

EasyPro™ pond products

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Installation Instructions for Skimmers, AquaFalls Filters and EasyPro Pond Kits



EasyPro pond kits include everything you need to build professional looking water features including the industry's best skimmers and filters.

Pond builders across the nation have discovered buying their ponds in a kit form is much easier than trying to piece together each job. When you buy a complete kit you know everything you need will be onsite and that all items will work together to give you a great looking pond.

Building beautiful water features is enjoyable when you use the right products. EasyPro Pond Kits make you look like you're

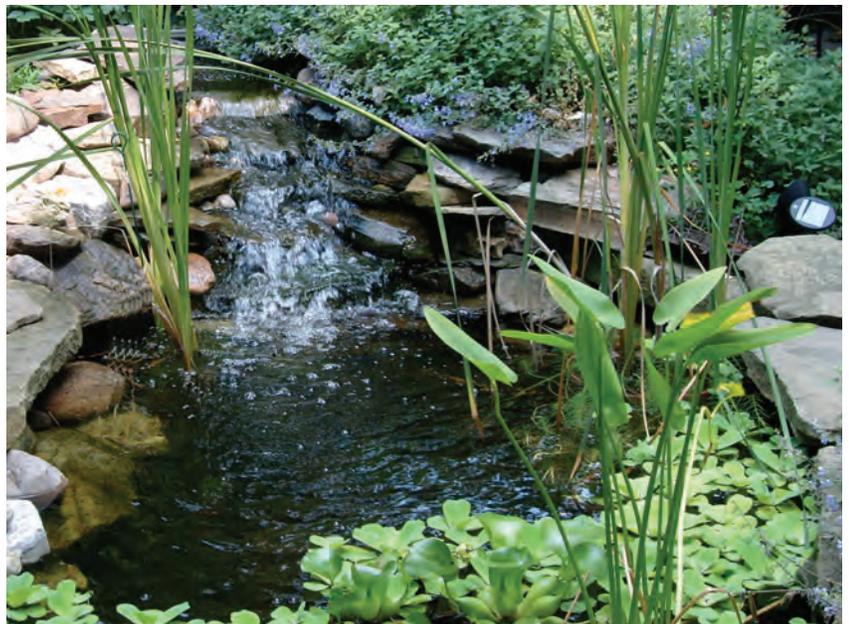
a pro even if it's your first pond! EasyPro skimmers and filters were designed by pond builders who had installed the other equipment available on the market but wanted something better. The results are these skimmers and filters which we feel are the finest available anywhere.



EVERY POND KIT INCLUDES:

1. EPDM rubber liner
2. Liner underlayment
3. Skimmer
4. AquaFalls filter
5. High efficiency pump
6. Check valve assembly
7. Waterfall installation kit
8. Flexible PVC pipe
9. *Underwater light kit with transformer
10. *Bacteria

**These items are not included in mini pond kits*



INSTALLING YOUR POND - Steps 1, 2 & 3

POND BUILDING STEPS

1. Mark outline of pond
2. Choose location of skimmer, filter and PVC pipe
3. Connect PVC pipe to AquaFalls filter
4. Dig pond
5. Install underlayment and liner
6. Place rocks in pond
7. Rinse rocks (optional) and then begin filling pond
8. Install skimmer
9. Build waterfall/stream
10. Install pump
11. Fill, tweak and trim
12. Landscape and cleanup

One of the first things to be done is to choose the shape and location of the pond. Use an extension cord or garden hose to determine pond shape. Once shape is determined you can paint the outline of the pond. This will allow you to lay out the location of the skimmer, AquaFalls and PVC pipe. Ideally the skimmer is located at the opposite end of the pond from the AquaFalls filter. This will create maximum circulation through the pond. The final step before digging the pond is to connect the PVC pipe to the AquaFalls filter. By laying the pipe on the ground around the pond, you can use the dirt from the pond to cover the pipe thus creating a berm to keep runoff out of the pond and eliminating the need of digging a trench.

See "Installing AquaFalls Filter" page 5 for details on installing filter. Only bulkhead and PVC fittings need to be installed at this time.



