



**Crystal Falls
Waterfall & Skimmer
Installation Manual**

PONDBUILDER

Manufacturers of Quality Pond Equipment & Supplies

Item #PBCFIM

CRYSTAL WATERFALLS INSTALL



STEP 1

Choose Waterfall Location

- The waterfall should be positioned so that the water flowing from it enters the pond opposite the skimmer to ensure proper water circulation. The waterfall is best positioned so that you can view it from the outdoor and indoor areas where you plan to enjoy your new water feature.
- You can position the waterfall right at the ponds edge or at the top of a stream.



STEP 2

Assemble Waterfall Plumbing

- Your PondBuilder Crystal Falls Waterfall Box has one spinweld fitting, located on the side of the bottom of the box. Thread the PVC male adapter (included) into that spinweld (use the Teflon Tape included on the threads first).



STEP 3

Position Waterfall Box

- Compact the area where the waterfall box will sit to prevent future settling. The waterfall box should sit level from side to side and should be tilted forward slightly (about ¼ bubble on your level) to ensure that the water flows forward through the spillway.
- Using soil, backfill around both sides and the back of the waterfall box.



STEP 4

Hook-Up Flexible PVC Pipe

- The Crystal Falls Waterfalls are plumbed to accept 1.5" Flexible PVC Pipe. We recommend using Flexible PVC pipe as it is very flexible and easy to work with.
- Using PVC Primer & Cement, glue the flex pipe into the PVC male adapter.



STEP 5

Attach Liner to Waterfall

- a. Bring the liner up to the face of the waterfall box and check the positioning of the liner against the waterfall box. Use the liner clips (included) to temporarily hold the liner to the box. The liner should follow the contours of the pond edge or stream and the face of the waterfall box. It is a good idea to leave a little slack in the liner where it transitions from the pond edge or stream to the face of the waterfall box. This will ensure that the weight of the rocks used in the waterfalls will not pull down on the liner once it is attached to the waterfall box.
- b. Kneel in front of the waterfall and have the following within reach: cordless screwdriver, 5/16" nut driver bit, waterfall weir (included), silicone (included), stainless steel screws (included), black screw caps (included), utility knife (with new blade), and a clean rag.
- c. Kneeling in front of the waterfall box remove the liner clips and fold the liner back toward you leaving it to rest on your lap. Using the clean rag wipe down the face of the waterfall box around the area where silicone will be applied. Also clean the area on the liner that will be coming in contact with the area you cleaned on the waterfall box.
- d. Apply a bead of silicone along the sides and bottom of the opening on the face of the waterfall, keeping the silicone bead centered the entire way.
- e. Bring the liner back up into position against the face of the waterfall. Hold the liner in place again with the liner clips to help keep it from moving around as we prepare to attach the waterfall weir. Gently run your fingers along the liner over the area where 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 when we screw down the weir.
- f. Bring the waterfall weir into position. Once in position begin driving the stainless screws





5f.



5h.



5i.

5i.



6a.



6b.

6b.



into place. Start with the top screw on the left and right first to hold the weir in position. Continue driving screws into the remaining pilot holes on the weir with your next screw going into the middle hole on the weir.

- g. Carefully trim out the section of liner inside of the waterfall area to open the channel where the water will flow through.
- h. Use the remaining silicone to run an additional bead along the joint where the waterfall box, liner, and weir come together. Smooth out the bead using your finger.
- i. From inside the waterfall box, place a small amount of silicone to the end of each screw. Then place a black screw cap on each screw.

STEP 6

Install Filter Media

- a. Position the filter mat horizontally in the bottom of the waterfall box. The Crystal Fall Waterfalls include one white mat.
- b. Fill the media bag(s) with biological media (not included) and position on top of the filter mats. We recommend using Bio-Twist media in the media bag(s) of the Crystal Falls waterfalls.

BONUS FEATURES

- a. Use PondBuild 'n Foam to fill in the gaps of the rockwork leading up to the waterfall box. The foam will force the water on top of the rockwork rather than around and behind it where it can't be seen. This will give you a much more dramatic waterfall display!

For additional installation instructions view the PondBuild 'n Steps DVD.

PondBuilder recommends the following products for use with their line of Biological Waterfall Filters:

BioTwist Media
PondBuild 'n Foam Waterfall Foam





CRYSTAL SKIMMER INSTALL

STEP 1

Choose Skimmer Location

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



1a.

STEP 2

Excavation of Skimmer Area

- a. 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 4.5" 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.



2a.



2b.



2c.

STEP 3

Position & Backfill Skimmer

- a. Your skimmer should be level from front to back and side to side.
- b. 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.



3a.



3b.



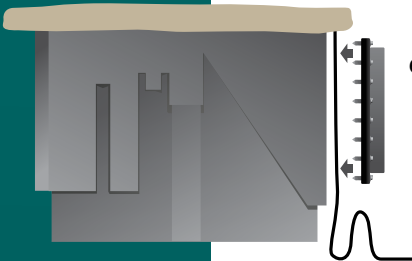
3c.

STEP 4

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, 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 held into position with 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.

STEP 5

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 6

Install Submersible Pump (not included)



- 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 the discharge hole.
- Bring the flexible pipe into the skimmer through the discharge hole and attach it to your discharge assembly.
- 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.

STEP 7

Finishing Touches



- Slide the white skimmer mat into position.
- Slide the black mesh skimmer net into position.
- 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 re-circulated back to the pond, preferably via the appropriately sized PondBuilder Biological Waterfall Filter.
- Place Natural Landscape Lid on top of skimmer to disguise the skimmer within the landscape.

PondBuilder recommends the following products for use with their line of Mechanical Skimmer Filters:

Clear Water & Solids Handling Pumps Check Valve Discharge Assembly

View other great PondBuilder products on-line at www.pondbuilder.com.



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