



## Air Sealing and Blower Door Tests

### Blower Door Test

A blower door test locates air leaks by using a special fan to depressurize a house. Blower door tests are conducted before and after air sealing to measure the effectiveness of the work.

Did you know, the average the average home has enough air leakage to add up to a two foot square hole? (Source: energy.gov) That is the equivalent to leaving a medium-sized window open 24 hours a day.

### How it Works

A blower door is a powerful fan that mounts into the frame of an exterior door. The fan pulls air out of the house, lowering the air pressure inside. The higher outside air pressure then flows in through all unsealed cracks and openings. The auditors may use a smoke pencil to detect air leaks. These tests determine the air infiltration rate of a building.

Blower doors consist of a frame and flexible panel that fit in a doorway, a variable-speed fan, a pressure gauge to measure the pressure differences inside and outside the home, and an airflow manometer and hoses for measuring airflow.

There are two types of blower doors: calibrated and uncalibrated. It is important that auditors use a calibrated door. This type of blower door has several gauges that measure the amount of air pulled out of the house by the fan. Uncalibrated blower doors can only locate leaks in homes. They provide no method for determining the overall tightness of a building. The calibrated blower door's data allow the auditor to quantify the amount of air leakage and the effectiveness of any air-sealing job.

### Tips for Preparing for a Blower Door Test

- If you heat with wood, be sure all fires are completely out - not even coals - before the auditor arrives. Remove any ashes from open fireplaces.
- Plan to do a walk-through of your home with the auditor. Be prepared to point out areas that you know are drafty or difficult to condition comfortably.
- Expect the auditor to request access to all areas of your home including closets, built-in cabinets, attics, crawl spaces, and any unused rooms.
- The auditor will need to close all exterior doors and windows, open all interior doors, and close any fireplace dampers, doors, and woodstove air inlets.
- Expect the auditor to set controls on all atmospheric fossil fuel appliances to ensure that they do not fire during the test. The auditor should return them to the original position after the test.
- Expect the test to take up to an hour or more, depending on the complexity of your home.

### What Does This Mean For You?

- You can save 5%-30% on your energy bill by making upgrades following a home energy assessment.
- Reducing energy consumption due to air leakage
- Avoiding moisture condensation problems
- Avoiding uncomfortable drafts caused by cold air leaking in from the outdoors
- Determining how much mechanical ventilation might be needed to provide acceptable indoor air quality. (Source energy.gov)

Learn more at [www.NextZero.org](http://www.NextZero.org) or call the NextZero toll-free hotline at 888-333-7525.