

Berkey® Users Manual

Presented by:



Pure Water Made Simple

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Setting Up Your Berkey® System for the First Time

Congratulations, on your purchase of the finest Water Purifier in the world. You have shown a desire to protect the health and well being of your family by protecting them from water borne contaminants and pathogens. These are detailed instructions on how to setup your Berkey water filter system for the first time. Retain these instructions for reinstalling the filters elements after cleaning or to answer any questions about assembling your filter.

Models Covered: Travel Berkey®, Big Berkey®, Royal Berkey®, Imperial Berkey® & Crown Berkey®

Precautions

Extreme cleanliness is vital especially in hostile environments where the filter maybe easily contaminated. Wash hands and system thoroughly with purified water before proceeding to insure that no contamination of the filter takes place during assembly.

Assembly Instructions

Un-package your filter and check to see if you have the following parts. Be sure to check for any shipping damage, pay particularly close attention to the Black Berkey elements for damage.

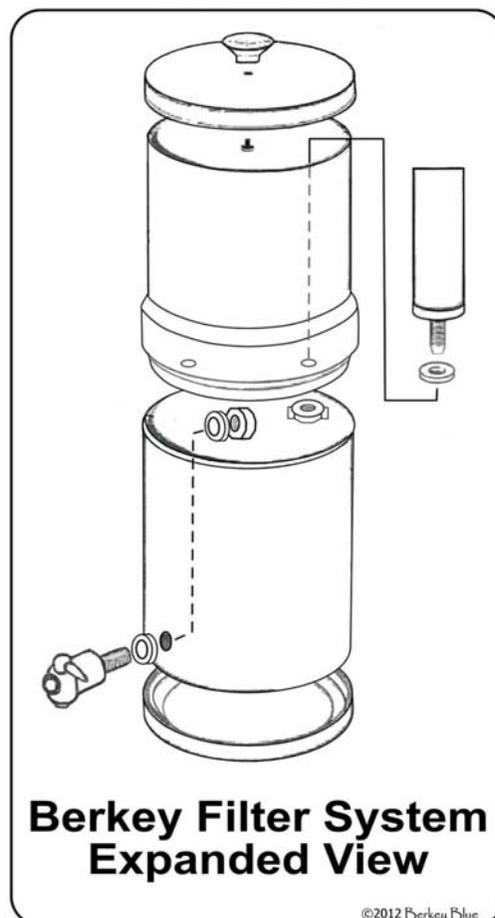
Quantity	Description
1	Upper Water Chamber (Depending on the model purchased it will have from 2 to 8 holes in the bottom)
1	Lower Water Chamber (Has one hole in the side near the bottom)
1	Lid
1	Knob (Black plastic with screw)
1	Black Plastic Spigot with nut
1	Spigot washers (one convex white washer & one black washer)
2 - 8	Purification Elements including washer & wing nut (quantity depends on model)
0 - 6	Hole plugs (quantity depends on model, i.e. the Travel Berkey needs none)



1. Clean all parts of the filter housing with warm soapy water. Air dry the parts.
2. Install the knob onto the lid by removing the screw, inserting it up through the hole in the lid and screwing the knob back onto the screw, hand tighten only.
3. Place the black washer onto the threaded stem of the spigot. Insert the spigot stem through the hole near the bottom on the side of the lower chamber. Placing the curved side of the white washer toward the wall of the chamber slide it onto the spigot stem from inside the chamber. Screw the nut onto the stem and hand tighten securely.

