw your pre-assembled pump discharge assembly into your pump.
- Position your pump and discharge assembly in the back chamber of the skimmer so that the top of the discharge assembly faces your chosen discharge hole.
- Bring the flexible pipe into the skimmer through the discharge hole/UniSeal and attach it to your discharge assembly.
- d. Run the pump power cord over to the power source and position the cord so that it transitions out of the skimmer at the cord notch; this will allow the Natural Landscape Lid to sit flush on the skimmer.

















#### **Finishing Touches**

- a. Slide the mechanical media mat into position.
- Slide the black mesh skimmer net into position.
- c. During normal operation the skimmer net will remove larger leaves and debris while the mat will remove the smaller particles allowing the clean water to flow into the pump chamber area where it can be recirculated back to the pond, preferably via the appropriately sized PondBuilder Biological Waterfall Filter.
- d. Place Natural Landscape Lid on top of skimmer to disguise the skimmer within the landscape.



View the skimmer attachment steps and a complete water garden installation on the PondBuild 'n Steps DVD.





### **SKIMMER MAINTENANCE**

a. Remove Net & Mat to Clean: The net & mat located inside your skimmer will become filled with leaves and other debris. Unplug your pump so that the skimmer is no longer operating. Remove the debris net and mat and clean. Reinstall the net and mat into position and plug your pump back in.

