

HOW IT WORKS

Source water is collected as normal and then poured through the purifier. A complex process of biological, mechanical and chemical filtration and disinfection takes place, producing enough safe, clean water to meet a family's needs. A durable plastic container of at least 70 liters and simple PVC piping make up the body, while the filler consists of locally sieved and washed sand and gravel.

HOW WE WORK

We freely train local community groups in the construction, installation, promotion and maintenance of these water purifiers. After being trained, some of these groups operate by selling purifiers at a profit, while others work to train their friends and neighbors how to build their own. The end goal is to have aided in the creation of enterprises that continue their work in whatever manner best suits the local community, and in a way that is locally sustainable.



The standard AC Water Purifier will filter and disinfect water contaminated with parasites, bacteria and other sources of waterborne-related disease. These issues constitute the majority of worldwide water contamination problems. This unit will not desalinate water (will not make brackish water drinkable) and will not eliminate chemicals and/or heavy metals from the water.

The purifier is built to last up to 10 years. The constraining factor on its life is the durability of the plastic container. Thus, it is best to keep the unit in the shade and to treat it with care. The unit will function properly only if used correctly - it needs to consume a minimum amount of new water daily, and to have its top layer cleaned regularly (approximately every 6 to 12 months).

Clean water can be easily re-contaminated if it is not stored properly. Make sure that wherever a purifier is installed, the household both has a separate container for collecting clean water and that this container is kept clean (cleaned regularly) and covered when not in use. Any dirty object that enters a clean container of water can contaminate it - a hand, a cup, etc., so take care when using the water.

Aqua Clara is a faith based Christian organization. We seek to work with all organizations, both faith based and secular. We express our beliefs through our actions. We are committed to help reduce pain and suffering. We believe clean water is a critically important first step.

We are supported by a vast network of allies in this mission - those that dedicate time, talent and/or financial support. Many thanks to all those who make this possible!

Would you like to work with us towards this goal? More information is available at www.aquaclara.org or by contacting AC.



AQUA CLARA INTERNATIONAL

88 SUN RIDGE
HOLLAND, MI 49423

INFO@AQUACLARA.ORG
+1 616 396 8511

WWW.AQUACLARA.ORG

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AQUA CLARA INTERNATIONAL

WATER PURIFICATION

...in pursuit of H_2OPE

www.aquaclara.org



On-site Training. Effective Technology.
Low Cost. Local Materials. Local Water Programs.



Constructing your AC Water Purifier

It is important to properly manufacture each and every water purifier according to the standards you were trained in. Measurements will be different for each different container type.

Holes can be drilled in a secondary lid to form a water diffuser. If there is no secondary lid, a colander can be purchased or made.

The spout can either be constructed of a bent PVC spout or from a PVC union/junction, a PVC elbow, and extra pipe (as shown).

Make sure that both the interior and exterior joints are tight against the body and that extra glue is used here. If care is not taken, the exit hole is the one point where the purifier can leak.

The bottom pipe section should fit firmly against both sides of the container and against the bottom of the container. It is very important that all is measured to fit correctly - you may have to begin long and cut several times to achieve a tight fit.

Use your full instruction set for more detail, and this sheet to mark actual measurements and volumes used in your training session for your specific local purifier body. Then refer to this sheet to speed your manufacture and installation in the future.

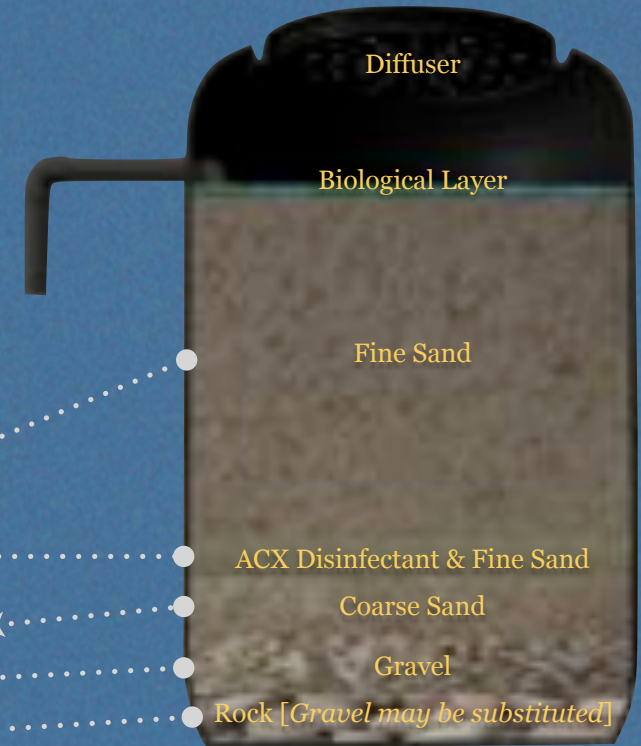
Spout: Always measure and cut to fit on an individual unit basis.

Exit Hole Location:

Vertical Pipe Section Length:

Bottom Pipe Section Length:

Volume Required	Height of Filler	Layer
	Exactly to the bottom of the pipe elbow.	Fine Sand
		ACX & Fine Sand Mixed
		Coarse Sand
		Gravel
		Rock



Building Your Purifier - Basic Steps



Sieve Filler: Fine sand, coarse sand and gravel are all necessary for construction. Sand and gravel is often ordered in large batches, then sieved to separate into various layers - especially the coarse sand from the fine sand.



Wash Filler: Wash thoroughly to remove all silt, dust, dirt and organic material. Water can be shared by working in teams with several buckets. Spread washed material on plastic sheeting to dry in the sun. Remove any remaining organic material.



Build Purifier Body: Drill hole in purifier body. Measure & cut all PVC sections to appropriate lengths. Drill water intake holes in bottom pipe section. Ensure tight fit. Wash all pieces. Glue into position and allow to dry. Create a diffuser.



Transport and Install on Site: A filled purifier is too heavy to transport. It is best to bag the filler material for transport, taking care to bring the correct volume of filler. Fill each layer to exactly the depth required. Train recipient household in proper use. Begin 20 day waiting period, pouring 20 L through each day.

Using Your Purifier - Basic Steps



Collect Water: Water is collected and brought to the water purifier. A water collection container, separate from a clean water storage container, should be used. The purifier itself should be placed in the shade and kept clean and covered.



Use Purifier Daily: Collected water may be poured through the purifier as needed. A 70 L container may be used to purifier up to 36 L a day - pouring 18 L in the morning and 18 L in the evening. Some water should be poured through each day - it should be 'fed' water regularly and not allowed to dry out.



Store Water Properly: Purified water must be collected in a different container than the one collecting source water. That container should be cleaned regularly and kept covered when not in use. Every drop of water that goes into your mouth should be from this safe water container.



Routine Maintenance: The flow rate of your purifier will gradually slow (6 months to 1 year) as the top few centimeters of sand and the biological layer thicken with use. Standard maintenance involves cleaning or replacing this layer. Only the top 4-6 cm will have to be cleaned - the rest of the filler will remain functional.