



Helix Bio Mechanical Reactor Waterfall Filter

Installation Instructions

Congratulations on your purchase of the Helix Bio Mechanical Waterfall Filter! This filter combines the efficiency of our two favorite filters, The Helix Moving Bed Waterfall and The Helix Bio Mechanical Waterfall Filter, to improve your water quality and clarity. This filter provides a large open area for lava rock media without using bags that would inhibit your flow.

1. The Helix Bio Mechanical Reactor is designed to remove particulates and provide maximum biological filtration with fully aerated moving Helix Floating Bio Media.

There are 3 – 2” bulkheads penetrating the back of your filter. Two of them are connected to create the drain system for cleaning. They flow to a 2” knife valve. The standpipe inside is used to assist cleaning time.

The third 2” bulkhead is the inlet to connect the main water pump. The ¾” standpipe outside of the filter is used to connect a 25 liter aerator, in order to oxygenate your Helix Floating Bio Media.

The radial diffuser may be covered with a piece of slate to camouflage the Helix Floating Bio Media.

Soak the Helix Floating Bio Media overnight in a tub of water. This allows the media to absorb water so that it will sink upon installation and not bubble out over the radial diffuser into your pond.

Add lava rock of 1” – 1.5” to your Helix Bio Mechanical Reactor. The lava rock should be just below the 5” air diffuser disc, so as to not impede the flow of air. In the **small** it is approx 25-30lbs, in the **large** it is 270-275 lbs.

2. Cleaning:
 1. Shut off the pump
 2. Remove 1” rubber cap
 3. Simply connect a blower or Shop Vac (set on blow) to the standpipe
 4. Turn on blower or Shop Vac and run until the water on top looks dirty



5. Open the 2" knife valve drain once the water stops draining, close the valve
6. Turn the main pump on just to refill the Helix Bio Reactor then shut the pump off before it flows into the pond
7. Open the knife valve again until the water stops draining
8. Close the knife valve, shut off the blower, recap the standpipe, and turn the pump back on.

Installation Instructions

1. Level and tamp ground under Helix Bio Mechanical Reactor Waterfall Filter to insure firm footing. Level from side and pitch slightly forward from front to back, approximately ½" forward.
 - Check that all fittings inside the Helix Bio Mechanical Reactor Waterfall Filter are glued
2. To support dirt around the Helix Bio Mechanical Reactor Waterfall Filter, build a berm around it using rocks or dry stack retaining blocks. This will prevent it from looking like a volcano. Try to go out approximately two times as far from the filter as it is tall. Starting at lowest point and stack rocks or interlocking blocks as high as filter to hold dirt from excavation.
3. Connect all plumbing

Small: (See picture on www.helixpondfiltration.com)

 - a. Pump enters filter at cross
 - b. Opposite side of cross connects to pump inlet (lowest bulkhead on body)
*see main picture
 - c. Aerator connects to air inlet lift tube
 - d. Upper drain connects to upper drain knife valve on "h" assembly.
*far left picture
 - e. Lower drain connects to lower drain knife valve on "h" assembly. You can add additional 2" PVC to extend drain line away from waterfall.
*far left picture

Large:

 - a. Pump can enter either of the two bulkheads at 45° side entrance (the opposite then becomes the drain line)
 - b. Connect remaining side drain and center drain with drain assembly unit. You can then attach a piece of 2" PVC to extend drain away from waterfall. *picture 3rd from left.
 - c. Connect aerator to air lift standpipe.
4. Add lava rock according to filter size (see step 1)
5. Add 1/3 of floating media every 5-7 days until it is all in.