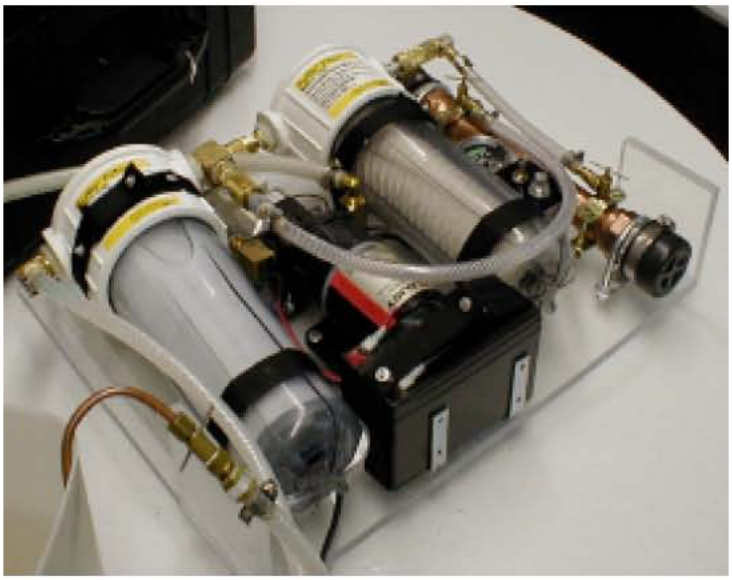
Missions Water Purifier - 40
(MWP - 40)
Directions and Specifications

The Missions Water Purifier - 40 (MWP - 40) is designed to purify water for drinking. It may be used in remote areas where good drinking water is not available. It requires minimal maintenance. The entire system is enclosed in a durable poly case. It is air tight, and dust and water tight when closed. The case has two, two inch wheels and an extendable handle for easy handling.

The water is dissinfected by photo exposure to carefully selected frequencies of ultra violet radiation. Pathogenic bacteria is destroyed and the DNA coding in viri is rearranged by the exposure to the radiation. This exposure renders the virus incapable of reproducing. There are two filters and a strainer to removed particles and chemicals. One filter removes particulate, and the other removes chemicals and harmful cysts.

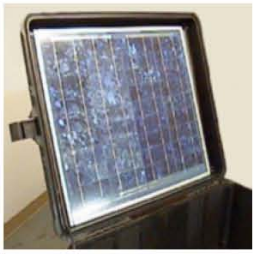


The unit may also be used by connecting a jumper from an automobile charging system, or adding an optional power supply.

Discription of MWP - 40

The following instructions have been prepared to help make operation of the MWP - 40 a pleasant experience

The unit is powered by a twelve volt, 7 Ah lead-acid battery, similar to the one in your automobile. It may be recharged thousands of times. The battery is charged by a solar panel, and a computerized controller regulates the voltage, so it keeps the charge at a prescribed level, and will not overcharge.



This unit produces forty (40) ounces of sparkling clean drinking water per minute. Other models are available which will produce much greater amounts.

Inlet

A footvalve is on the inlet hose, which keeps the pump primed at all times. There is a strainer screen on the end, to keep out large pieces of debris.

A sleeve filter may be used over the footvalve to keep silt from entering the system. ALWAYS USE THE CLEANEST WATER AVAILABLE. This prevents unnecessary and premature changes of the filters.

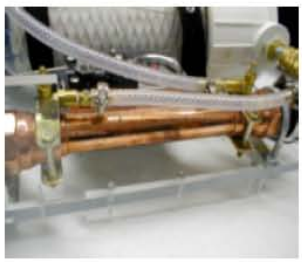
Pump and String Filter

The water travels from the footvalve through an industrial

quality pump. In the picture it is marked with a green sticker. From there it travels to the string filter, as shown in the picture on the right. Here particulate contamination is removed.

Radiation Chamber

Next, it goes through the copper radiation chamber for destruction of bacteria and viri. This unit is the heart of the MWP - 40. In this unit the bacteria is destroyed before it enters the carbon filter. Many units on the market allow the bacteria to be deposited in the carbon filter, and bacteria begins to accumulate there.



Carbon Block Filter

From the Radiation chamber the water passes through the carbon block filter. It is here that chemicals, bad tastes, odors and cysts are removed. It will remove particles as small as .5 microns.

From here the water flows into the receiving vessel.

Instructions for use

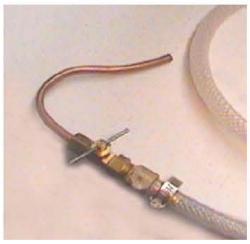
1. Open the case and lay aside the foam pad. Remove the solar panel and place in the brightest light available. Direct sunlight is the best, however any light source will work. Even cloudy days, there will be sufficient light to operate the system. The solar panel has a long cord, so it may be placed some distance from the main unit.