Here we are redoing a small pond in front of a business. The previous pond did not have a skimmer or AquaFalls filter. The owners wanted the pond larger and a stream added. Note the shape has been painted and skimmer, filter and pipe are in position.



Install fitting with rubber gasket on the inside and the nut on the outside.

AquaFalls filters have inlets in each side. Simply use the side that's most convenient and plug the other side or add a ball valve to make a drain for your filter. Apply a small amount of silicone to the threads of the plug before installing in second hole. Be sure to install plug on the inside of the filter.



After both bulkheads are installed and the second hole is plugged, apply silicone to the PVC male adapter and turn into the bulkhead fitting. Be sure both pipe and fitting are free of dirt, then apply PVC primer to both followed by PVC glue. Insert pipe into fitting and allow to set for several minutes before burying.

Be sure AquaFalls filter is installed level from side to side and tipped forward $\frac{1}{2}$ " to 1". Be sure soil under filter is compacted to prevent future settling.

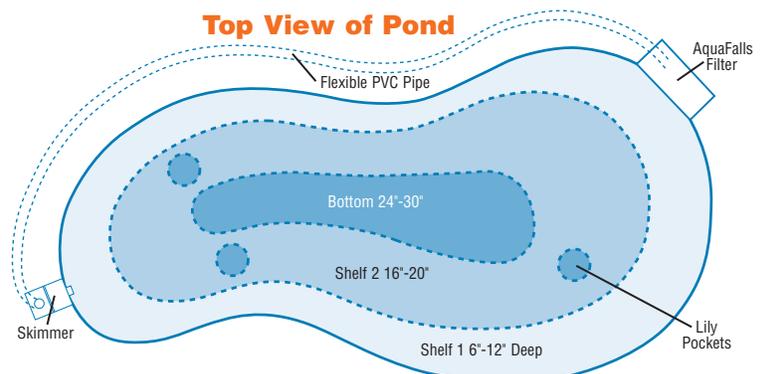
EXCAVATING POND - Step 4

Ponds with a water depth of 24" or less are not typically subject to local ordinances, therefore, most pond builders stay within this depth. When excavating the hole you can dig a few inches beyond the desired water depth as the stone put over the liner will fill in the depth a few inches.

Ponds should be dug with a variety of shelf depths to accommodate plants. Marginal plants like water 1" to 12" deep while lilies like a depth of 14"-20". Pockets can also be formed under the liner to create areas to plant lilies in.

One of the most important things in building a pond is to make sure the perimeter of the pond is level. If the perimeter is not

Caution! Always call local utilities before you dig!



EXCAVATING POND (continued)

level the low area will overflow while the high area will extend several inches above the water. A transit or laser level works great for creating a level surface. When excavating the shelves a variety of depths are desirable. The perimeter of the pond should be 3" - 5" above the water level you have chosen for the pond. Double check length and width of pond as you dig, be sure not to exceed liner size!

Earlier in step three you connected the PVC pipe to the AquaFalls filter and located it in a well compacted location. As you start to dig the pond you will want to put the dirt around the filter to begin forming the berm that will eventually hide the filter. Be sure the filter does not move as you pack dirt around it. In some cases you will build up the filter to create a more dramatic effect, or you may bury the filter partially in the ground to create a more natural effect.

Once you have determined the water level of the pond, you can then dig the hole for the skimmer. This hole should be dug just outside the finished edge of the pond and will need to be the following size:

Mini Skimmer*: 16" wide x 22" away from edge of pond and 14" below water level

Small Skimmer*: 30" wide x 22" away from edge of pond and 16¹/₂" below water level

Large Skimmer*: 45" wide x 24" away from edge of pond and 24" below water level



Be sure AquaFalls filter is level side to side and tipped forward 1/2" - 1".

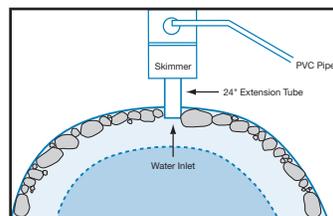


Ideal water level in finished pond.

