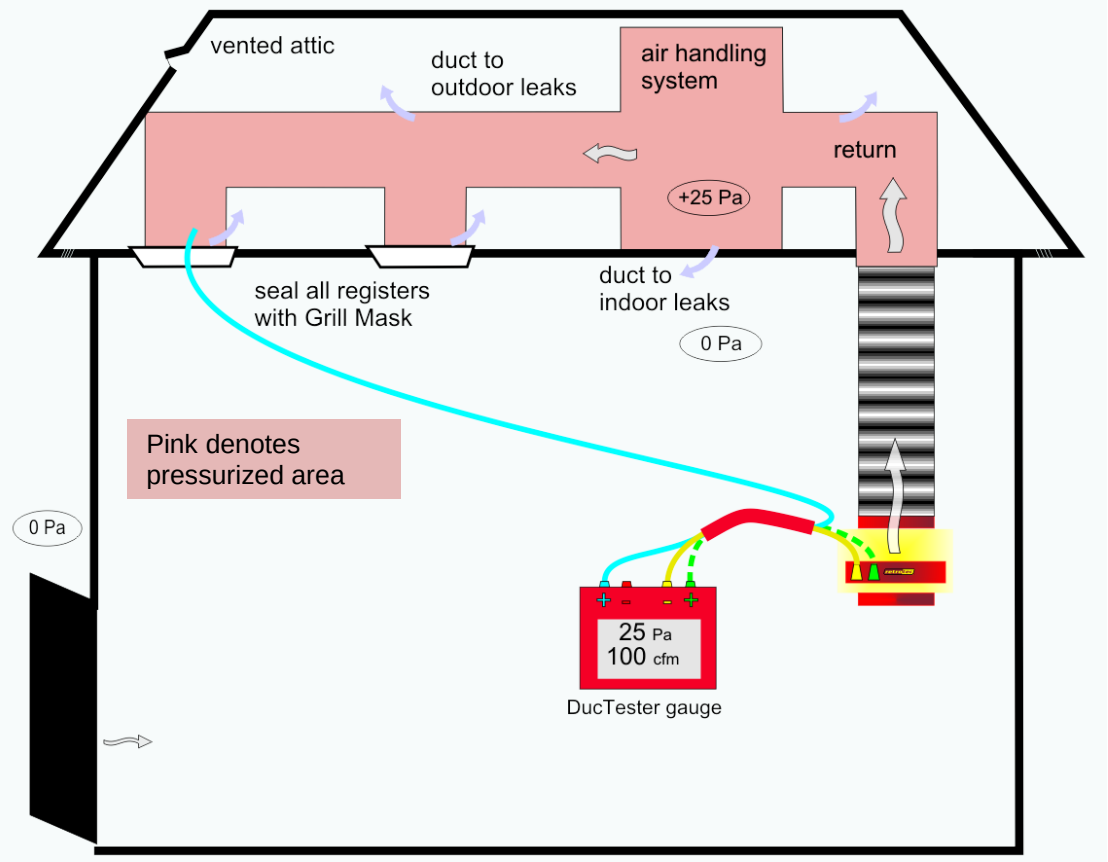
4.1 Total measured duct leakage to meet ENERGY STAR standards

This test measures total duct leakage in CFM25 per 100 sq. ft. of conditioned floor area.



1. With air-handler off, connect DucTester with Mid-Range plate, and seal registers.
2. On the DM-2* digital gauge:
   a. Press **[Mode]** until "cfm/100ft^2" appears. If unavailable, press **[Setup],** "Mode Setup".
   b. Press **[Device]** to get "Retrotec DU200"
   c. Press **[Range Config]** to get "Mid".

