

# Your complete CHECKLIST

for re-starting starting your cooling tower - Counterflow

- Complete your preliminary checks.** Our Advice: check your gearbox oil level, check for freedom of rotation, look at the water level in the basin, check that no extraneous material is present in your cells, and finally, check that the vibration switch is energized.
- Turn your water on.**
- Fill the Cold water basin and circulating water system slightly above the operating water level, allowing for drawdown.** Our Advice: When filling the water system, make sure to open all riser valves to prevent over-pressurizing on the hot water distribution system.
- Start-up the circulating water pumps.** Our Advice: DO NOT allow water from the first start-up to be fed to the cells. This water is dirty, likely containing debris that will block the nozzles.
- Clean the Circuit.** Our Advice: The water must bypass the tower and MUST be pumped through the circuit for a minimum of one full cycle through the circulating water system to clean the circuit.
- Be sure to observe the water level in the basin to prevent overflowing just in case the sump screens were to clog with debris.**
- Once the initial flush is complete, stop the pumps and empty and clean the basin.** Our Advice: repeat steps 3-7 until all significant debris has been removed.
- Once debris has been removed, refill the basin and start cooling tower operation.** Our Advice: Be sure to check all mechanical equipment to ensure that no foreign material is obstructing the fans. If your supplied gear is reversing, be sure that the fan is NOT free spinning before start-up.

- Start each fan separately.** Our Advice: Monitor the fans for any excessive vibration. Excessive vibration will trip the vibration switch and shut down the fan motors.
- Check operation of vibration cutout switch.** Our Advice: To do this, remove the red cover screw and manually adjust the vibration switch sensitivity setting until the switch trips. Reset the switch by returning the sensitivity setting to its original position and then depressing the reset button located on the top side of the unit.
- If the Vibration Switch is not working properly, CONTACT COOLING TOWER DEPOT: 720.746.1234**
- If there is excessive vibration, notate the cell number and notify our service department: 720.746.1234**
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- Then re-check the gear reducer oil levels.**
- If wet-bulb and heat load are near design conditions, you may check the fan brake horsepower.**
- Allow for a total of 30 minutes of cooling tower operation to pass, then check motor wattage, or voltage and amperage, for calculation of brake horsepower.**
- Start-up the circulating water pumps.** Our Advice: To avoid over-pressure in one cell, make sure that all valves to the tower are open.
- Check the equilibrium of water distribution between cells.** Our Advice: By nature, this system is self-balancing and so all cells should receive approximately the same amount of water. Adjust the valves so that each cell distribution has about the same flow of water.
- Finally, monitor the circulation water pump KW verses the pump curve to verify that the design flow is not exceeded.**