How To Clean Cooling Towers

Safely Vacuum & Wash Away Slime, Algae, Sludge & Mud

Cooling Tower Pre-Cleaning Preparation

Whether you are mechanically or chemically cleaning a cooling tower, these steps must take place first. It is important that each step be adhered to.

The order of the steps can be fluctuated but each step must be done to insure your safety.

1. The tower must be isolated from the system.
2. Turn off and secure the electrical service to the tower.
3. Be sure the tower fan is off, the main circulating pumps are off, and the temperature sensors are off or put in a none operational mode.
4. Lock out and tag out the main power switch.
5. Close the valves that supply and return water to and from the tower.
6. Close the make-up water valve to the tower.
7. Open bottom drain of the tower.
8. Remove overflow pipe.
9. Remove the grate covering the suction intake for cleaning if possible.
10. Have a separate garden hose ready, charged, and place in tower once the tower has been drained out. (Have your squeegee, broom, and shovel ready and place in tower).
11. Suit up with water proof boots, coveralls, gloves, hat, and face protection.
12. Begin your cleaning. Once cleaned, reverse the procedure for start-up.

Mechanical Cleaning

This type of cleaning will involve the use of a GI EPW 1500 Power Washer, a garden hose with power spray nozzle, shovel, broom, and squeegee.

This type of cleaning is designed to remove all algae, slight scale, dirt, mud, and collected debris. The purpose is annual cleanings and removal of dirt to regain cooling performance. At times it is strictly cosmetic.

1. Starting at the hot deck, using the EPW 1500 pressure washer, wash cooling tower blades, screen, inside of exhaust collar, and hot deck.
2. Remove the covers of the hot deck and be sure all drain holes are free of scale and debris. Wash entire area where water flows to the fill.
3. Make note if any spray nozzles are missing or broken. Inform chief engineer if they are.
4. Be careful when cleaning the fill with a pressure washer. The pressure and stream will cause the fill to break easily and snap off. Use a spray stream and not a straight stream. Clean the fill from top to bottom, outside and inside. Wash the sump area, also outside and under the fill.
5. Clean the inside of the tower fill, top to bottom, the walls, and under the fan blades. Remove all signs of algae, dirt and debris from float valve. Using the shovel or squeegee, be sure the floor of the sump is clean and free of all mud and deposition. Use your hose to clean under fill and inside of fill. (Or use GI 615 Hazardous Vacuum)
6. After wash out is over, check to be sure no loose scale has broken off and isn’t lodged somewhere in the bottom of fill.

7. When finished, shut the drain, reset overflow pipe, and open the make-up valve to refill tower.

8. Add sufficient chemical for start-up.

9. Consult with your water treatment rep. for the correct amount of chemical to add to the tower.

10. Once the tower is filled, slowly open supply and return valves. Tower may add more water once the supply and return valves are open as to displace trapped air.

11. Remove lock out and tag out materials. Have chief engineer inspect tower and have him start electrical service to start tower.

12. Watch the water level to be sure it remains at sufficient levels for operation.

13. Once tower is in service, have chief engineer sign off on your report that tower cleaning is completed.

Essential Accessories

1. Hepa Vac 615 Hazardous Waste
2. Vacuum Tool Kit

Stay Ahead of Legionnaires’ Disease

You can’t see it or smell it, and you can’t even get rid of it completely.

So how do you keep dangerous Legionella bacteria from colonizing your cooling tower?

Legionnaires’ disease is a particularly lethal variety of pneumonia transmitted through bacteria in airborne water particles. Dirty tower water is a petri dish for the bacteria. All it takes is a leak to send it straight into the ventilation system.

Cleanliness is the key.

Just a half-inch layer of deposits on your basin floor shelters bacteria from the biocide.

It can thrive and multiply under cover of slime and scale.