4. Depending on the number of filter elements that came with your system, you may have to install plugs into the remaining expansion holes of the upper chamber. Plan on installing each filter set into its opposite position within the upper chamber. Fill each remaining holes with a plug as follows: Place one plastic washer onto each plug required. From inside the upper chamber insert a plug into the appropriate hole, place another plastic washer on the plug's stem from the bottom side of the chamber, thread and tighten securely the wing nut. Repeat for each remaining plug required.
5. Prime the Black Berkey elements per the instructions detailed below.
6. Once primed slide the black rubber washer onto the threaded stem of the Black Berkey element. Insert the stem of the element into one of the holes from inside of the upper chamber. Thread and securely tighten the wing nut onto the Black Berkey's stem. Repeat for the remaining elements.
7. If you have purchased the optional PF-2 filter elements prime those according to the directions details below otherwise skip to Step 9. Once primed thread each PF-2 onto the stem of a Black Berkey element protruding from the bottom of the upper chamber. Only thread the PF-2 for a maximum of eight revolutions onto the Black Berkey's stem to prevent internal damage to the PF-2 filter. Once installed these filters will protrude into the lower chamber of your Berkey System.
8. Place the upper chamber onto the lower chamber and situate in a convenient location near your sink. Fill the upper chamber completely with water; allow the filter to completely cycle all water from the upper chamber into the lower storage reservoir. It is normal for ½ to 1 inch of water to remain in the upper chamber. Waste this first cycle of water and refill the upper chamber, once this cycle is complete your delicious healthy and refreshing Berkey water is ready for use.

Note: It is recommended to perform the Red Food Color Test detailed below prior to using the water to insure proper installation and operation of your Berkey purification system.



Priming Black Berkeys Elements

Household Priming Method

The micro pores on the Black Berkey® purification elements are extremely small, in fact they are small enough to filter pathogenic bacteria and other contaminants. But the high water tension created by the micro pores requires that the purification elements be primed before water will flow through them properly. When your elements arrive, they are dry and air is trapped within the micro fine pores. Use the following procedure to prime your elements for use.

Step 1) Place the washer and wing nut onto the Black Berkey element as shown. Press the tan colored rubber priming button onto the stem of the Black Berkey purification element with the small end facing the element.



Step 2) Place the stem of the Black Berkey element between your fingers and using the wing nut for grip press the large end of the priming button against the faucet.

Step 3) While holding the priming button against the faucet, turn on the cold water slowly, gently allowing water to fill the cavity of the element.



Step 4) Allow the exterior wall of the element to sweat beads of water for about 5 seconds.

Step 5) And rinse the dust fines from the exterior of the Black Berkey purification element.

Note: Do not discard the Priming Button but save it for future use such as re-priming the elements after cleaning, if the elements have dried out or if re-priming is necessary when traveling.



No Water Pressure Priming Method

In some parts of the world, the water has higher water tension than in others, which can change from season to season. The higher the water tension, the more difficult it is for the water to force the air out of the micro pores using gravity alone. The pores become air locked and do not allow water to pass through. This causes the system to either filter very slowly or not at all.

Before traveling or using the system in an area without water pressure we recommend that the purification elements are primed using the priming button method. However if it is not possible to prime them prior to leaving and there is no water pressure available to use the priming button method, the elements can be primed in the field by using the method below.

Precaution: If you are traveling abroad or to an area known to have no pressurized water service, we recommend that you take along water in plastic bottles. You can perform this priming method without purifying the water but only if you are sure of the quality of the bottled water used otherwise add 16 drops of chlorine bleach to each gallon of bottled water. Again be absolutely sure of the quality of the bottle water or purify the water with chlorine

Purifying Water {Drops of Chlorine Per}

Pint	Quart	Gallon
2 drops	4 drops	16 drops

Step 1) Place black washer onto the elements stem, next thread the plastic nut onto the stem as if you were installing the element in your filter but only until the tip of the stem protrudes slightly through the other side of the nut. Place the tan colored Priming Button on to the protruding stem.



Step 2) Quickly place an opened bottle of water over the Priming Button covering the hole of the Priming Button completely with the bottle's mouth. Keeping a firm seal between the bottle's mouth and the Priming button gently begin to squeeze the plastic bottle until its contents are emptied into the Black Berkey element. Another bottle of water maybe required to completely fill the element and force all the air from within its pores. If water is not beading up on the outside of the filter element then repeat the above procedure with another bottle of water. Repeat as necessary until all filter elements are primed and ready for installation into your filter system.