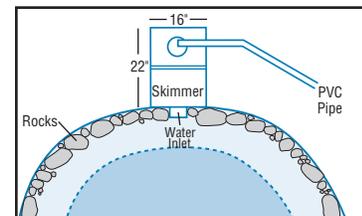
Ideally the water level in the pond will be 1" down from the top of the opening on the front of the skimmer. Once you have double checked your measurements you can set skimmer in hole and back fill approximately 1/3 of the skimmer to hold it in place.

You will need to move this hole back 24" from the pond if you are using an extension tube with your skimmer.

The illustrations to the right show the location of the skimmer. The hole for the skimmer should be located just outside the pond unless an extension tube is used, then the hole should be 24" back from pond's edge.

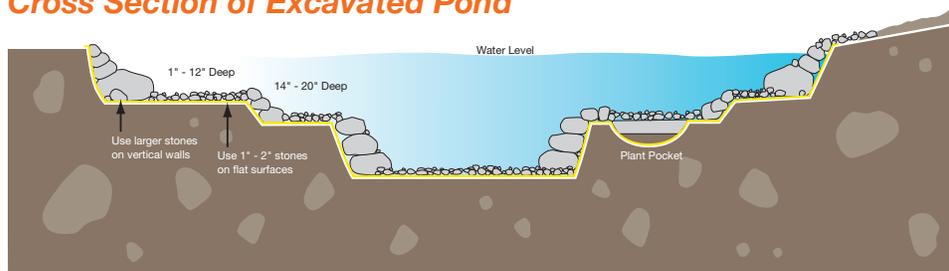


Skimmer location with extension tube.



Skimmer location without extension tube.

Cross Section of Excavated Pond



Installing the liner ... be sure to leave a few extra inches of liner in the pond. These small wrinkles will be covered by the stone and will allow the liner to stretch into place when the pond is filled with water.

INSTALLING UNDERLAYMENT AND LINER - Step 5

Be sure to go over the excavated hole one last time making sure any sharp objects are removed which could eventually wear a hole in the liner.

Once your hole is completely shaped and free from sharp objects it is time to install the underlayment. Depending on the size of your pond, the underlayment may be in several pieces. Simply unfold the underlayment and place into pond. If more than one piece is needed to cover your pond, be sure the pieces overlap a few inches. Walk through the pond and make sure fabric conforms to all shelves and plant pockets. Installing the liner is done much the same as the underlayment. Liners, except in large or odd shaped ponds, are always done in one piece to prevent the additional work of creating watertight seams.

For ponds that do not have a stream being added, care should be taken to pull all extra liner towards the AquaFalls filter. Be sure there is enough liner to reach the filter and a little extra to be safe. For ponds that have a stream, an additional piece of liner is needed. Be sure the stream liner is oversized as it takes extra liner to make the twists and turns needed to make the stream look natural. Where the stream meets the pond be sure the area where the stream liner overlaps the pond liner is running downhill and is above the water level of the pond. This will prevent leaking since water cannot run uphill between the two pieces of liner. If the joint area is flat or below the finished water level of the pond, seam tape will be needed.

ADDING ROCKS - Steps 6 & 7

Covering the entire liner with rocks is a relatively new concept in water gardening but one that certainly has its benefits. By covering the liner in rock you are creating a much more natural looking pond, protecting the liner against punctures and creating additional surface area for beneficial bacteria to grow on. Typically 6" - 12" rocks are used on the vertical ledges in the pond, care should be taken when placing the larger rocks so they do not damage the liner (use scrap liner or underlayment pieces under large rocks). Start from the middle of the pond and work your way outward placing rocks along the vertical walls of the pond (see photo at right). Once the large rocks are in place, cover flat ledges in small rock. Usually 1" - 2" stone or "septic stone" is used for this. **As you are placing the large rocks, hide any underwater lights in between the rocks.** When hiding them always leave extra cable behind the light so it can be lifted to the surface when the bulb needs to be changed. Be sure to locate lights so they provide maximum lighting but do not shine towards viewing area. If multiple lights are used, position them so each light's 20' power cord can reach back to the skimmer area where power is available. As soon as all the rock and lights are in place rinse dirt down from rocks if necessary so pond will be clean when filled and begin to fill pond. If rock is not rinsed, water will likely be cloudy when pond is first filled. This will settle out within one to two days giving you clear water.



Locate underwater lights in between larger rocks to conceal them.



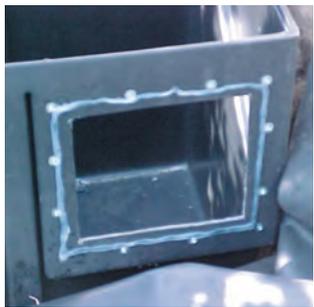
When placing rocks — start in the middle and work outward.

Rock Requirements:
A typical 11' x 16' pond will use approximately:

- 3 - 4 tons of 6" - 18" rock
- 1 - 2 tons of 1" - 2" rock
- Several large rocks are often used as focal points. Additional rock may be needed for streams and waterfall areas.

INSTALLING SKIMMER - Step 8

It is now time to install skimmer. Earlier when digging the pond you located the skimmer into position and backfilled partially to hold the tub in place. Double check to make sure skimmer is still level. Place a large bead of silicone around the opening on the face of the skimmer, then hold liner up (this is best done by a second person) in front of opening. Place the face plate against the skimmer with the **flange sticking out towards pond** (see picture below) and line up the top holes with an awl. Secure in place with a bolt and washer. Install the four corner bolts first, then install all remaining bolts. After all bolts are in, reach inside faceplate opening and cut away the liner. See below for instructions if using an extension tube. Silicone should dry for at least one hour before being submersed in water. Install 1 1/2" bulkhead fitting in hole on right side of skimmer (when facing skimmer from front), this is your **overflow** outlet. A PVC fitting (male adapter) for use with 1 1/2" and one for 2" are included to connect PVC drain pipe.



EXTENSION TUBE...

EasyPro skimmers are the only skimmer available with an extension tube. This tube allows you to locate the skimmer 24" away from the pond making it much easier to hide! The extension tube bolts to the front of the skimmer just like the face plate would. Use a thick bead of silicone around the opening on the skimmer then bolt tube to skimmer. The opposite end of the extension tube has inserts to secure the face plate bolts. Place a heavy bead of silicone on the face of the extension tube then place liner over opening and bolt on face plate. Finally, trim out liner.



Be sure to use a large bead of silicone around opening. Hold face plate in place and line up holes with an awl. Insert bolts through holes and secure with nut on inside of skimmer.



Be sure the opposite end of the extension tube is well supported with either compacted dirt or rocks.



INSTALLING SKIMMER (continued)

There are two holes on the left side of the skimmer near the top, on the back wall*. The small hole is for the electrical cable. The larger hole is for the flexible PVC pipe. Pipes up to 2" in diameter will fit through this opening. Because the hole is above the water line, it is not necessary to have a bulkhead fitting or to seal around the pipe. The flexible PVC pipe should stick through the back wall approximately 3" - 4" into the skimmer.

EasyPro skimmers are available with either a filter pad rack or a filter brush rack. With either style, slide rack into groove in skimmer walls. When skimmer needs cleaning, the racks can be lifted out and rinsed off. Be sure to install the PVC frame into the skimmer before backfilling the dirt around the outside of the skimmer. This frame is a support that keeps the side walls from bowing in. Finally, install the debris net on the right side of the skimmer, in front of the opening. This will catch all leaves and debris as it is pulled into the skimmer.



Skimmer w/Filter Pad • Part #PS1V



Skimmer w/Filter Brushes • Part #PS1FB

Pictures of completed skimmers showing filter pad, brushes, PVC frame and debris net installed.



*Mini Skimmer • Part #PSM

*Note: The EasyPro mini skimmer installs similar to the large skimmers but due to its compact size has outlet holes on the sides of the skimmer tub. Install the flexible PVC pipe into either side hole. Use the opposite hole for the electrical cord. The hole in the back wall of the skimmer is the overflow. Install bulkhead and PVC male adapter into this hole. This skimmer is also available with filter brushes.

