



## Just-A-Falls Waterfall Kit Installation Instructions

Just-A-Falls kits include everything you need to build a beautiful waterfall, including:

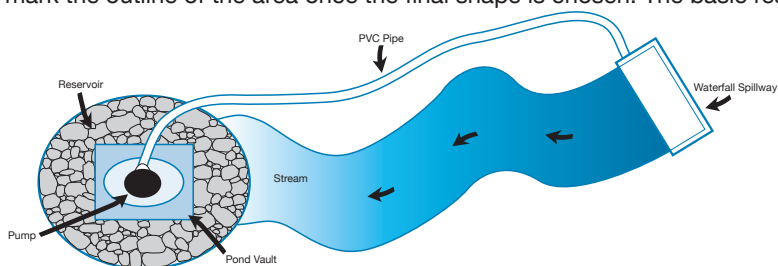
- 45 mil rubber liner
- Underlayment
- EasyPro pump vault
- Submersible pump
- High Strength Res-Cubes in "HSC" kits
- Check valve assembly
- Waterfall spillway
- Flexible PVC pipe
- Installation kit



Just-A-Falls kits are easy to install. Unlike a pond where plant ledges and shape are a concern, a Just-A-Falls layout is simply a large hole in the ground which, after the underlayment and liner are installed, gets filled with rock or High Strength Res-Cubes. Use larger rock (6" -12") to fill area within 6" to 8" of top, then use small stone (1"-2") to fill the remainder. The small rocks keep sticks, leaves and other debris from getting down into the large rock area.

### EXCAVATING THE RESERVOIR & STREAM

The first step in building your Just-A-Falls kit is to determine the shape and layout of the reservoir and stream. Spray paint works the best to mark the outline of the area once the final shape is chosen. The basic reservoir and stream size of the kits is as follows:

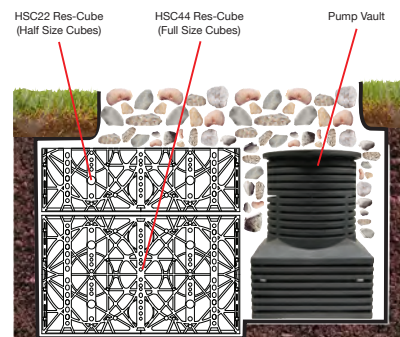


- JAF1: 5' x 5' x 2' Deep; 7' long stream (max)
- JAF2: 5' x 6' x 2' Deep; 11' long stream (max)
- JAF3: 8' x 10' x 3' Deep; 18' long stream (max)
- JAF4: 10' x 12' x 3' Deep; 30' long stream (max)
- JAF1HSC: 4' x 4' x 2' Deep; 7' long stream (max)
- JAF2HSC: 5' x 5' x 2' Deep; 11' long stream (max)
- JAF3HSC: 6' x 7' x 3' Deep; 22' long stream (max)
- JAF4HSC: 8' x 9' x 3' Deep; 34' long stream (max)

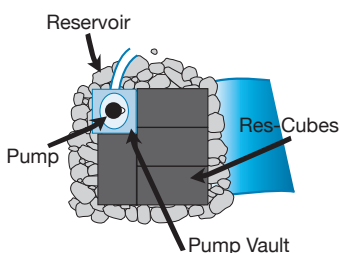
Digging the hole for the reservoir is much easier than digging a pond since you are not concerned with the shape or creating ledges around the perimeter. The reservoir hole can be dug straight off on all sides. The dirt from the reservoir can be used to build up a berm around the top of the waterfall if needed. If the waterfall area is already elevated (on a hillside) the dirt will not be needed and can be discarded.

Actual hole excavation should be larger to accommodate the equipment used in the reservoir. By the time the proper depth is achieved, the bottom of the hole should be slightly larger than these sizes.

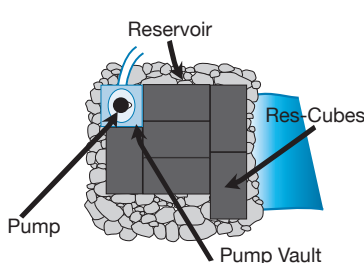
The surface size of the reservoir is determined by what size and length the waterfall/stream is going to be. A long stream will require a larger reservoir since more water will be needed to fill the stream. The vault is a couple inches shorter than the depth shown to allow for 1"-2" of stone over the cover to conceal it from view.