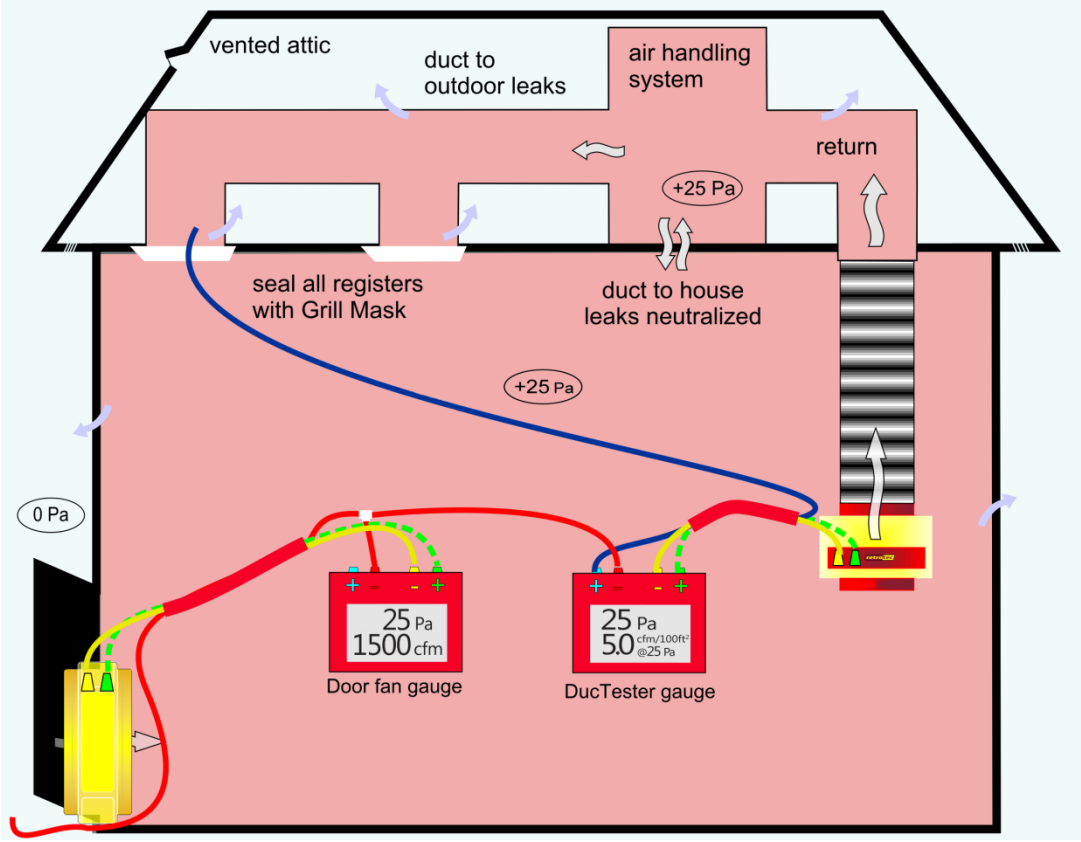
   *See page 4 for Setup instructions.
3. Press **[Enter Area],** input the conditioned floor area, press **[Enter],** for each house.
4. Press **[Set Pressure] [25] [Enter]**.
5. Press the **[@]** key until "@ 25 Pa" is displayed.
6. Leakage must be corrected if above **6**. Measure leakage to outdoors if above **4**.

CFM at 25 Pa per 100 sq. ft.	Floor area, sq. ft.
>8 fail, >5 test to outdoors	Less than 1200
>**6** fail, >**4** test to outdoors	More than 1200

4.2 Measured duct leakage to outdoors to meet ENERGY STAR standards

Duct-to-outdoor leaks are measured by neutralizing the pressure difference between the ducts and the house, which allows duct-to-outdoor leaks to be measured directly.

Connect green tube when depressurizing.



If Total Leakage is above **4**, perform this test which measures leakage to outdoors by eliminating leaks into the house.

Method #1: Set both gauges to 25 Pa

1. Connect the red ports together.
2. Press **[Set Pressure] [25] [Enter]** on DucTester then door fan.
3. Press **[@]** to display the results "@25Pa".
4. When 25 Pa +/– 1 is achieved on both, record duct leakage to outdoors from the DucTester gauge.

