

Section #7 – Periodic maintenance

Note: for the most up-to-date maintenance information, we recommend that you visit the Legacy Chiller (USA) web site: www.Legacychillers.com

MONTHLY

1. Check for foreign debris in the condenser coil inlets of an air cooled chiller.
2. Visually inspect for water leaks and proper tank level
3. Inspect solder joints for evidence of oil or water leaks.
4. Check electrical connections and components.
5. Listen for excessive vibrations or motor noise.
6. Check system fluid for proper glycol percentage.
7. Check the liquid line sight for bubbles.
8. Check the compressor oil level in sight glass if equipped.
9. Check fan and pump rotation for free rotation and correct direction.

YEARLY

In addition to above:

1. Tighten all electrical connection screws.
2. Check the glycol solution for cleanliness. Drain and refill with clean solution if excessive sludge or dirt is present. Flush the system prior to refilling.
3. Check motor amp draws and voltage supplies. Make sure they are within name plate rating.
4. Check operating pressures of the refrigeration system.
5. Check super heat and sub cooling.
6. Inspect for leaks with a sensitive electronic leak detector.
7. Check for excess wear or burned contacts on motor starters replace if in doubt.
8. Wash out the condenser coils of an air cooled system.
9. Check the operation of the safety devices and thermostat.
10. Ensure that the pipe insulation is dry and not broken down.
11. Check mechanical mounts and vibration isolators for wear.

OTHER MAINTENANCE ITEMS

These maintenance items are for other Legacy products that may be installed with your package chiller. **These items if applicable should be checked monthly unless otherwise specified below.**

Legacy filter bypass assemblies:

1. Check system filter housing for cracks.
2. Check system filter housing for leaks.
3. Check filter pressure differential gauge(s). On most filter models, if the differential pressure exceeds 10 PSI, the filter cartridge needs to be replaced. **Contact Legacy Chillers (877-988-5464) to order a replacement. Make sure to have the filter housing model number available when you call.**

Legacy process drops

1. Check assembly for any signs of cooling fluid leakage
2. Check in-line flow meter for debris that may be caught on or near the stainless steel slide.
3. Check coloration of cooling fluid.
4. Check return-side stainless steel in-line strainer for any debris that may restrict flow. Note: To perform this check, the system must be shut down. Close the supply and return side isolation valves at the top of the drop. Using the drain down valve at the bottom of the return side drop, drain the cooling fluid out of the line before opening in-line strainer. Make sure to reinstall the strainer basket and seal cap immediately. This check should be performed quarterly minimum. Check condition of the supply and return pressure and temperature gauges.
5. Check supply drop circuit setter to make sure that the flow adjustment knob moves freely. Note, before moving the adjustment knob, make sure to note the original setting.
6. Once all check items have been performed, check drop for any potential leaks, re-set the circuit setter, open the main supply and return valves at the top of drop and restart your system.

Closed loop fluid testing and treatment

Most chiller systems are initially filled with municipal (main) water as a matter of convenience and overall costs. Although main water may be safe to drink, there is a multitude of bacteria and minerals that, if left un-checked, will cause considerable problems with any closed loop chiller application.

To prevent fluid related problems with your new closed loop chiller equipment, Legacy highly recommends the following:

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Section #7 – Periodic maintenance (continued)

1. Have the condition of your system fluid checked by a qualified lab, a minimum of four times per year. If your area has a history of water quality related issues, testing may be required more often.
2. Based on the lab results, contract with a qualified company to provide products and services to properly maintain the quality of your closed loop fluid.
3. Create a fluid maintenance log that should contain copies of lab results, MSDS information on products used and notations of the types, amounts and dates chemicals were added to the system.

Legacy Chiller Systems (USA) offers a complete line of closed-loop water treatment products and services. For more information:

Call toll Free 877-988-5464 today

Here are some of the most common test parameters and the recommended ranges.

Common test parameters	Targets
pH	9.5—10.5
Specific Conductance micromhos, 18° C	3500 or below
Total Iron as Fe, ppm	1 ppm or below
Copper as Cu, ppm	1 ppm or below
Sodium Nitrite as NaNO ₂ , ppm	150 ppm max (See note 1)
Molybdenum as Mo, ppm	15—30 ppm
Reserve Alkalinity	(See note 2)

Notes:

1. Based on using (Legacy Part# CL-63); 800 ppm or greater is appropriate if a straight nitrite-based product is used. However, we recommend against using a straight nitrite product in chill water systems, because it promotes the proliferation of nitrifying bacteria.
2. Reserve alkalinity is a pertinent value only if glycol is used in the loop. If glycol is used in any of your loops, you may want to include glycol in your parameters, but list a recommended value only as operating conditions dictate for proper freeze protection or something similar.

Notes: