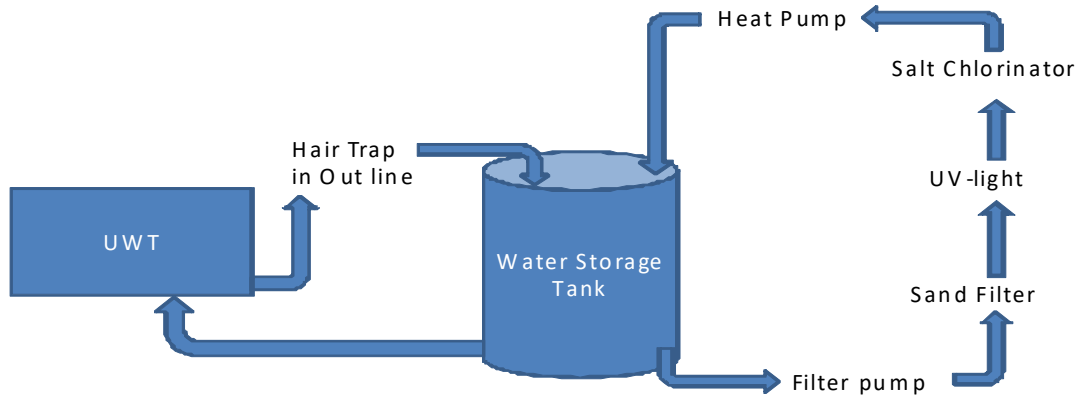


Water Management



Components of Water Filtration and Sanitizing System

Hair trap: Removes residual dog hair coming out the underwater treadmill tank. The hair trap is in the out-line between the treadmill tank and water storage tank. It should be cleaned daily or more often as the work load requires.

Filter Pump: Drives the filtration and sanitizing system. The basket should be cleaned of hair daily.

Sand Filter: Removes the particulate matter from the water. The filter should be backwashed daily or as the workload requires.

UV light: Deactivates micro-organisms in water.

Salt Chlorinator: Salt is added to the water as required. The salt molecule (NaCl) is split by the chlorinator to make chlorine available to the system. The chlorinator is on a timer and should run at night to clean the water. This means that you would have the chlorinator's timer set for the chlorinator to run for period directly after closing up so that the water has maximum exposure to the chlorine and its sanitizing effect. After the chlorinator shuts off, chlorine levels will slowly reduce in the water as it is filtered so that by the next morning you are working with water that has acceptably low chlorine levels for the dog's and therapist's skin.

The water is super-chlorinated on the weekend or days when not in use to break down combined chlorine, organic matter, contamination and to re-establish a positive level of free chlorine in the water.

You need to monitor the amount of pool salt to be added to the tanks so that sufficient NaCl is available for the chlorinator to make chlorine. Too low levels of chlorine will not clean or sanitize the water and will allow algae to get into the system forcing you to dump all the water and to clean the system which is wasteful. Remember too much salt in the water is an irritant to the dog's skin and eyes, corrosive to the system and dirties the glass of the UWT. The amount of salt required will be

determined by multiple factors such as the load, water lost and replaced, amount of chlorination required etc. The chlorinator shows when the salt levels are low.

Heat Pump: The energy-efficient heat pump heats the water. The filter pump should be working for heating to occur. The heat pump should be set to heat the water prior to starting in the morning. The length of time needed to heat the water will depend on climatic conditions.

DAILY MAINTENANCE	
Hair trap	Daily or more frequent cleaning depending on work load
Filter and out-pump baskets	Clean daily
In-pump basket	Clean when needed
Sand filter	Backwash daily or as workload requires

Water Sanitization

The UV-light in the filtration system deactivates microorganisms in the water resulting in a decrease in the amount of chlorine used by the system.

Water variables must be checked at least twice daily:

Chlorine	Free chlorine sanitizes water
pH	7.2-7.6
Total Alkalinity	Buffer of the water system 80-120ppm

Chlorine: Free chlorine is the chlorine available to sanitize the water with maximum effect. Combined chlorine is chlorine molecules which are attached to ammonia and not as effective. Total chlorine = Free chlorine + combined chlorine

pH: The ideal pH for the dog's skin is pH = 7. Maximum chlorine activation occurs between 7.2-7.6. Too low pH levels (acidic) will cause damage and corrosion to the system, burn eyes, itch the skin and activated chlorine is lost into the atmosphere. Too high pH levels (alkaline) will cause cloudy/murky water due to CaCO₃. As the pH increases chlorine becomes less effective, eyes burn and skin itches.

Total alkalinity: The measure of the water to resist changes in its pH. It is the buffer! Ideal range to allow proper buffering is 80-120ppm.

It prevents the pH swinging too high or too low, so maintaining a stable pH; allows chlorine to effectively kill pathogens; helps prevent corrosion of the metal in the system; prevents stains and scale formation; and prevents skin and eye irritation.

Sodium bicarbonate is added to the water to increase the total alkalinity if needed. Turn off filter pump for 15min when adding the sodium bicarbonate to the water storage tank.

Water management records should be recorded. This will allow all users to know what chemicals have been added, what the daily pH and alkalinity are and help you problem solve. If you get algae in your system it is most likely to be because your water management has been inadequate at some stage in the preceding 2 weeks.