CONNECTING THE AQUAFALLS - Step 9



Whether you have another piece of liner for a stream or place the AquaFalls directly beside the pond, the liner must be long enough to reach to the top of the filter **and** leave several inches of slack to keep the weight of the rocks from pulling the liner loose. To connect the liner, simply apply a thick bead of silicone around the opening of the AquaFalls filter then hold the liner up to the front of the filter (again a second person works best). Place the stone lip up to the opening and line up the top holes with an awl. Place bolts and washers in

the top hole on each side. This will keep liner in place while installing the rest of the bolts. Once all bolts are in, trim out the liner in the waterfall opening. Because our lip and rock are molded into one piece no foam is needed! If, however, you want to use a piece of real rock over the simulated rock provided, you will need to place a double bead of foam in between the rocks to prevent water leakage. Place the legs on the filter stand and place stand up in the bottom of the filter. Place the filter pads on the stand. Fill each black media bag full of your media choice (Bio-Blox, Filter Floss, Bio-Balls, Ultra Bio-Media, etc.) or $\frac{1}{2}$ - $\frac{2}{3}$ full of lava rock, rinse thoroughly before placing into filter. We recommend bio-medias over lava rock which is heavy and makes filter cleaning much harder. Also, lava rock is high in mineral content which can add to the nutrient load in the pond. Bio-medias are lightweight, have no adverse affect on the water quality and are long lasting. Camouflage the filter by placing rocks around the ledge of the filter. Use black foam to help hold rocks in place. Also, feel free to set rock on the media bags. This helps break up the square look to the filter. If you are using the optional rock grate, install it now.



The optional rock grate is ideal for covering the top of the filters. Set rocks and plants on the grate to conceal the filter.



A piece of real rock can be placed over the rock lip for a more realistic look. Be sure the rock is a thin piece and be sure the rock is supported by the waterfall rocks underneath the stone lip. Using too heavy of a rock could pull the stone lip away from the filter allowing water to leak out.

CONNECTING THE AQUAFALLS (continued)



The mini AquaFalls installs differently than the other AquaFalls filters. The filter tub and stone lip are molded into one piece. The liner is held to the tub, under the lip, by a plastic strip and five bolts. Place a bead of silicone over the bolt inserts, hold up liner, then attach plastic strip to tub with bolts and washers.

There is only one inlet hole on the mini filters. Install the bulkhead fitting into the hole and tighten. A PVC male adapter is included to connect the PVC pipe to the filter. Install filter stand, filter pads and media bag as outlined on the previous page.



INSTALLING PUMP - Step 10

Your pond kit includes a check valve assembly which allows water to be pumped up to the filter but does not allow back-flow from the filter to skimmer. Thread the check valve assembly into the pump discharge. Place the pump into the skimmer. If your check valve has a rubber boot, slide the boot over the flexible PVC pipe and tighten clamp. If your check valve has built in unions, glue the outlet onto the flexible PVC pipe.



OPTIONAL AUTOMATIC FILL VALVES

Automatic fill valves are a handy way to keep your pond water at the correct level. The fill valve will replace water lost to evaporation or small leaks so your pond maintains the correct level. You can connect a garden hose or tee into your irrigation system.

There are several sizes of water fill valves available. Please contact your EasyPro dealer for more information or to order.



FILL, TWEAK & FINISH - Steps 11 & 12

Your pond is now installed and you can begin to fill with water. While you are waiting for it to fill you can begin the clean up process. Once the pond has reached its filling point ($\frac{3}{4}$ "-1" below top of opening on skimmer) you can test the pump and waterfall. Adjust rocks if necessary to create optimum visual effect. Once the system is running you can go around the perimeter of the pond with a pair of scissors and trim the liner. **Always leave several inches of liner when trimming!** Cover the exposed liner around the perimeter of the pond with small stone.

The entire pond system is now complete. Any landscape mulch, plants, trees, etc. can now be planted, depending on what was all included in your bid.

Once you are finished with the project and have thoroughly cleaned up you can invite the homeowners out and show them their new pond! You should then take the time to show them the system, explain maintenance procedures and show them how to add the bacteria. The dosage rate is on the bottle.

