VIVOAQUATICS
Connect & Protect℠

Certified for CDC Safety Standards

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Cal Hypo Feeder Requirements

Daily

1. Inspect feeder, booster pump, piping and tubing for leaks
   - ★Repair as needed
2. Inspect feeder contents *Be careful of chemical spray toward you- open with caution **wear PPE
   - ★Top off product if needed- add Cal Hypo **wear PPE
3. Observe operation to ensure the feeder is working properly *All applicable valves are open and ready for feeder operation
   - ★Controller is actuating feeder solenoid or Cal Hypo controller properly- feeder turns on and off
   - ★Booster pump (if applicable) is on during feeder production
   - ★Water is being supplied to the feeder- Valve is open and inline strainer is clean
   - ★Venturi is removing chlorine from the feeder *if necessary- remove tubing at feeder (not venturi) and inspect if needed- hold finger over tube and gauge vacuum level

Weekly

*Must wear PPE (eye protection, gloves, apron, boots, etc.)

1. Isolate all valves going to and from feeder
2. Remove all remaining Cal Hypo products from the upper portion of the feeder
3. Remove- Clean and/or replace feeder screen or grate
   - ★Clean in a safe environment via pressure wash or high pressure nozzle
   - ★Clean area after cleaning so that residue is completely gone
   - ★Be cautious where Cal Hypo is being cleaned as to not cause any damage to deck, planter or other items close to cleaning area
4. Remove upper portion of Cal Hypo feeder (if applicable)
   - ★Pressure was all components until clean
   - ★Remove Cal Hypo products and/or chlorinated water from bottom of feeder via shop vac
   - ★Wash and gently remove any calcium build up of the feeder- do not scratch or damage plastic
5. Assemble Feeder
   - ★Turn down and away from you any spry feed nozzles that are facing up
6. Open all valves
7. Via controller activate feeder and observe/adjust feeder to ensure normal operation
   - ★Water is spraying from nozzles. Venturi is removing water from the base of the feeder
8. Once operation is confirmed isolate controller actuation and turn spray nozzles back upright
9. Load feeder with Cal Hypo and place back into service via controller (auto mode)
10. Thoroughly Wipe Down Feeder from top to bottom to keep clean

Quarterly

*In conjunction with weekly cleaning- and at the 12 week mark or sooner

1. Replace all tubing going in and out of feeder
2. Remove and inspect/ clean Venturi
   - ★ Venturi can be soaked clean in diluted acid- rinse with clean water after soaking
3. Remove and clean solenoid valves
   - ★ Unplug cable
   - ★ Remove screws from solenoid cap
   - ★ Remove plunger or diaphragm and clean with clean water and toothbrush
4. Remove and clean discharge ball valve located at base of feeder- soak if needed
5. Thoroughly wipe down feeder from top to bottom to keep clean

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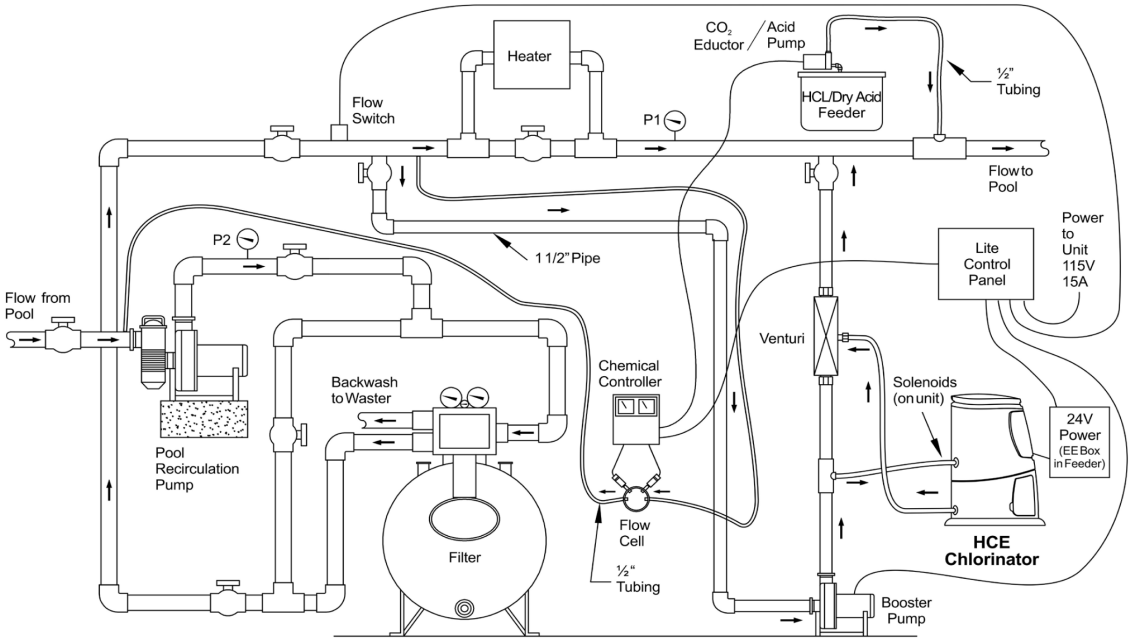