CFM at 25 Pa per 100 sq. ft.	Floor area, sq. ft.
>5 fail	Less than 1200
>4 fail	More than 1200

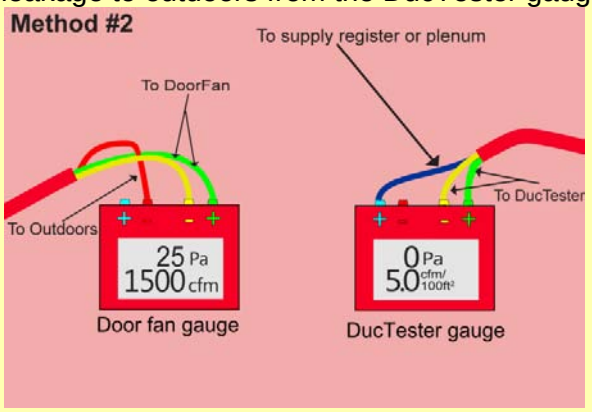
Method 1 allows the @ extrapolation function to work, increases accuracy, and no changes need to be made on the gauge. It is easier to visualize since both the duct and house pressure can be seen.

Method 2 does not require connecting a red tube to outdoors, but can result in errors if @ is turned on.

Measure floor area using ANSI Standard Z765-2003.

Method #2: Set duct to house to 0 Pa

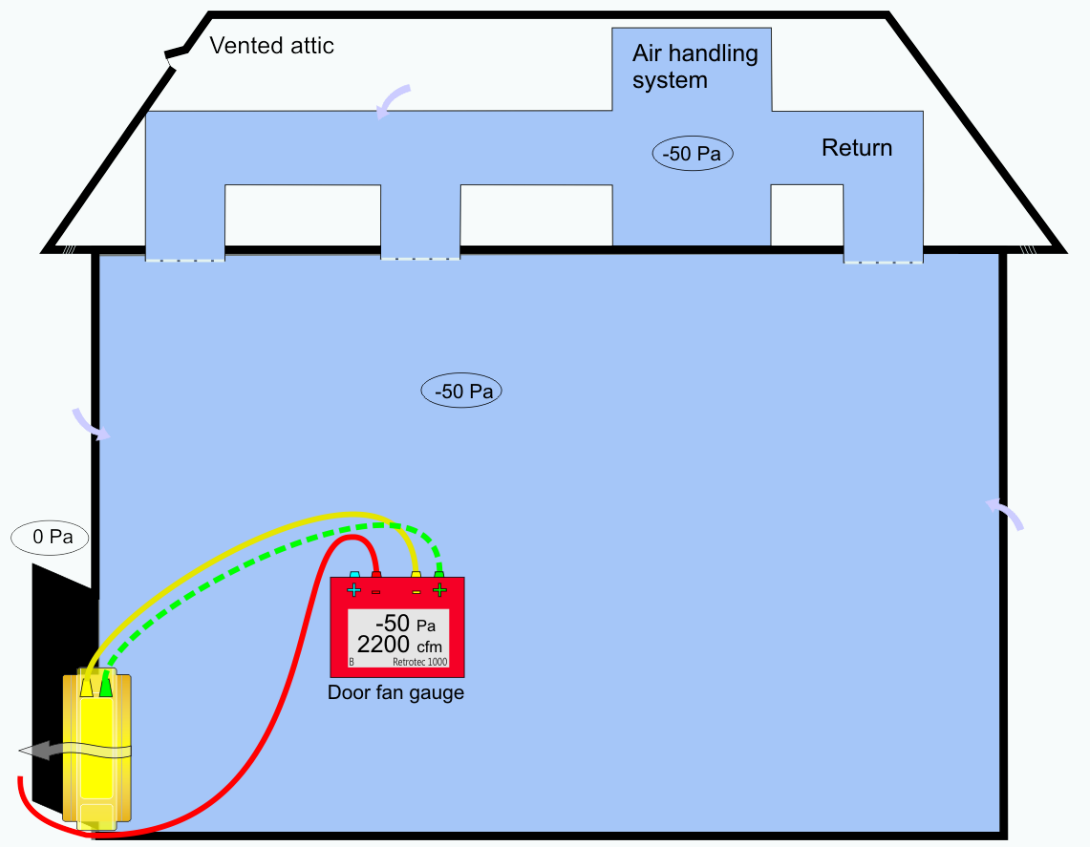
1. Connect the door fan per diagram.
2. **With the DucTester off**, set the Door Fan to 25 Pa by pressing **[Set Pressure] [25] [Enter]**.
3. Press **[@]** to remove "@" from the display.
4. Set the DucTester to 0 Pa by pressing **[Set Pressure] [0] [Enter]**.
5. When 0 Pa +/– 1 is achieved, record duct leakage to outdoors from the DucTester gauge.