2. Remove the next eggshell layer of foam and lay aside.

3. Place the footvalve in the water to be cleaned. ALWAYS, choose the cleanest water available, to prolong the life of the filters. If the water is discolored or muddy, it is important to let it set in a container until the silt settles to the bottom. Then place the footvalve in the top of the water. Do not let the footvalve lay in mud or leaves.

3. Check the voltage on the battery by depressing the momentary switch on the control panel. Do not permit the battery level to get lower than 80% of full charge, or battery damage will result. Eighty percent of 12 volts is 9.6 volts. This meter will give an accurate reading, and keep your equipment safe. The maximum charge the unit will receive is 14.01 volts, controlled by the computerized controller. If the battery level is in the operating range, indicated by the green or green diagonals, go to the next step.

4. Place the discharge hose in a receiving vessel. It may be a large vessel, or a drinking glass.



5. Turn the switch to the 'on' position. (Left). When finished using the unit, turn to the 'off' position, because the radiation unit is also 'on' when this switch is in the left position, and will continue to draw energy from the battery.

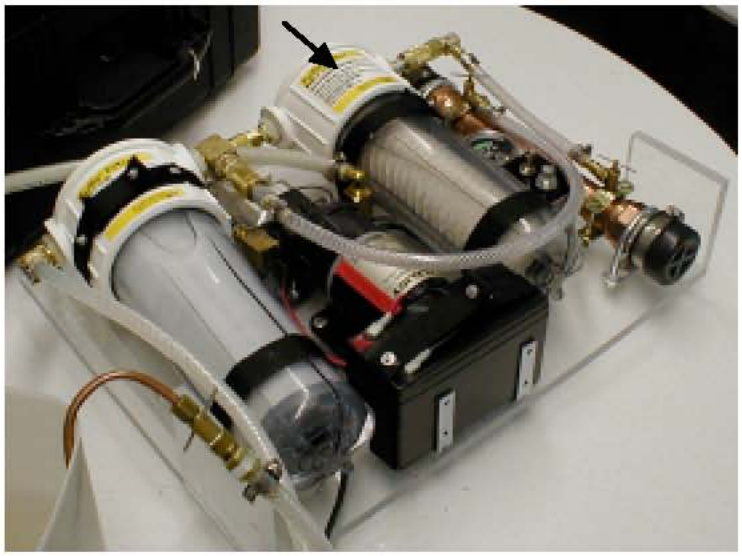
6. Open the valve at the end of the discharge line. The pump will begin pumping when the switch is positioned 'on' and the radiation unit will be energized. Air entrapped in the system will be expelled.

Refreshing, pure drinking water will be pouring from the nozzel. To stop the flow, simply close the valve at the end of the discharge hose. The pump will stop, but REMEMBER the radiation unit is still energized as long as the switch is 'on'.

WARNING: When the unit is not in use, turn the switch to the 'off' position (right); this stops battery drain from the radiation unit.

Maintence Instructions

1. Changing the string filter:



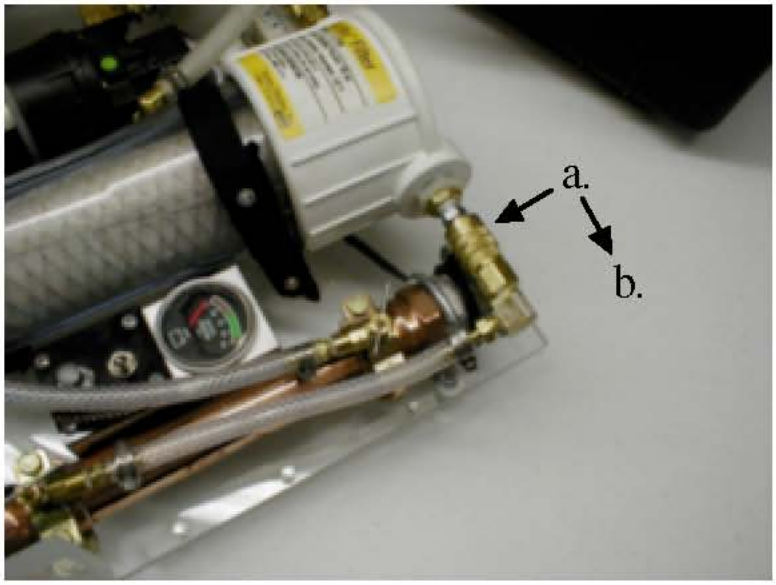
The filters are secured by velcro straps. The strap at top of each filter will open; the one at the bottom does not.

a. Turn the electrical switch to the 'off' (left) position.

b. Remove the unit from the case, simply by lifting it from each side. It will easily lift out and will lie down on a flat surface or will stand on its bottom. This surface most likely will get some water on it, so keep this in mind.

c. Place the discharge nozzel in a container lower than the unit and open the valve to let the water drain. Let the water drain until you see the water bubbles disappear from the clear hoses connecting the filter.

d. Disconnect the 'quick disconnects' on the string filter. There are two. Grasp at a. and move in the direction of b.