Troubleshooting

Symptom	Probable Cause	Solution
No/low inlet water flow	Solenoid valve does not properly open ½' inlet ball valve closed Inlet strainer plugged Booster Pump not running Emergency shut off valve in closed position	Replace/rebuild solenoid valve Open the inlet ball valve Clean inlet strainer Replace/fix Booster pump Lower gently to reset
Insufficient chlorine in pool	Feeder empty No/low inlet water flow Clogged discharge line Clogged check valve Clogged Venturi	Refill hopper with tabs Check Valves-open if needed. Clean or replace discharge tubing and fittings Remove and clean check valve Remove Venturi and clean
Excess chlorine in pool	ORP/chemical controller problem Clogged basket Clogged 450 cut HCE bowl drain pipe	Change controller set points- check controller manual Clean grid basket Break off excess scale from drain pipe or remove
Feeder overflow	Clogged discharge line Clogged Venturi Insufficient outlet suction Emergency shut off valve failure	Clean or replace discharge tubing and fittings Clean Venturi Excessive pressure drop on the Venturi outlet Replace Emergency shut off valve

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Tips for working with Cal Hypo

Inspection Steps

Inlet/Outlet Plumbing Fittings

1. Close all isolation ball valves and re-plumb/replace any leaking piping and fittings.
2. If leaking is observed at the pump motor, the pump shaft seal and impeller will have to be replaced.

Booster Pump

1. Visually check for leaks on and around the pump, including the suction and discharge piping and fittings.
2. Close inlet and outlet 1 ½' ball valves and tighten or replace any leaking fittings.
3. If leaking is observed at the pump motor, the pump shaft seal and impeller is likely burned.

Inlet Line Strainer Assembly

1. With pressure in the line, visually inspect the strainer basket for leaks. Replace the entire basket assembly if leaking.
2. Close inlet ball valve.
3. Remove strainer basket and visually inspect for cracks and debris.
4. Remove the strainer screen and wash it out prior to replacing it back in the basket.
5. If the screen appears damaged or has holes in it, replace with a new screen.
6. Re-install the strainer basket back into the strainer body.

Discharge Check Valve

1. Close the outlet ball valve.
2. Open the lower left and right base covers and unscrew the check valve unions to remove the check valve body.
3. Disassemble the check valve and inspect for calcium build up and debris. Clean if needed.
4. Visually check the seal for corrosion. If the seal is corroded, replace check valve.
5. Reassemble the check valve body ensuring to put the seal on the side of the ball.
6. Replace the check valve body back onto the unions, ensure arrows point away from the feeder.

Reservoir Tank

1. Visually inspect the solution reservoir and ensure that there is no calcium buildup or debris on the high level switch or the discharge valve assembly including the float and arm.
2. Verify level switch operation by lifting up the switch and confirming the alert indicator light turns on.

HCE 450 Cut Bowl Drain Pipe

1. Visually inspect the HCE bowl drain pipe and ensure that there is no calcium buildup or debris around the edges clogging the fluid path.
2. Break off scale if necessary.

Cleaning the Grid Basket

Warning: always label the contents of cleaning buckets.

1. Put on appropriate PPE: long sleeved clothing, rubber gloves, apron, and safety glasses.
2. Allow the hopper to run low enough so all remaining Cal Hypo tablets in the hopper fit inside the basket.
3. Add water to two 5-gallon buckets until each bucket is approximately ¾ full.
4. Prepare the soak bucket.
   a. Carefully add 12 oz of muriatic acid to one of the 5-gallon buckets to create a roughly 1% solution of muriatic acid. Warning: Always be careful when adding muriatic acid to water: this combination creates an exothermic reaction, which gives off heat.
   b. Label this bucket "ACID" and set it aside so that it will not be knocked over.
5. Label the remaining bucket "FRESH WATER" and set it aside.
6. Close feeder inlet and outlet ½' ball valves.
7. Turn off the control box master power switch.
8. Use Basket removal tool to remove the used grid basket from the chlorinator. If necessary, usr a flat head screwdriver to pry and jostle then basket to break scaling.
9. If necessary, break off excess scale off the HCE bowl 450 cut drain pipe.
10. Pour any remaining Cal Hypo tablets into the replacement basket and install the backet and chemical into chlorinator.
11. Place the used basket into the FRESH WATER bucket.
12. Slowly open the inlet manifold ball valve.
13. Turn on the control box master power switch.
14. Shake the used basket up and down the FRESH WATER bucket to remove loose residue.
15. Transfer the used basket to the ACID bucket and let it soak for 24 hours.
16. Take the used basket out of ACID bucket rinse off with fresh water and store for next cleaning.

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