

PRO-Fit™ Systems

MicroSnorkel™ Vault & MicroCentipede™ Module

Installation Instructions & Owner's Manual

- **Step-by-Step Installation Instructions for the MicroSnorkel™ Vault & MicroCentipede™ Module**

Congratulations on the purchase of the AquascapePro™ MicroSnorkel™ Vault & MicroCentipede™ Module

Thank you for choosing an Aquascape PRO-Fit™ Systems. 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™ Systems is designed to be used with different product lines, each PRO-Fit™ Systems will come with 2 sets of instructions: one for the skimmer (or MicroSnorkel™ Vault and MicroCentipede™ Module) and one for the BIOFALLS® (or Endless Cascades™ BIOFALLS® Filter). 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 Pondless® Waterfall Basin

- 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 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 Pondless® Waterfall basin 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 Pondless® Waterfall basin and will require an extra section of stream liner.

STEP 3

Lay plumbing

- To eliminate the need to dig a trench, lay the PVC flex pipe in place, along the edge of the Pondless® Waterfall basin, 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 Pondless® Vault to help drain as much water from the line as possible. (See fig. 2)

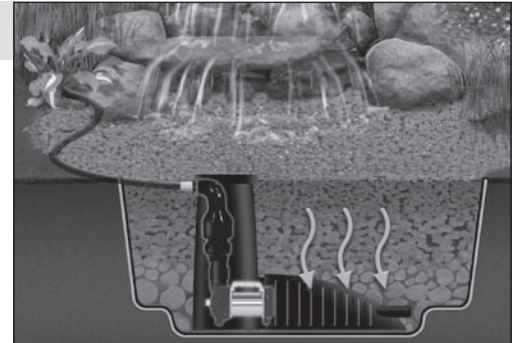


Fig. 2 Pondless® Waterfall Detail.

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

STEP 4

Excavate your Pondless® Waterfall Basin

The shape and depth

- We suggest excavating the basin no more than 24" deep. This depth provides the proper water volume in the basin to operate the waterfalls. (See figs. 3 and 4)
- 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. (See fig. 5)



Fig. 5 Soil backfilled around the BIOFALLS® filter helps hide the filter and creates a planting berm.

Excavate your Pondless® Waterfall Basin cont ...

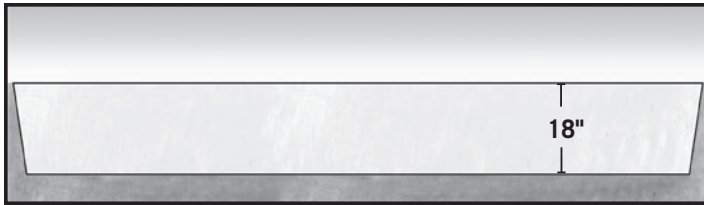


Fig. 3 First, dig entire basin to 18" depth.

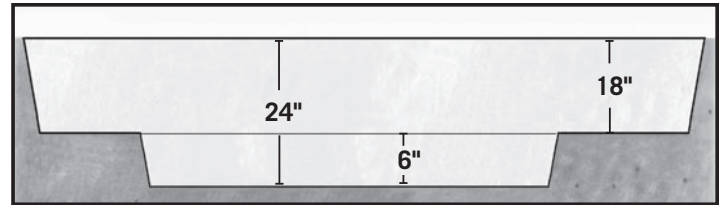
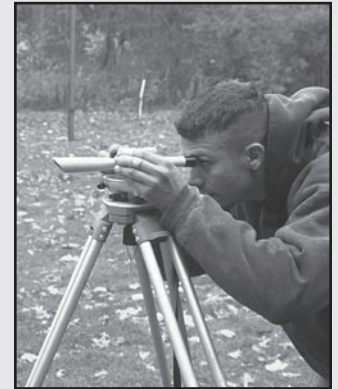


Fig. 4 Excavate the deep area of the basin.