Do the same thing on the opposite side of the filter, grasping the outer side with the fingers and move it toward the filter.

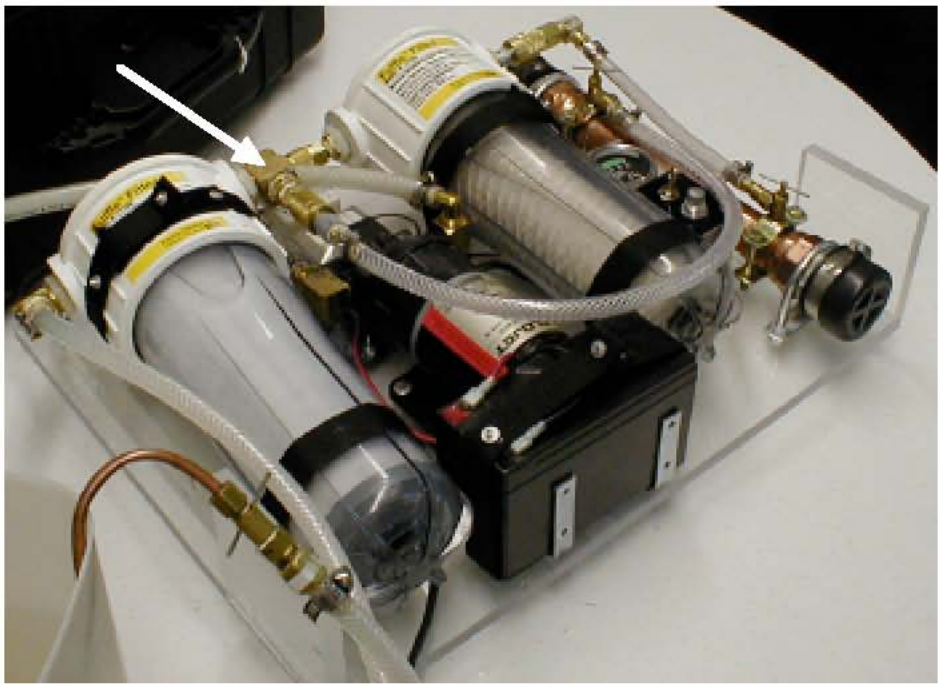
e. Release the velcro fastener and slide the filter out of the bottom strap.

f. Hold the top of the filter firmly, and turn the clear case counter clockwise. This will disassemble the filter and release the cartidge inside. Remove the dirty filter and rinse the entire unit with clean water.

g. Replace the cartride with a fresh, new one, being certain that the top and bottom fit properly over the projections in the top and bottom. If not properly installed, DAMAGE will occur to the cartidge and it will not function properly.

h. Reassemble
YOU WILL KNOW IT IS TIME TO CHANGE THE FILTER WHEN YOU CAN DISCERN VISIBLY THAT IT IS DIRTY AND THE FLOW OF THE UNIT IS NOTICIBLY AFFECTED.

2. Changing the carbon block filter: This filter will not often need to be changed. When the water from the unit begins to be show color or the flow rate is significantly reduced, change the carbon block filter.



a. There is only one quick disconnect on this filter. Remove it the same way as on the string filter.

b. Remove the velcro strap and slide the filter from the bottom strap.

c. Remove the cartride and rinse the entire unit in clean water. Replace the cartride as in the string filter, being careful to place it in its proper place. Reassemble.

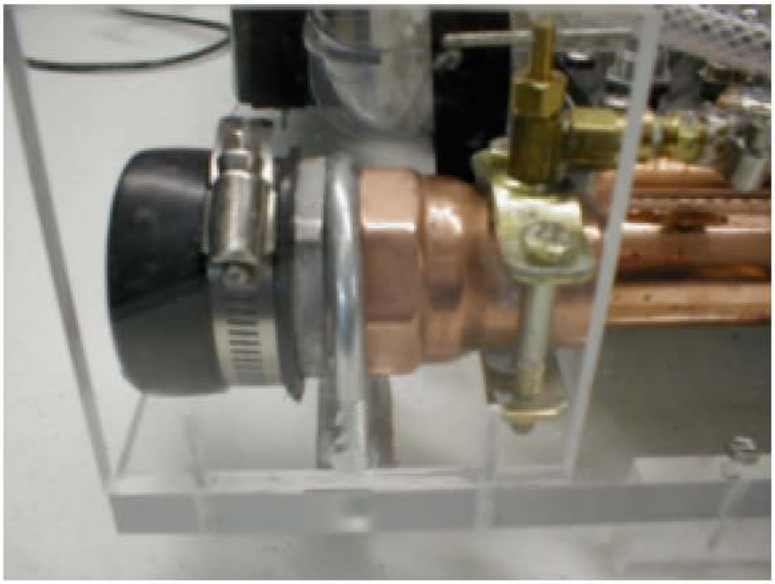
3. Checking the radiation tube: The average life of the radiation tube is 9,000 continuous hours. After this amount of useage, its efficiency will be reduced by 40%. It will need to be replaced, normally after slightly over one year, if the unit is used regularly.