Determining actual gallons in your pond:

1. Time how many seconds it takes to fill a five gallon pail
Example: 30 seconds
2. Time how many minutes it takes to fill the pond
Example: 150 minutes
3. Divide the number of seconds from #1 by sixty to convert from seconds to minutes
Example: $30 \div 60 = .5$ minutes to fill a five gallon pail
4. To determine the gallons per minute, divide five (gallons) by the minutes you figured out in #3
Example: $5 \div .5 = 10$ gallons per minute
5. For your actual gallons in pond take the gallons per minute from #4 and multiply by the minutes to fill pond from #2
Example: $10 \times 150 = 1500$ gallons in pond

The estimates below are based on a 2' deep pond. The overall shape of the pond, the amount of plant shelves and the finished depth will determine actual gallons.

APPROXIMATE GALLONS PER POND:

6' x 6' Pond.....	400 Gallons
6' x 11' Pond.....	750 Gallons
8' x 11' Pond.....	1000 Gallons
11' x 11' Pond.....	1400 Gallons
11' x 16' Pond.....	2000 Gallons



Thank you for purchasing an EasyPro pond system! Rest assured that you purchased one of the best built and easiest to maintain water feature systems on the market today. Like a pool or a hot tub, your pond will require some maintenance. Unlike pools and hot tubs, you will use natural products instead of chemicals to maintain your pond. Following are a few guidelines to help you achieve maximum enjoyment.

The heart of your pond system is the skimmer, pump and AquaFalls filter. Together these components will remove debris, filter the water and create circulation.

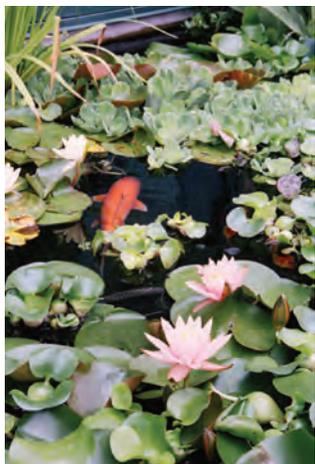
The EasyPro Pond Skimmer will catch leaves and other floating debris that fall into the pond. The pump is located inside the skimmer and as water is pumped out of the skimmer, new water is drawn in from the surface of the pond. This will create a skimming action that will draw floating debris into the large debris net inside the skimmer. If the debris net becomes full of debris then water will not be able to reach the pump. You will need to empty the debris as needed. This will vary depending on the season from once every couple of weeks in the summer to almost daily in the fall if your pond is near a tree. In addition to the debris net, your skimmer will have either a filter pad or filter brushes as a second form of filtration. This stage of the filter is designed to trap fine debris and can be lifted out and rinsed clean as needed. Failure to do this will result in the pump being starved for water and could cause pump damage due to overheating.



The AquaFalls Filter is your biological filter. After the water is pumped from the skimmer (where mechanical filtration occurred) it then goes to the AquaFalls biological filter. Millions of beneficial bacteria will attach themselves to the media inside this filter and “clean” the water as it passes through. This filter will require minimal cleaning since most large debris was removed before it got to this filter and the bacteria are consuming the nutrients in the water. Usually once per year is all that’s needed for cleaning of this filter. A good time for this is in the spring when you are doing your spring cleanup of the pond. Each filter has black bags that are filled with filter media. These bags can be lifted out and hosed off. The media does need to be taken out of the bag. Under the media bags are filter pads. These pads can also be lifted out and hosed clean. Over time these pads will need to be replaced (usually every two to three years). It is not recommended that this filter be cleaned

too often since you will wash off some of the good bacteria when cleaning the filter media.

Many different pumps are used in EasyPro pond kits depending on the size of the pond and the amount of lift needed for the waterfall. All of the pumps are designed for continuous duty operation and can be left running 24 hours a day. It is important to operate the pump continuously since the bacteria in the filter need to have oxygenated water passing through the filter to keep them alive. Because the water is pre-filtered by the skimmer, you should have very little trouble with the pump plugging. If you do need to remove the pump to inspect it, simply loosen the clamp on the rubber coupling and remove the pump. The water from the filter will drain backwards when the pump is removed. This is not a problem for the bacteria if you inspect a pump for a few minutes.



