

MAINTENANCE AND CLEANING

REGULAR CLEANING OF YOUR SYSTEM'S FILTER AND DIFFUSER IS VERY IMPORTANT TO KEEPING THE SYSTEM OPERATING PROPERLY AND EFFICIENTLY.

WHEN TO CLEAN FILTER

There is a natural tendency to clean the filter more often than required. A slightly dirty filter will filter the water better than a new filter. The filter element will also filter out finer particulates after it has been used for awhile. This is referred to as "seasoning" the filter.

The time between filter cleaning will vary according to the severity and type of water problems, the condition of your holding tank prior to the system installation, and the amount of water used per day.

To clean the filter, it is only necessary to hose the collected debris off the filter pleats - **DO NOT SCRUB THE PLEAT MATERIAL OR USE ANY CLEANING AGENTS** - The pleats will stain over time and will not become white when cleaned. This is normal and will not affect the function of the filter.

Use the following method to determine the cleaning interval for your filter:

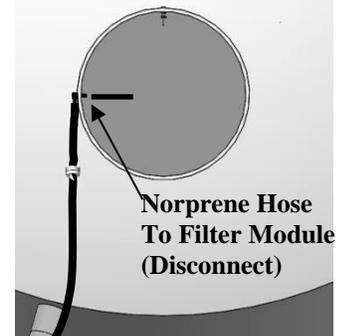
1. After initial start up, perform the first filter cleaning in 10 to 14 days. This is when the water in the tank should be completely clear (stabilized). Perform another filter cleaning 30 days after the initial cleaning. If the filter is not "loaded" with particulates (A "loaded" filter is defined as having more than 1/2 of the filter pleat depth filled with particulates) at the 30 day cleaning, you can then set your cleaning schedule to every 60 days. If not loaded in 60 days you can extend the cleaning schedule to every 90 days. **In no case should the filter cleaning interval exceed 90 days.**

2. If the filter is fully loaded at the 30 day cleaning, then cut the cleaning interval to two weeks. You should not need to clean the filter more than every two weeks. This bi-weekly cleaning should only be required if your tank has a lot of "growth" or deposits on the tank walls. The water treatment system will remove this growth off the tank walls and your tank will reach a point of stabilization. Once your tank has stabilized, extend your cleaning interval to 30 days. If the filters are not loaded at 30 days, extend the cleaning interval to 60 or 90 days as appropriate. **In no case should the filter cleaning interval exceed 90 days.**

FILTER CLEANING

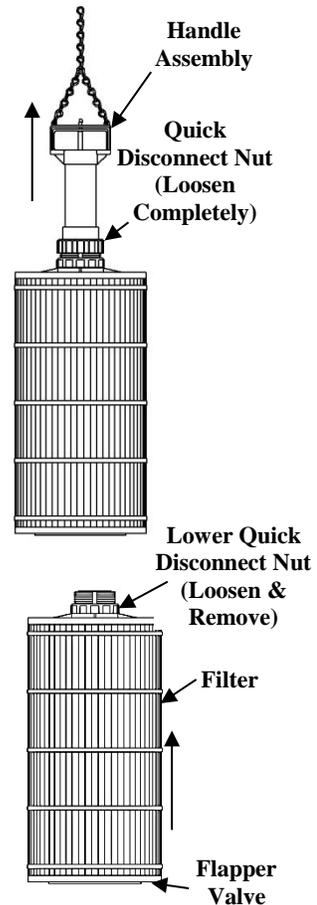
1. Leave the ozone generator ON.

2. Proceed to the tank manhole. Remove the Norprene hose from the 3/16 hose barb (inside the manhole) to stop the ozone flow to the diffuser.



3. **Slowly** pull the Filter Module to the surface, such that the top of the lift pipe is just below the surface of the water. Now pull the entire filter module, using the Handle Assembly, vertically through the manhole in one smooth motion and place on most level area of tank. **Do not pull up the filter so fast that turbulence will be created as this will knock excess debris off of the filter.** As you pull up on the filter, the flapper valve will open and release the water trapped inside the filter. This creates a slight vacuum inside the filter, thus helping to hold the debris on the pleats in place. Note - some debris will fall off the filter, but since this is coagulated debris, it will fall rapidly to the bottom of the tank.

