

# Automated Aquatics Pool Operation Guide - COVID-19 Response

March 17, 2020

Updated March 30, 2020



## GENERAL TIPS:

- To limit the amount of time Albertans are spending in large crowds and crowded spaces, all Albertans are prohibited from attending public recreational facilities and private entertainment facilities, including gyms, **swimming pools**, arenas, science centres, museums, art galleries, community centres, children's play centres, casinos, racing entertainment centres, and bingo halls.
- Microbiological samples are not required while the pool is closed to the public.
- Pools in ground are subject to hydrostatic ground forces surrounding the structure. The weight of water helps to balance exterior forces and maintain the structural integrity of the pool shell. A functional hydrostatic pressure relief valve in the pool floor is required to reduce the risk of structural damage. In our experience, the hydrostatic valve is a commonly faulty pool component.
- Please follow guidance from the local utilities provider about drainage if a complete shutdown and pool draining is being considered.
- Running pools at reduced chlorine levels & water temperatures can provide cost savings over draining/refilling.
- Person to person contact is where there is risk of transmission. Please follow AHS's guide for [Environmental Cleaning in Public Facilities](#).
- There is no concern with COVID-19 spreading through pools and hot tubs when proper chlorine and pH levels are maintained. ORP is a good measure of disinfection effectiveness. "Proper operation, maintenance and disinfection should remove or inactivate the virus that causes COVID-19."  
Source: CDC <https://www.cdc.gov/coronavirus/2019-ncov/php/water.html>
- Closure to the public is an opportunity to undertake some maintenance activities that can be difficult to accomplish when bathers are present. We recommend facilities use this closure to undertake filter cleaning, surge tank cleaning and deep cleaning of decks, pool toys and other pool equipment.

## CIRCULATION & FILTRATION

- Continue to run as per standard operational guidelines to meet Pool Standards
- If you have variable frequency drives on filter circulation pumps, running at a reduced flow rate should be implemented with caution. Reduced flow creates poor diffusion from inlets and prevents sanitized water from mixing with the entire basin. Hydraulic dye testing should be considered with reduced flow to ensure satisfactory hydraulics when reduced flow rates are being considered.
- Continue to run water feature circulation pumps (water slide, hot tub jets etc.) at least 1 hour every 12 hours to prevent stagnant water contamination risk.
- Run robotic pool cleaners daily to help with mixing and assist distributing sanitizer to dead spots in the absence of bathers
- Ensure your instrumentation equipment is functional. Flow meters, pressure gauges and in-line turbidity measurement equipment all provide valuable feedback for system performance.
- Reducing water temperature can help reduce energy and chemical costs. Hot tub and pool water heating set points can be reduced to near room temperature (20-25°C). It is best practice to keep water and air within 1°C to reduce issues related to evaporation and humidity. Consult your HVAC system operator prior to making any changes to water temperature.
- Recommendation for sand filters: a thorough backwash (and air scour if equipped) for sand filters 24-48 hours after the facility is closed with a daily check for pressure differential. If pressure differential is constant, we recommend still performing a backwash once every 2 weeks to ensure adequate filter bed disturbance and prevent filter run issues when normal use resumes.

Continued

- Recommendation for pre-coat filters: a thorough media dump and chemical cleaning 24-48 hours after the facility is closed with a daily check for filter pressure change.

## WATER CHEMISTRY

- Continue normal chemical treatment practices for 5-7 days after facility closure.
- As noted above – running feature pumps at intervals is critical to prevent the growth of biofilm in stagnant circulation lines.
- As temperature decreases (see note above) the chlorine demand will naturally drop. Adjusting the ORP or chlorine set point to maintain a free chlorine of 0.5 ppm is sufficient to maintain water quality when there is no bather load.
- Normal pH and alkalinity values should be maintained to keep a balanced saturation index.

## FOR CLIENTS WITH THE WAPOTEC™ SYSTEM:

- To set your pool up for success and further minimize chlorine demand we recommend continuing standard dosing of filter aids (clarifiers/coagulants) and supplemental oxidizers for 2 weeks after closure to the public. This will maximize the removal of fine suspended material that is slow to remove/oxidize and adds persistent demand to the sanitizer in the water.
- For coagulant/flocculent dosing (WapoFloc™ & HydroSAN™) as part of the WAPOTEC™ system: Reduce coagulant dosing to 1/3 of the standard feed rate (or the lowest stroke speed rate, while keeping the stroke strength >50% to prevent losing prime). This low dosing prevents any additional contaminants from being collected deeper in the media bed which could impede backwash performance/media lifespan.
- In the event a dosing pump is being taken offline, ensure proper shutdown procedure is completed. Water should be pumped through from the foot valve to the injector to rinse the lines. Pumps can then be unplugged and left off until dosing is to be resumed.
- Continue to observe water clarity and color (ideally measured with a turbidimeter). If the water appearance deteriorates, resume normal clarifier/coagulant dosing.
- Supplemental oxidizer use (WAPOTEC™ HydroXAN™ or hand dosing Oxy™) can be reduced to 1/3 the normal dosage after 2 weeks with no bather load. There will be residual demand for chlorine, and these non-chlorine oxidizers are a more sustainable option for handling oxidation needs. Taking the workload off your sanitizer ensures the free chlorine is available to disinfect rather than oxidize the chemical contaminants in the water. This includes preventing monochloramine (present in fill water) from reacting to form dichloramine or trichloramine as undesirable byproducts. HydroXAN™ specifically also provides protection against biofilm growth that is common where there are areas of stagnation (feature pump circulation lines/circulation dead spots).
- If the pool is being used for infrequent small groups/staff training we recommend maintaining normal dosing levels of filter aids/oxidizers for one day before and after.
- Return to normal dosing 1 week prior to re-opening date.

## INTERNALLY:

- Automated Aquatics is dedicated to providing a healthy and safe environment for its employees and clients. We've implemented the following steps to do our part in reducing the spread of COVID-19
  - Limited all travel to essential travel only.
  - Provided all staff with Alberta Health Services recommendations for prevention and protection from the virus
  - Increased employee handwashing and office cleaning practices
  - Employees offered the option to work from home where possible
  - Reduced in-person meetings and contact in favor of remote communication methods
  - Reviewing COVID-19 policies from clients and ensuring we are compliant prior to any site visits