a. It is important to check the tube to see if it is producing light. Do this OFTEN, because if this tube is not functioning, the until is not destroying bacteria and viri. It is very simple to check the tube.

b. Remove the unit from the case and lay it on its back on a flat, stable surface.

c. Remove the black cap from the lower end of the radiation chamber. It is secured with a clamp, which is left loose intentionally. This cap is EXTREMELY IMPORTANT! It's purpose it to protect the bottom end of the quartz sleeve. This sleeve is quite delicate, and must not be broken! The black rubber cap is there to protect this sleeve.

d. IMPORTANT: After removing the cap, turn the switch to the 'on' position momentarily. Standing to the side, a violet glow should be visible on the edge of the sleeve. It is quite visible, but may be harder to see in bright sunlight. If you cannot see the glow, look into the end of the sleeve, from a distance. Do this from a distance of two or more feet, because ultra-violet 'C' rays can be harmful to the eye. DO NOT EXPOSE YOURSELF TO THESE HARMFUL RAYS. The unit is as safe as your microwave when the rubber cap is in place. The rays will not escape, and the unit will not be harmful to you. There is NO RESIDUAL effect of the radiation in the water, and it is INSTANTLY gone when the unit is turned off.

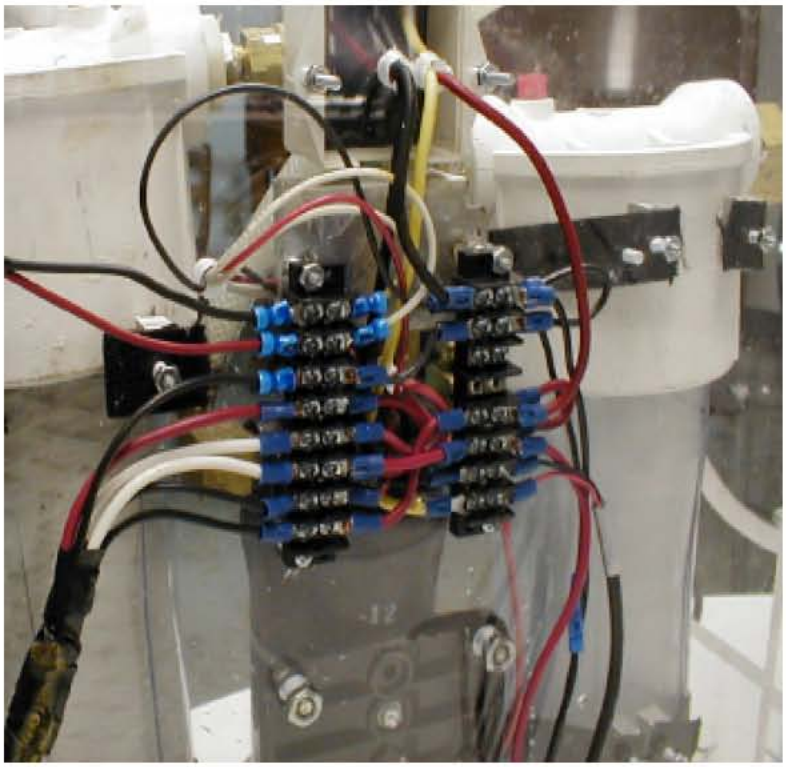


WHAT IF !?

What if the battery dies!? or the pump dies!?

1. An optional hand pump is available that can be connected to the unit by simply removing the quick disconnect on the left side of the string filter, and attaching the pump with a mating connector. Place the intake of the pump in a source of water and turn the handle.

2. The radiation unit will work just on the electricity produced by the solar panel. The switch must be in the 'on' position. Therefore, if the pump or the battery should fail, the system can still operate as long as the radiation tube is still activated. It operates on . 4 amp. The solar panel puts out 2 amps.



Removed the quick disconnect on the left side of the string filter and using a hand pump or a squeeze bottle, force water through the system with the switch in the 'on' position.

3. Trace and disconnect the wire on the back that comes from the pump, in case of pump or battery failure. This will allow the system to work just off the solar panel.