4. Remove the Handle/Diffuser Assembly by completely loosening the Quick Disconnect Nut and pulling straight up on the handle. This will get you easy access to the Diffuser Assembly which will need to be cleaned (see Diffuser Cleaning).



5. Completely loosen and remove the Lower Quick Disconnect Nut and lift the Filter straight up. Hose down the filter with the free Cleaning Wand that came with your system by spraying the outside from top to bottom. Then spray from the inside out (reverse flow) also from top to bottom. Reassemble the Filter/Lift Pipe Assembly and check to make sure that there is no debris in the flapper valve that would prevent sealing.

HELPFUL HINTS

You may wish to purchase an extra filter element. You can then change the filter element on top of tank, clean the dirty filter on the ground and store for next change. Once used, you must keep the filter element wet. The best way to do this is to fill a clean garbage can with water and add some chlorine bleach.

A free filter cleaning wand is included with every system order. This wand is engineered to ease the cleaning task and to spray the filter from the inside out. It cuts the cleaning time in half and saves water at the same time.

DIFFUSER CLEANING

The diffuser will become restricted over time due to the ozone precipitating out iron, manganese, calcium, etc., and plating the surface of the diffuser with these contaminants. A plugged diffuser will reduce both the ozone flow and therefore the water flow through the filter, thus impairing the ability of the system to maintain your water quality. A completely plugged diffuser can cause damage to the ozone generator components.

Dip, **DO NOT SOAK**, the diffuser (up to the green band), with Norprene hose attached, in a gallon jug of swimming pool muriatic acid until it turns white. **Do not "Bubble" ozone in the muriatic acid.** Make sure the ozone hose has been disconnected from the manhole barb fitting as covered under filter cleaning, so no ozone gas is flowing through the diffuser. If ozone gas is flowing through the diffuser, it will keep the acid from cleaning the diffuser pores and create excess acid fumes.

CAUTION: MURIATIC ACID NEEDS TO BE HANDLED CAREFULLY. DO NOT BREATHE THE MURIATIC ACID FUMES.

After cleaning the diffuser in the muriatic acid, rinse completely with water. It should become sparkling white. Repeat the cleaning procedure if necessary.

Reassemble the Diffuser/Handle Assembly onto the Filter/Lift Pipe Assembly and hand tighten the quick disconnect nut. Slowly lower the filter module into the

tank and reconnect the Norprene hose to the 3/16 inch barb fitting. Check for a rising pattern of bubbles in the tank and replace the manhole cover.

HYDROGEN SULFIDE WATER

(Rotten egg odor)

In water systems with hydrogen sulfide (rotten egg smell), the diffuser may become plugged with sulfur that is not soluble (cleaned) in muriatic acid. If this is the case, first clean the diffuser with muriatic acid as described above. Then rinse the diffuser thoroughly and soak for at least 15 minutes in concentrated chlorine bleach solution and rinse.

ANNUAL MAINTENANCE

Once a year, detach black vinyl tubing from generator to tank top and Norprene tubing from tank top to filter handle. Drain tubing of any accumulated condensation.

BI-ANNUAL MAINTENANCE

The ozone generator UV light assembly should be replaced every 18 to 24 months to maintain peak ozone output. The UV lamp ozone producing rays will decrease over time. This is due to the lamp glass "solarizing" and becoming more opaque to the ozone producing wavelength. Please note that the light you see coming from the UV view port on the front of the generator is visible UV light. The wavelength of light that produces ozone is not visible to the human eye. Therefore, the indicator light may be lit even after 2 years of operation, but the lamp is no longer producing the required amount of ozone.

The ozone output of your system will reduce to about 80% of new after 12 months, 50 - 65% of new at 18 months, and 25 - 40% of new at 2 years.

When changing the UV lamp, ensure that the bulkhead (metal) fitting on the side of generator is clear of any blockage before installing the tubing from the UV lamp to the bulkhead fitting. To clean, use a small wire or tool to ream out the barbed fitting. This is also a good time to make sure there are no leaks in any of the tubing from the air pump all the way to the filter module.