Note: This method may be more easily accomplished with the help of another person. Alternately, a Sport Berkey® maybe used to prime the filter, simply insert the straw from the Sport into the hole of the Priming Button and squeeze until beads of water can be seen on the outside of the element.

Priming PF-2 Fluoride Water Filters

Priming the PF-2 Berkey Fluoride Post Filter is essential for them to perform properly. The filter media in each element contains some residual manufacturing dust that may cause the water to be cloudy or have a bitter after taste. This can be easily avoided by simply flushing the filter prior to installation.

Follow the instructions below to insure that your Berkey purifier performs as designed:

Precautions:

Filters must be primed prior to use. Do not install before reading the enclosed installation procedures and do not screw the PF-2 elements onto the stem of the Black Berkey elements more than eight revolutions or the core of the filter could be damaged.



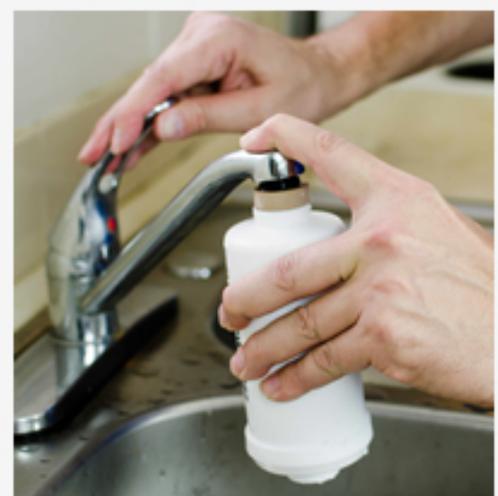
Align the Priming Button

1. With the blue caps in place wash the exterior of each PF-2 fluoride element with water and a mild dish washing soap.
2. With clean hands, remove the blue caps from both ends of each filter element.
3. Place the tan colored rubber priming button against one end of the PF-2 filter, making sure to align the hole of the filter with the hole of priming button.

4. Press the filter and priming button firmly against the sink faucet to create a seal between the faucet and the PF-2 element.

Hint: Place your thumb on top of the faucet to help apply pressure and to create a secure seal.

5. While holding the filter securely against the faucet, turn the cold water on slowly, allow water to fill the filter and discharge from the opposite end for at least 30 seconds or until the water runs clear whichever is longest.



Press Firmly to Maintain Seal



Allow to Flow until It Runs Clear

6. Turn the PF-2 filter over and prime the opposite end by reversing the water flow, keep repeating steps 3 thru 5 until water runs clear from both ends.

Hint: When you think the filters are primed – get a clear glass and flush both ends again into the glass to check for cloudiness and insure proper operation of the PF-2 filter, if not continue priming until water is clear. This filter is now properly primed and ready to install.

7. Prime each PF-2 element of your system as described above.

Cleaning and Operation

Cleaning the Berkey Purification System



Your Berkey water filter system is designed for a lifetime of quality service. So to maintain its peak operational efficiency it is necessary to periodically clean the stainless steel filter housing. This will remove the scale and deposits of the contaminated water and help your filter to continue to produce the high quality of water you have come to expect. Since the filter housing is made of a highly polished 304 stainless steel this will be accomplished with relative ease by following the few simple steps.

For normal cleaning you may either wash the unit by hand in warm soapy water or in the dishwasher. For either method please remove all filter elements prior to cleaning. However, before placing the unit in the dishwasher, please remove the spigot and knobs as well. The spigot can be washed in warm soapy water by hand. You should also scrub the Black Berkey

elements at this time see below for cleaning instructions. After doing so set them aside on a clean surface or preferably store them temporarily in a clean plastic bag.

If your source water contains harmful pathogens be sure to add about 16 drops of regular bleach per gallon of cleaning water. If your source water is particularly fouled it is recommended to run a filter cycle or two in your Berkey and set this water aside for use in washing out the unit. If you are still unsure if the water is good add chlorine to it as well.

