

Leak inspection: Save money with early detection



Figure 1. Refrigeration technicians

Washington's Refrigerant Management Program

The Refrigerant Management Program (RMP) is designed to minimize and prevent refrigerant leaks. It requires owners and operators of facilities with refrigeration and air conditioning systems containing at least 50 pounds of refrigerant with a global warming potential of 150 to do regular leak inspection and repair, among other things. This program isn't just good for the environment — it can also save you money on expensive refrigerants and keep equipment running at its best with less unexpected downtime.

General leak detection and monitoring requirements

Under the RMP, you're required to use a calibrated refrigerant leak detection device, or bubble test, on systems with the following frequency:

System size (charge in pounds)	Leak inspection frequency	Beginning
Large (1,500+)	Monthly	January 1, 2024
Medium (200-1,499)	Quarterly	January 1, 2026
Small (50-199)	Annually	January 1, 2028

Large indoor systems must have automatic leak detection systems (ALDS) installed on all system components by January 1, 2025, unless those systems are going to be replaced by January 1, 2027.

Any size system that has an ALDS isn't required to perform regularly scheduled inspections as mentioned in the table above. However, the ALDS must be inspected and calibrated annually.

Any portion of a system that's outside an enclosed building must continue regular scheduled inspections according to the table above.

You also must inspect for leaks ...

- Following a leak repair at the time of verification and follow-up verification tests.
- Each time 5 or more pounds of refrigerant is added to the system, or 1% of the full-system charge, whichever is greater.
- Each time oil residue is observed on any refrigerant circuit component indicating a possible leak.

Recommendations for inspecting leaks in refrigeration or air conditioning systems

“Sniff” using an electronic leak detector. Slowly move the “nose” of the probe at its most sensitive setting on the following areas:

- As close as possible to all mechanical room components on each system
- Walking through the sales area of the store of each refrigerated case
- In each walk-in cooler, freezer, and refrigerated prep area
- At the subsurface refrigeration access pits, starting with riser pits
- As close as possible to refrigerant lines by following the path of those lines

Look for ...

- **Oil seepage:** Visually check the compressors and compressor racks, evaporators, piping, and valves for seepage. If oil seepage is observed, use soap bubbles or an electronic leak detector to pinpoint the exact location of any leak.
- **Air-cooled condensers:** Visually check all condensers for oil seepage underneath the unit and on finned coil surfaces.
- **Condenser fan blades:** Visually check fan blades for cracking or tearing of the metal, especially at the point where the fan blade is riveted to the hub.
- **Piping and fittings:** Visually check piping and fittings to make sure there is no pipe chafing and no excessive stress on piping or fittings from thermal or mechanical pipe movement during operation.

Check for ...

- **Receiver levels:** Check if there is a drop in the level of refrigerant in the receiver from the previous readings. A refrigerant-level drop may indicate a leak in the system.
- **Pressure relief valves:** Check the pressure relief valves of each system for refrigerant release. For example, a relief valve that has a balloon, blow-off cap, or other telltale sign may indicate that the relief valve has discharged.
- **High-pressure control lines:** Check the control line temperature of all high-pressure switches about 12 inches from the compressor connection. If the temperature is above the room ambient temperature, there may be a leak in the control line, fitting, or control bellows.
- **Motor mounts:** Check for imbalance in the condenser fan blades and for wear in the motor mounts and bolts. Excess vibration in the blades can result in motor mount failure. This can cause the spinning motor to drop and tear the tube sheet, resulting in a high-pressure leak.

As of January 1, 2024, all refrigerant leaks detected in all sizes of equipment must be repaired within 14 days by a U.S. EPA certified technician.

Related information

- [Hydrofluorocarbons rulemaking, Chapter 173-443 WAC](#)
- [Hydrofluorocarbons – Emissions Reduction, Chapter 70A.60 RCW](#)



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