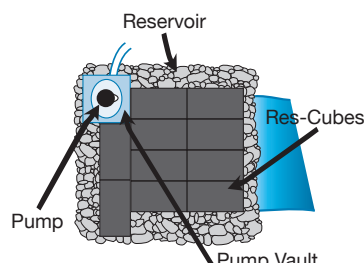
Suggested Res-Cube layout for JAF3HSC and JAF4HSC



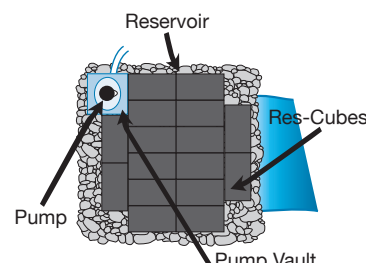
Suggested Res-Cube layout for JAF1HSC



Suggested Res-Cube layout for JAF2HSC



Suggested Res-Cube layout for JAF3HSC



Suggested Res-Cube layout for JAF4HSC

## EXCAVATING THE RESERVOIR & STREAM (CONT)



*Sculpt dirt in stream area before installing liner*

The stream and waterfall area is sculpted next. Be sure your stream has some character to it. Streams that twist and turn and get wider in some areas and narrower in others are much more realistic. Be sure not to make the stream wider than the provided liner. If you are planning on using large rocks in the stream to add dimension, dig out some pockets where these rocks will sit. When the liner is placed over these pockets the large rocks will nest in the “dimple” the pocket — this will keep them from moving and also create a more natural look. A distinct drop/waterfall should be included where the stream meets the reservoir. If this is not part of the design, some seam tape (sold separately) should be used to join the stream liner to the reservoir liner to ensure a water tight seal.

The waterfall spillway will sit inside the liner at the beginning of the stream. Be sure the area where the spillway(s) will sit is compacted and level.

## INSTALLING THE UNDERLAYMENT AND LINER

Once you have sculpted the reservoir, stream and waterfall area - carefully check for any rocks, roots or sharp objects in the soil. After ensuring the area is free from objects install the underlayment through the reservoir and stream area. After installing the underlayment, install the liner in the reservoir. Do not be concerned with a few wrinkles in the liner since the whole area will be filled in with rock or Res-Cubes and covered. Be sure to pull any extra liner in the reservoir towards the waterfall area. **The stream liner will need to adequately overlap the reservoir liner. This will ensure water does not leak between the two pieces of liner. Be sure the liner is not stretched or under tension.**



*The liner covers the stream bed and goes through the area where the spillway will sit.*



## INSTALLING THE SPILLWAY

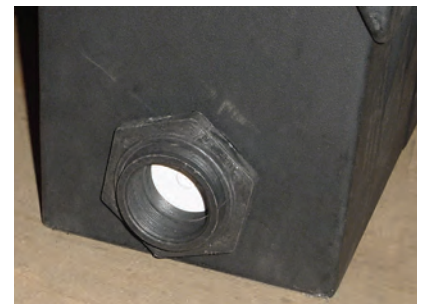
If the waterfall spillway in your kit is 50" wide or less it will come assembled. Spillways over 50" will need to be assembled on site due to shipping and handling concerns. Follow the directions included with the spillway if assembly is needed.

Before installing the spillway, double check that the soil under the spillway is compacted and level from side to side (this ensures an even flow of water over the lip). Lay the liner from the stream over the soil where the spillway will sit.

Remove the channel grating from the top of the spillway. There are openings on both ends of the spillway for water to enter. You will need to decide which end is more convenient for your application. First you need to plug the opening you will not be using. Install the bulkhead fitting with the body and the rubber gasket on the inside of the tub. Tighten the plastic washer and the nut from the outside. Install PVC plug on the inside of the tub and tighten. If you are using a large spillway, water will come in from both ends in which case you would not use the plug but rather install a PVC male adapter on the outside of the bulkhead.



*Hold bulkhead up to spillway and cut hole in liner just smaller than bulkhead.*



*Bulkhead fitting and plug installed in the end of the spillway*



*Stretch liner over bulkhead then tighten washer and nut onto bulkhead.*



## INSTALLING THE SPILLWAY (CONT)



Bulkhead is through liner, washer/nut are tightened and PVC adapter is installed.

On the incoming side you will need to hold the liner up to the end of the tub and mark where the bulkhead hole is. Cut a hole in the liner slightly smaller than the opening. Set the spillway tub in place and push the body of the bulkhead through from the inside (be sure rubber gasket is in place inside the tub). Stretch the liner over the bulkhead and then install the washer and nut. Tighten the nut snugly but do not overtighten. This will create a waterproof seal through the liner.

Apply a small amount of silicone to the threads of the PVC male adapter and install the fitting into the outside of the bulkhead.