4.3 Envelope leakage test to meet ENERGY STAR standards

Total building leakage under depressurization is the most common test direction for residential testing.

Connect green tube on some models.

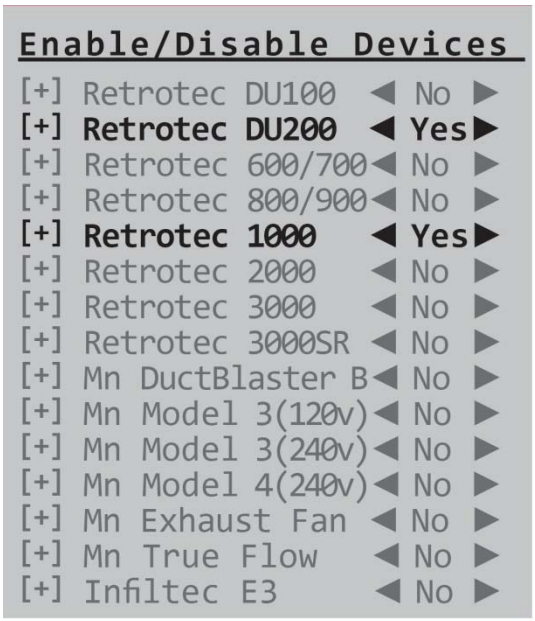


1. Remove Grill Mask and DucTester.
2. Connect the Door Fan to blow outdoors.
3. On the DM-2:
   a. Press **[Mode]** until “Air Chg” appears. If unavailable, see Page 4.
   b. Press **[Device]** to get “Retrotec 1000”.
   c. Press **[Range Config]** to get "B".
4. Press **[Enter Volume],** enter volume in cubic feet, then press **[Enter]** to lock in the volume for each house.
5. Press **[Set Pressure] [50] [Enter]**.
6. Press the **[@]** key until “@50 Pa” is displayed.
7. Record the envelope leakage in air changes at 50 Pa.

The first time you use the DM-2, press **[Auto Zero]** to turn it "On," and press **[Time Avg]** until it is set to "8s". If the door fan pressure fluctuates more than 2 Pa, press **[Time Avg]** to reduce the pressure fluctuations. If pressure fluctuations are still above 2 Pa, use the **[Baseline]** feature as outlined in QuickGuide-DM2MkII.

Setup 3

Press **[Setup]** and scroll to "Device Setup" using **[▼]**, **[▲]**.
Press **[◀]**, and **[▶]** to change the current selection and enable the Devices needed, which are: "DU200" for the Q32 DucTester and "1000" for the Door Fan. Press **[Exit].**



Scroll to "Mode Setup" using **[▼]**, **[▲]**.
Press **[◀]**, and **[▶]** to change the current selection and enable the Modes needed, which are shown below. Air change is only needed if you are using a Door Fan.