After cleaning, rinse thoroughly with uncontaminated water and allow to air dry if possible. Reassemble the unit with your freshly scrubbed Black Berkey elements after it has dried, see below for details, your filter is now ready for service.

Notes:

- It is recommended to perform this cleaning after every six months of service.
- It is recommended to clean the lower chamber monthly with warm soapy water.
- If you have hard water and there is scaling build up on the interior of your unit after prolonged use, perform the following cleaning method. Soak the affected parts in vinegar or a 50-50 mix of vinegar and water for about 15 minutes then clean as usual with warm soapy water. Clean the Black Berkey elements as described below re-prime them and re-install.
- Do not use scented or industrial strength bleach for purifying your water

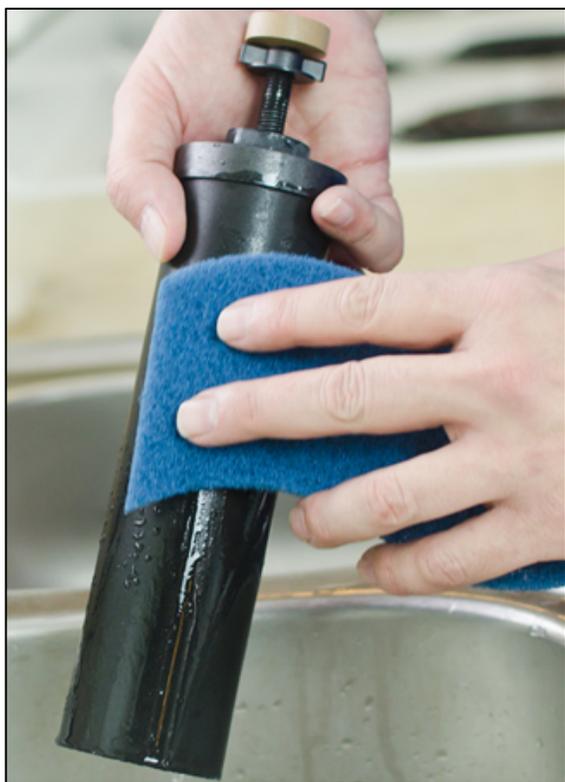
Cleaning the Black Berkey Filters

One of the reasons the Black Berkey filtering elements last so long is the ability to clean them.

The unique micro-pore structure of the Black Berkey is what traps minute particulates on the outermost surface of the filter. Over time, all micro pore filters will become clogged causing the flow rate to decrease. Unlike most filter of this type the Black Berkey simply needs a gentle cleaning to unblock these pores in order to re-gain the proper flow rate again. Most filter cartridges would have to be replaced but not the Black Berkey. As a matter of fact, under regular maintenance our filter elements may be cleaned up to 100 times before they need replacement. This is one more reason why the Black Berkey filter element is far superior to our competition.

The frequency of cleaning is largely determined by the amount of turbidity, total dissolved solids and sediment in the source water. If you fill a clear container with your source water and it is relatively clear you may only have to infrequently clean your filter elements. On the other hand, if it is extremely cloudy or turbid, then the elements may have to be scrubbed weekly or even daily to maintain a proper flow rate. To sum it up you should clean your elements when ever the flow rate of your filter is not meeting your current water demands.

Household Cleaning Instructions



1. *Empty the water from both chambers of your Berkey system.*
2. Remove the top chamber and set it on its side on any solid surface so it will not roll.
3. It is important to avoid contamination of the elements core, prevent this by placing your finger over the hole in the element's stem where the purified water flows from.
4. Remove the elements by unscrewing the wing nut that secures the Black Berkeys to the housing.
5. Place the element under running water, be sure the stem is pointed up and does not contact the water stream.
6. Using a new 3M Scotch Brite® pad, I prefer the Non-Scratch pads, carefully scrub the entire surface of the element for several minutes and then rinse thoroughly.
7. Re-prime the elements per the instructions above.
8. Set the filters aside on a clean surface and wash your hands thoroughly.
9. Reassemble your system; it is now ready for service.