The above instructions provide you with a water tight penetration through the liner. There is also a way to connect the water pipe to the spillway without penetrating the liner. To do this, you would install the bulkhead in the spillway and turn the male adapter into the bulkhead. Next install a 90° elbow onto the male adapter. Glue your flexible PVC pipe into the elbow. The liner then wraps up around the pipe and elbow up against the spillway tub. The flexible PVC pipe then runs down the stream on the inside of the liner back to the pond. The hose will be hidden by rocks used in the stream bed. Keep the hose tight along the edge of the stream where larger rocks are used, not in the middle where small gravel is used.

After completing the plumbing you can secure the liner around the spillway by backfilling with dirt around the back and ends of the tub. The liner simply goes up the sides and back of the tub. When you backfill with dirt the liner will be held tight up against the tub. Stones can be set on the channel grating of the tub. This will help hide the tub from view and make your waterfall natural looking.



The liner goes under the spillway and wraps up the back and ends.



## INSTALLING THE VAULT

After liner and underlayment have been installed you can install the vault. The slots in the sidewalls will allow the water into the vault where the pump is located.

Place the vault in the reservoir with the outlet hole facing towards the waterfall. Use High Strength Res-Cubes or 6"-12" rock to fill the reservoir around the vault to within 3"-4" of the top of the vault. Run your flexible PVC pipe into the discharge hole before filling with rock.

If your pump requirement is over the maximum capacity of the vault, an optional 36" intake pipe is available for increased flow. Simply cut the recessed plug on either end of the vault out. Slide one end of the 36" pipe into the opening on the vault, cap the other end of the vault with cap supplied. This will allow additional water into the vault. Intake pipes can be hooked to each other for extra large requirements.

Install check valve assembly into discharge of pump, be careful not to over tighten. Place pump in vault. Glue PVC pipe into outlet of check valve and fill in remaining space with 1"-2" stone.





## BUILDING THE WATERFALL & STREAM



Use EasyPro Black Waterfall Foam to fill in voids between rocks.



You should have the general layout of your stream already determined from the shaping and sculpting done before placing the liner. There are many different types of rock that can be used in streams. Be sure to use a mixture of sizes through your stream. Once you have placed all the large rocks, you can use EasyPro Black Waterfall Foam to fill in any voids between the rocks. This will keep the water from going under or in between them and make it go over the rocks so you can enjoy the flow. You do not need to foam every rock in the stream, about every 4' - 5' in the stream do a section. Also, any areas where the water makes a vertical drop should be foamed.



Once large rocks are placed and any foam work is done, sprinkle 1"-2" stone over stream rocks to fill in voids and cracks.

## FINISHING UP

Your "Just-A-Falls" is now complete and landscaping around the feature can be done as desired. With a little creativity in rock work and plantings, you can completely hide the spillway, tubing and other components. An optional auto fill can be installed in the vault or Water Fill Box (sold separately part #WFB). This will replace water lost to evaporation or splash. The auto fill can be connected to an existing irrigation system (consult an irrigation specialist) or to a garden hose with the correct fittings.

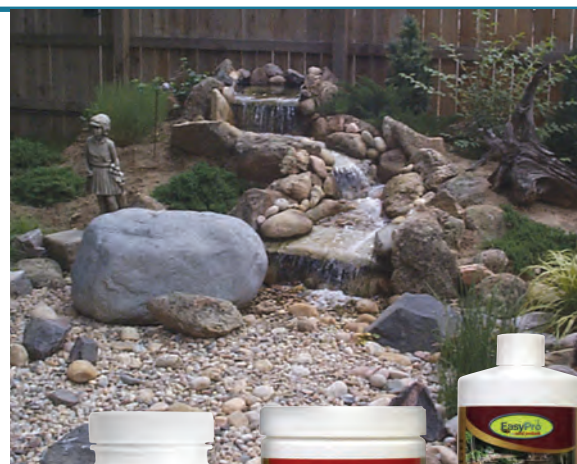
## OPERATION & MAINTENANCE

Since your "Just-A-Falls" is a water feature and not an ecosystem like a pond, which has fish and plants, maintenance is easy. Water can be treated with strong algaecides designed for fountains or water garden algaecides like Algaefix or GreenClean can be used for string algae that can grow in the stream. EasyPro Rock and Waterfall Cleaner can also be used to lift debris from rocks in the stream. EasyPro All Season Liquid Pond Bacteria can be added to the water to help control odors should this occur.

Also, unlike a pond where pumps typically run 24 hours a day, your "Just-A-Falls" can be shut off at night for electrical savings.

Be sure that the water level in the reservoir is always high enough for proper operation of the pumps which require full submergence. Float switches can be installed to shut the pump off in low water situations. For more information on float switches please see our website.

In order to winterize the system in freezing climates, the pump should be removed during winter months. Be sure to account for removal by covering the lid of the pump vault with a movable landscape object (stone, driftwood, decorative stone, etc).



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