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 or basin does not have to be perfectly level, but general readings should be taken to avoid any major problems.



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 Pondless® Waterfall basin. 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. 6)
- The installation process is the same as the underlayment, starting at the bottom and contouring the liner up and out of the Pondless® Waterfall basin.
- 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 Pondless® Waterfall basin. 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 Pondless® Waterfall basin smaller) in areas where there is not enough liner, or simply buying a larger liner.



Fig. 6 Place the liner on top of the underlayment following the same installation procedures.

STEP 6

Installing the MicroSnorkel™ Vault and MicroCentipede™ Module

Simply place the MicroSnorkel™ Vault and MicroCentipede™ Module back into their proper position on top of the liner. (See fig. 7)



Fig. 7 Place the MicroSnorkel™ Vault and MicroCentipede™ Module on top of the liner.

STEP 7

Add Rock and Gravel

Rocking in the Pondless® Waterfall Gravel

- Add the 1 1/2" to 2" size gravel into the basin up to the side of the Pondless® Waterfall Vault. (See fig. 21)
- A finishing layer of decorative gravel can be added to the top if desired.

- Set larger boulders (6" – 18") around the perimeter of the basin to support the edges of the liner. The plumbing from the BIOFALLS® filter should be brought over a slightly lowered edge of the liner and to the location of the Pondless® Waterfall Vault. Boulders and gravel can be used to hide the plumbing. (See fig. 22)



Fig. 21 Add the 1 1/2" to 2" size gravel.



Fig. 22 Set larger boulders (6" – 18") around the perimeter of the basin.

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.



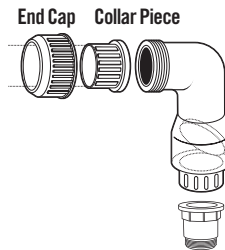
STEP 9

Hooking up the Pump and Plumbing

The PVC flex pipe from the BIOFALLS® filter can be trimmed to proper length and inserted through the slot on the side of the Pondless®

Waterfall Vault. Prime and glue the end of the PVC flex pipe and fitting on the end of the check valve assembly. Hold the pipe into the

fitting for at least 60 seconds. The cord from the pump can be buried just beneath the stone and gravel and run over to the electrical supply.



STEP 10

Fill Basin

Fill up the Pondless® Waterfall basin with water, typically to a point just below the gravel.



MicroPondless™ Waterfall Calculations:

How much water does the basin hold?

EXAMPLE: A 6' x 6' MicroPondless™ Waterfall Kit

- 6' x 6' = 36 sq. ft.
- Basin is only 80% of area, so 36 sq. ft. x 80% = 28.8 approximate sq. ft.
- 28.8 sq. ft. x 1.5 ft. average depth = 43.2 cubic feet
- There are 2.2 gallons in every cubic feet of rock and gravel so 43.2 cubic feet x 2.2 gallons = 95 gallons in between rocks and gravel

How do you determine the amount of rocks and gravel required for the basin?

- 90 lbs. of rocks and gravel in 1 cubic foot (1 1/2 to 2")
- EXAMPLE:** A 6' x 6' MicroPondless™ Waterfall Kit from above
- 43.2 cubic feet basin x 90 lbs. = 3888 lbs. of 1 1/2" to 2" of gravel

How much water is moving in the stream and waterfall?

- (Average stream depth in inches x .0833) x length (ft) x width (ft) = approximate gallons in the stream and waterfalls.

EXAMPLE: A 15 ft-long x 2 ft. wide stream and waterfall with an average depth of 2" (including spillways and pooling areas) comes out to (2" x .08333) x 15 ft. x 2 ft. = 4.9 cubic feet x 7.4 gallons/cubic feet = 37 gallons in stream/waterfalls

For more information on care and maintenance, please refer to the Owner's Manual included with this filter or Aquascape's *Pond Building for Hobbyists* books or visit www.aquascapeinc.com