








HydrAid® BioSand Filter

Document Type: Installation Process
Document No: TQ-1111111-CE

Rev. Date: 3/9/2010
Rev. Level: 2

	Work Element	Note
	Necessary equipment: Filter Body, Plumbing, Diffuser Plate, Lid, 19 liters(5 gallons) of water, 4 bags of sand: (one bag of level 1, one bag of level 2, two bags of level 3), 1 liter measuring cup, ruler, level	
1	Choose an area indoors to place the filter. The area should be relatively level and be a permanent location. Once installed, the filter should NOT be moved. (Generally, the corner of the kitchen, not near a stove or hot surface is preferred)	Choose a permanent location
2	Remove the clear spout from the flat end of the Plumbing tube.	
3	Rotate the fitting of the clear spout into the side of the Plumbing tube.	
4	Place the flat end of the plumbing tube into the open area below the lip of the filter body.	
5	Turn the filter body upside down. Ensure there are no small particles such as sand in the plumbing tube. Firmly push the plumbing tube down until it is in line with the opening.	
6	Firmly push the curved end of the plumbing tube into the small round opening on the filter body.	
7	Return the filter to an upright position and fill with 1 gallon of water. This is an important step to ensure the sand stays in place during installation.	Fill with 1 gallon of water

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8	Pour one bag of level one course gravel media (marked with a green label). Ensure the layer of gravel is level.	
9	Add 1 more gallon of water.	Add 1 more gallon of water
10	Pour one bag of the level two media (marked with a yellow label). Ensure this layer of gravel is level.	
11	Place the diffuser plate on the filter, add 3 gallons of water and then remove the diffuser plate	 Add 3 gallons of water
12	Fill the filter body with the remaining two bags of fine sand media rapidly in a sweeping motion. (It is important to do this fast to prevent sand stratification and filter plugging. Best if two people are available to pour in the sand simultaneously) Ensure the sand media is level	



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13	Place the diffuser and the lid on the filter body.	
14	Put the blue zip tie through the openings on the lid and filter body to secure it and identify the filter.	
15	<p>Optional Flush: Continue to pour water into the diffuser tray until the system runs clear (usually less than 5 gallons).</p> <p>Optional Depth Measure: When the filter is at rest (no water coming out of the filter). Remove the diffuser and measure the depth of water. There should be 2 inches of water above the sand. If depth of the water is less than 1 inch or more than 3 inches when the filter is resting, contact Triple Quest LLC at (616) 975-4844.</p> <p>Optional Disinfection: Once water has run clear and it is at rest, Mix 1 liter of water with 2 Tablespoons of chlorine and pour mixture into the standpipe of the filter. Let the mixture stand in the filter piping for 1 minute and then release the standpipe and allow the mixture to flow out. You can put 1 gallon of water in the diffuser tray to help flush the chlorine out of the standpipe.</p> <p>Optional Flow Rate: To ensure the flow rate is .8 L/min, replace the diffuser plate and fill the filter to the top. Put a 1 liter measure at the end of the filter to collect the water. Use a watch with a second hand to count out 60 seconds and capture the water for that entire time. At the end of 60 seconds, you should have captured .8 of a liter. If you capture .8 Liters or less, your filter is working properly. If you have collected more than .9 Liters, contact Triple Quest LLC at (616) 975-4844.</p>	



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16	<p>Filter will immediately address reduction of parasites and helminthes, but post-filter chlorination should be observed to address bacteria and viruses in the first two weeks while the BioLayer is developing or else water should not be consumed.</p> <p>Develop the BioLayer: Biolayer is naturally forming and will take roughly 2 weeks to form. Continue to pour at least 5 gallons of water through the system every other day for 2 weeks. For these two weeks it is recommended to not drink the water that comes out or to chlorinate the post-filtered water.</p>	
17	<p>After 2 weeks, the biolayer should address 80-99.9% of bacterias and viruses with proper use.</p> <p>Pause Periods: We recommend the first water filtered in the morning to be set aside for drinking water since it has been shown that the filtered water is more effective the longer it pauses.</p> <p>Chlorination: To attain WHO guidelines of Bacteria and Virus reduction, we recommend always disinfecting post filtered water with 3 drops of chlorine per gallon prior to consumption to assure the highest quality of water.</p>	

For more information please refer to the HydrAid® Handbook available at:
www.hydrAid.org/resources