



Application Note

The HERS (Home Energy Rating System) scale measures how much energy a home consumes. A standard new home scores 100 on the scale, while a zero-energy home scores 0. Older homes typically have a rating higher than 100 unless they've been retrofitted to reduce energy consumption. The lower the HERS rating, the more energy-efficient the home, making a lower score more desirable. A more energy-efficient home will save you money on utility bills and, depending on where you live, may qualify you for tax credits or rebates.

To determine the confirmed HERS rating of your home, a certified RESNET (Residential Energy Services Network) contractor must conduct a series of tests. The HERS rating takes into account various factors, including insulation, window efficiency, water heating systems, and the efficiency of heating and cooling systems. Each component undergoes testing to assess the overall efficiency of the home, which contributes to the final score.

For the purposes of this article, we will focus on heating and cooling system efficiency tests, as Kanomax offers several instruments for performing these evaluations.



A certified RESNET HERS rater can determine if your home is energy efficient or if money-saving improvements can be made

Whole House Ventilation Rate: To verify if the air handler is moving the rated amount of air (CFMs), the airflow is measured at the internal exhaust vents using a capture hood. These measurements are then totaled and compared to the airflow at the external exhaust, again using a capture hood. If the system is functioning properly, the exhaust airflow from inside the house should equal the external exhaust airflow. Based on the total CFMs being moved, we can determine if the air handler is operating within its specifications.

Bathroom Exhaust Fan: A capture hood is also used to measure the performance of bathroom exhaust fans. For proper performance, the fan should move more than 50 CFMs when operating intermittently or more than 20 CFMs when running continuously.



Ensuring comfort and maximizing energy efficiency are both key concepts of the HERS rating

Supply & Return Duct Static Pressure: Using a manometer and a pitot tube, the contractor will measure the static pressure in the supply and return ducts to ensure they are within 110% of the installer's original specifications. This test involves inserting the pitot tube into the ducts through the same ports used during the initial installation testing. The pressure, measured in inches of water column (or Pascals), is then compared to the installer's specified values.

Bedroom Pressure Balance: This test uses a manometer to compare the pressure differential between a closed bedroom and the rest of the house while the air handler is running. The pressure difference should be less than 0.12 inches of water column (3 Pascals) to ensure proper balance.



Kanomax has a great selection of tools to help you with HERS rating projects as well as many other HVAC contractor applications

Kanomax is an excellent choice for HERS raters to source their equipment. We offer two capture hoods: the affordable Model 6710 and the all-new Bluetooth-compatible Model 6720 (recently upgraded from the 6715), which includes a removable micromanometer. Both models are compatible with five different hood sizes, accommodating both standard and non-standard duct sizes. Additionally, we provide a wide selection of pitot tubes for static pressure testing.

Beyond equipment sales, **we also operate a calibration lab at our New Jersey facility**, where we perform annual calibrations to ensure your equipment delivers accurate readings. If you have any questions about how our tools can simplify your work as a rater or contractor, feel free to give us a call. **Our technical team is always happy to assist with inquiries** or help you find a distributor in your area.

Useful Links:

<https://www.hersindex.com/hers-index/interactive-hersindex/>

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About Kanomax USA, Inc.

Kanomax delivers top-tier measurement solutions through its products and services, leveraging precision measurement technology for fluids and particles. Our product lines include anemometers, particle counters, dust monitors, IAQ (Indoor Air Quality) monitors, and much more. Kanomax is dedicated to driving technological innovation and quality improvements in areas such as quality management, environmental management, and technology development. We focus on critical sectors like environment, health, and energy, which are essential for sustaining human well-being. Additionally, our solutions support a wide range of industries, including automotive, aerospace, semiconductor, electronics manufacturing, heavy industry, steel, shipbuilding, pharmaceuticals, biotechnology, food processing, medical, construction, and civil engineering.

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