Fish and Plants are an important part of the overall pond ecosystem. Fish add color and life to the pond. It is very relaxing to sit and feed your fish at the end of a long day. Koi will actually eat some types of algae and will eat mosquito larvae and insects. Koi and goldfish are popular choices for adding personality to your pond. These fish are hardy and can survive northern winters (see winterizing your pond for more info). Providing you do not overstock your pond, the fish can survive on the natural food that is present in your pond. However, feeding your fish is fun and relaxing! Just be sure not to overfeed your fish as the uneaten food is high in nutrients and will cause water



MAINTENANCE INFORMATION (continued)

quality problems. The fish should quickly consume the feed you are throwing in. If the feed starts to drift off or the feeding action slows, you are overfeeding. Plants add color and help soften the look of the pond. Also they are an important part of the filtration. Not only do plants provide shade which helps keep the water cooler and reduces algae growth, but they also help absorb nutrients such as ammonia, nitrogen and phosphorus. There are many types of water plants available. Lilies are the most popular of all pond plants. They are colorful and easy to maintain. Hardy lilies will live through northern winters. Tropical lilies will need to come indoors in northern areas over the winter. Marginal and bog plants like dwarf cattails, pickerel rush, arrowhead and iris are popular plants that are typically planted along the perimeter of the pond and bog areas. Floating plants such as water hyacinth, water lettuce and duckweed are popular choices. Water hyacinth is great for use in the AquaFalls filter. Not only does it help disguise the filter but also provides additional filtration.

Maintenance — EasyPro ponds are designed for minimum maintenance. Like any pool or spa, a water feature does require a small amount of regular maintenance to maintain clean, clear water. The location of the pond, the amount of fish/plants and other factors will determine the actual level of maintenance needed. Following are a few products that will help you maintain your feature.

All-Season Pond Bacteria — Adding two ounces of EasyPro bacteria per 1000 gallons of pond water each week is vital to a healthy pond. These natural bacteria consume fish waste, uneaten food and other nutrients that, left untreated, will cause water quality problems. Removing the nutrients using bacteria is a safe and natural way to a healthy pond.



Barley Straw Extract — Adding two ounces of EasyPro Barley Extract per 1000 gallons of pond water every three weeks is a great preventative against future water problems. Barley has been used in Europe for decades as a way of maintaining clean, clear water. Regular use will greatly reduce maintenance later!

Rock/Waterfall Cleaner — EasyPro Rock & Waterfall Cleaner uses safe oxygen-based cleaning to remove debris from waterfalls, streams, ponds, pondless features and more. Great for use with fish, birds, pets and wildlife! Use as needed in problem areas for quick, effective results.



Winterizing — If your pond is in a freezing climate you will need to do a few things to prepare your pond for the cold months. Hardy water plants and fish will live through freezing climates in as little as 18" providing some steps are taken. It is helpful to cover your pond with netting in the fall if you have trees nearby. While your skimmer will get many of the leaves, some will fall to the bottom and can cause problems over the winter. As leaves decompose they produce harmful gases and consume oxygen. If excess leaves are left in the pond and the pond freezes over, a fish loss will likely result. It is critically important to keep a hole open in the ice! This can be accomplished by using an air pump, water pump or heater. An air pump placed on shore with a hose running out to a diffuser will keep a hole open in the winter and can also be used in the summer to maintain high oxygen levels. A water pump can also be used to create open water. A small submersible pump can be placed with the discharge below the surface to create a water current which will keep the ice open. Whichever style you use, try not to disturb the water in the deepest part of the pond.



This water is the warmest water (since it is farthest from the cold air at the surface) and should be left undisturbed for the fish. Place the pump or diffuser on a ledge approximately halfway between the surface and the bottom. Floating pond heaters are another way to maintain open water. They work well to maintain open water allowing harmful gases to escape, but in some cases may not prevent fish kills due to low oxygen. Using the water pump or air pump not only keeps open water but adds oxygen as well.

Following these simple guidelines will increase your enjoyment of your pond. Every pond is different due to size, water flow, location, fish loads, etc. so no one thing works for everyone. You will need to develop a routine that is best suited for your pond based on its conditions. Thanks again and best wishes with your new pond!

