
Mechanical Systems Evaluation – What We Look For

As part of your home's energy rating, we perform a detailed evaluation of the mechanical systems that provide heating, cooling, ventilation, and hot water. These systems are some of the most energy-intensive parts of your home, and their condition and efficiency directly affect comfort, energy use, and long-term utility costs.

Heating and Cooling Systems

We begin by examining the systems that keep your home warm in winter and cool in summer. This includes identifying the type of equipment (such as a furnace, boiler, or heat pump), checking the fuel source, and reviewing its efficiency rating. We also take into account the age and condition of the equipment, which can affect how well it performs. Controls such as thermostats are noted, especially if they are programmable or smart, which can help reduce energy waste.

Ventilation and Indoor Air Quality

Proper ventilation is important in any home, especially those that are well-sealed. We review the home's mechanical ventilation systems, including fans and any heat or energy recovery ventilators (HRVs or ERVs). We look at how fresh air is brought in and stale air is removed to ensure healthy indoor air quality and moisture control.

Water Heating System

Next, we assess the hot water system. This includes identifying the type of water heater (tank, tankless, or heat pump), evaluating its energy efficiency, and noting where it is located in the home. We also check for pipe insulation, which helps reduce standby heat loss and improve overall performance.

Ductwork and Air Distribution

If your home has a ducted heating or cooling system, we inspect the condition and layout of the ductwork. Leaky or poorly insulated ducts—especially those running through unconditioned spaces like attics or crawlspaces—can waste a significant amount of energy. In some cases, we may conduct a duct leakage test to measure exactly how much air is being lost before it reaches your living spaces.

Why This Matters

The mechanical systems evaluation gives us critical data to model your home's energy performance accurately. It helps pinpoint areas where efficiency improvements can be made, which can lead to lower energy bills, better indoor comfort, and eligibility for energy efficiency incentives. It also contributes directly to your home's energy rating score.

We're here to help you understand how your systems work and where they might be costing you more than they should—so you can make informed decisions about upgrades or maintenance.