Field Cleaning Instructions

1. Follow the Precautions described above to provide cleaning water that is free of harmful contaminants prior to proceeding.
2. In a clean bucket or container add clean purified water.
3. Empty all of the water from both chambers of your Berkey filter system.
4. Remove the top chamber and set it on its side on any solid surface so it will not roll.
5. Remove the elements by unscrewing the wing nut that secure the Black Berkeys to the housing.
6. Using a new 3M Scotch Brite® pad, I prefer the Non-Scratch pads, carefully scrub the entire surface of the element for several minutes and rinse thoroughly as needed in the clean water.
7. Clean all elements as detailed and set aside on a clean surface.
8. Empty the wash water in your bucket and add more freshly purified water as described in the Precaution above.
9. Submerge the filters in the purified water and set them aside on a clean surface.
10. Wash your hands thoroughly with soap.
11. Reassemble your system; it is now ready for service.



Operation Tips

- If the system is left to stand for more than 3 days, it is recommended that any water left in the lower chamber be run to waste as well as the new water that is purified during the first 1 minute to also be run to waste.
- When installing purification elements for the first time or replacing used elements, always prime and condition the new purification elements.
- After cleaning elements, it is recommended that the elements be re-primed. This will back-flush any process dust from the pores of the purification elements and prevent premature clogging.
- When lower chamber is partially filled, be cautious not to overfill upper chamber as this could cause lower chamber to overflow. For example, if the lower chamber is 1/3 full the upper chamber can be refilled by 1/3, if the lower chamber is 1/2 full, then the upper chamber can be refilled by 1/2, etc.
- While this system can effectively purify untreated pond or river water, always use the cleanest, clearest source possible for filtering. And while it is not at all necessary, it may be a good idea to run extremely turbid source water from say a lake, pond or stagnant water source through

a cloth prior to running it through your Berkey to filter out the large “chunks” and reduced the frequency of cleaning required. As an additional precaution if using water that may contain high concentrations of bacteria or viral contamination, add sixteen drops of household bleach or iodine to every gallon of water being used. Then filter the water through your Berkey system which will filter out the disinfectant and any remaining contaminants or pathogen.

- If filter is not used regularly, removed the purification elements, allow them to air dry completely and store them for later use in a plastic bag. Be sure to re-prime them prior to re-installing them in your Berkey System. Do not store your elements when they are wet.
- Before their first priming elements can be stored indefinitely, if dried and the stored use as soon as practicable.
- Do not allow wet purification elements to freeze.
- Do not place elements in a microwave oven, dishwasher or boiling water to clean or purify them. They are self sterilizing.
- Clean only as directed and never use soap when cleaning them.
- Do not use salt water for your water source.

Replacing the Black Berkey® Elements

Each Black Berkey® purification element is capable of filtering 3000 gallons so the best way to gauge when to replace the filters is to do the following:

1. Determine the Total Gallons Filtered by multiplying the number of filters in your system by 3,000.
2. Next keep a track of how many times you need to refill the upper chamber in one week. Now multiply the number of refills by the capacity in gallons of your particular system (e.g. the Berkey Light™ system is 2.75 gallons) to determine Total Gallons Used per Week.
3. Divide the Total Gallons Filtered by Total Gallons Used Per Week the result will tell you how many Weeks of Use before the elements should be replaced.
4. Next calculate the Element Replacement Date (52 weeks per year) and write the date on a sticker and attach it to the bottom of your system for future reference.

If you are already using your system, calculate the Weeks of Use and just be sure to count forward from the date when you purchased your system.

To give you an idea of how long your filters might last under everyday usage take for example: if you have a family of 4 and each member uses 3/4 of a gallon of water a day that would be 3 gallons per day for your entire family. A typical system is configured with two filter elements which will last about 6000 gallons under normal usage. Divide 6000 by 3. This gives you 2000 days before you need to replace your filter elements. Now divided 2000 days by 365 days per year this would be equal to 5.5 years of filter life! This is far superior to the typical filter pitcher or faucet attachment which can cost hundreds or even thousands of dollars to provide filtered water for the same time period. Your Black Berkey® filter elements will never stop working; the filtration rate just slows down.

Replacing the PF-2 Filter Elements

The best way to gauge when to replace the filters is to do the following:

1. Determine the Total Gallons Filtered by multiplying the number of filters in your system by 500. [e.g. – 2 filters = 1000 - 4 filters = 2000 - 6 filters = 3000]
2. Next keep a track of how many times you need to refill the upper chamber in one week. Now multiply the number of refills by the capacity in gallons of your particular system (e.g. the Berkey Light™ system is 2.75 gallons) to determine Total Gallons Used per Week.
3. Divide the Total Gallons Filtered by Total Gallons Used Per Week the result will tell you how many Weeks of Use before the elements should be replaced.
4. Next calculate the Element Replacement Date (52 weeks per year) and write the date on a sticker and attach it to the bottom of your system for future reference.

If you are already using your system, calculate the Weeks of Use and just be sure to count forward from the date when you purchased your system.

Red Food Coloring Filter Test

You can run a **Filter Test** by filling the upper chamber with water and adding a tablespoon of red food coloring for every gallon of water in your upper chamber. If the red food coloring is removed entirely, your filtration system is working properly. If there is any trace of red in your filtered water, check to make sure that the Black Berkey® elements are seated properly and that the wing nuts on your elements are securely tightened. If the test fails run the test until you are successful, making sure to rinse out the lower chamber thoroughly between tests. If you do not have a successful test on the first run, be certain that after you have a successful test to thoroughly clean the lower chamber with soap and purified water, then return it to normal service.

We recommended that you run the test when your system is first assembled. We also recommend that you test your system every 3 to 6 months thereafter or after your system has been in storage or before taking your system on a trip and especially before taking it out of the country.

Berkey Warranty

General Warranty Information

New Millennium Concepts, Ltd. Warrants this product to be free from defects in materials and workmanship for a period of 6 months from date of purchase. Black Berkey® purification elements have a two-year prorated warranty calculated in six months intervals. New Millennium Concepts, Ltd. will replace or repair any product that it deems is not properly functioning during the stated warranty period. Relief under this warranty is limited to the replacement or repair of defective materials or workmanship only. New Millennium Concepts, Ltd. shall not be held liable for incidental or consequential damage to personal property from, but not limited to, a defective unit, improper use, abuse, accident, or neglect, etc. No warranty will apply to units which have been used for purposes not intended, which have been altered so as, in the manufacturers judgment, to affect adversely its performance. This warranty is for the original retail purchaser only, and cannot be transferred. Repair or replacement of parts will be made upon delivery to manufacturer's plant or authorized service dealer at customer's expense. The laws of the State of Texas, USA, will govern any disputes regarding this warranty or claim made. This warranty, which is given expressly in lieu of all warranties, expressed or implied, or merchantability and fitness for a particular purpose, constitutes the only warranty made by New Millennium Concepts, Ltd. Berkey Blue makes no warranty express or implied regarding any material and workmanship or of any kind whatsoever of any product sold by Berkey Blue; and, all sales made by Berkey Blue or any of its agents or Berkey Pros are made subject to the terms and conditions of Berkey Blue at the time of the sale.

Black Berkey Pro-Rated Warranty

The Black Berkey® purification elements have a two-year prorated warranty calculated in six months intervals. Our guarantee is prorated similar to the guarantee on tire tread. In other words, if you have used the filters for six months 100% of the guarantee applies, from five to twelve months 75% of the guarantee applies, if you have used the filters for thirteen to eighteen months 50% and from seventeen to twenty-four months 25% of the guarantee applies to the replacement cost of a new set.

Use in months	Percentage of Coverage	Replacement Cost
1 to 6	100	0
5 to 12	75	25% of new filter set
13 to 18	50	50% of new filter set
17 to 24	25	75% of new filter set