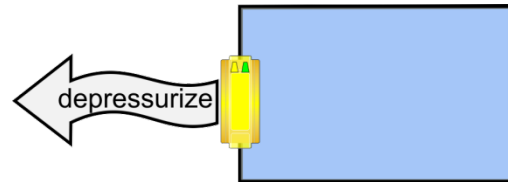




# Residential Duct Test Procedures

total house and duct leakage  
under depressurization



For equipment set up, use:  
*QuickGuide-DucTester-Q32*  
*QuickGuide-DM2MkII*

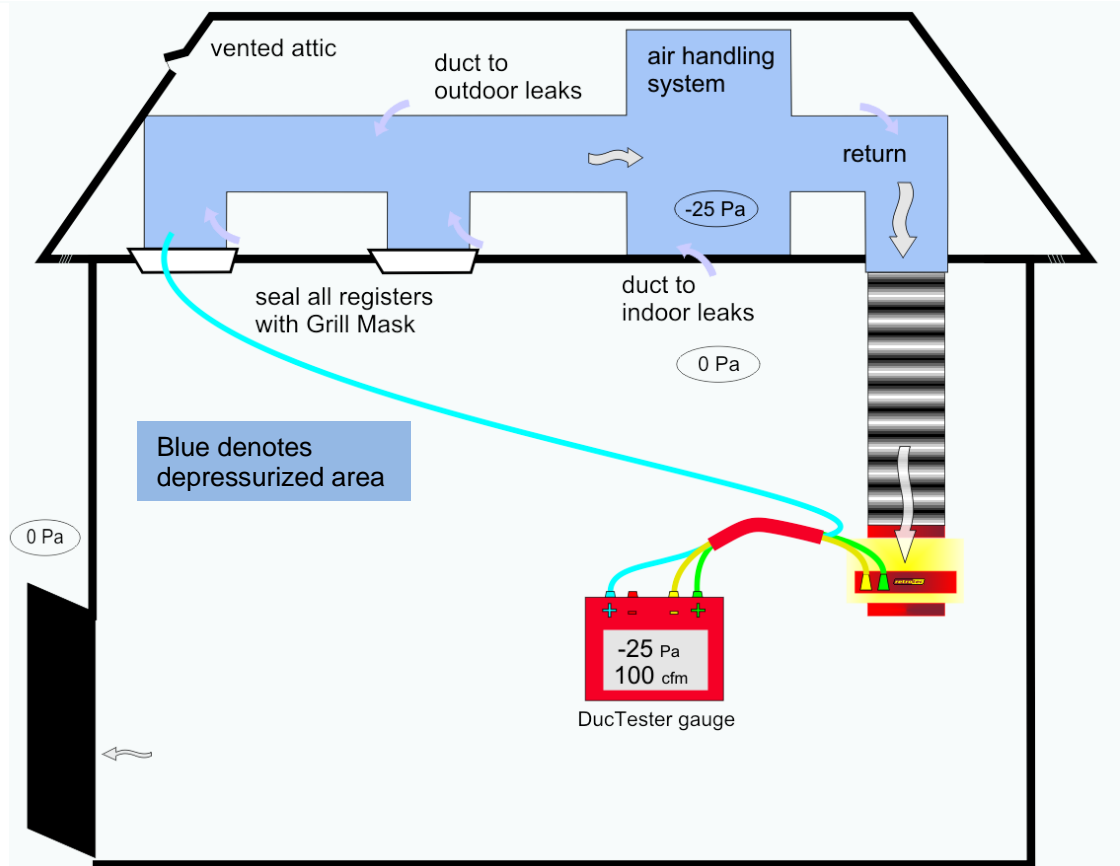
Retrotec manuals and support:  
[www.retrotec.com](http://www.retrotec.com) or [support@retrotec.com](mailto:support@retrotec.com)  
604-732-0142

# Total Duct Leakage



This test measures total duct leakage: the sum of duct-to-outdoor and duct-to-house leaks.

Testing in this direction pulls the grill mask onto registers making the test far easier. Results are usually exactly the same as testing in the other direction.



For results at 50 Pa, substitute "50" wherever "25" appears.

1. Connect the DucTester per diagram (Refer to "QuickGuide-DucTester-Q32"):
  - a. Install "Mid" flow plate.
  - b. Turn air handler off.
  - c. Connect the DucTester to the return.
  - d. Seal remaining registers with grill mask.
  - e. Make tube and electrical connections.

Press **[Mode]** to select desired results. 100 cfm can be displayed as:

-25 Pa  
0.100 cfm/ft<sup>2</sup>  
@25.0Pa  
area: 1000.0 ft<sup>2</sup>

2. Press DM-2 keys:
  - a. **[Mode]** for desired results.
  - b. **[Device]** to get "Retrotec DU200"
  - c. **[Range Config]** to get "Mid".
  - d. **[Time Avg]** to get "8s".
  - e. **[Auto Zero]** to get "On".

-25 Pa  
10 cfm/100ft<sup>2</sup>  
area: 1000.0 ft<sup>2</sup>

3. Press **[Set Pressure] [2] [5] [Enter]**.
4. Press the **[@]** key until "@ 25 Pa" is displayed.
5. Record the total duct leakage.

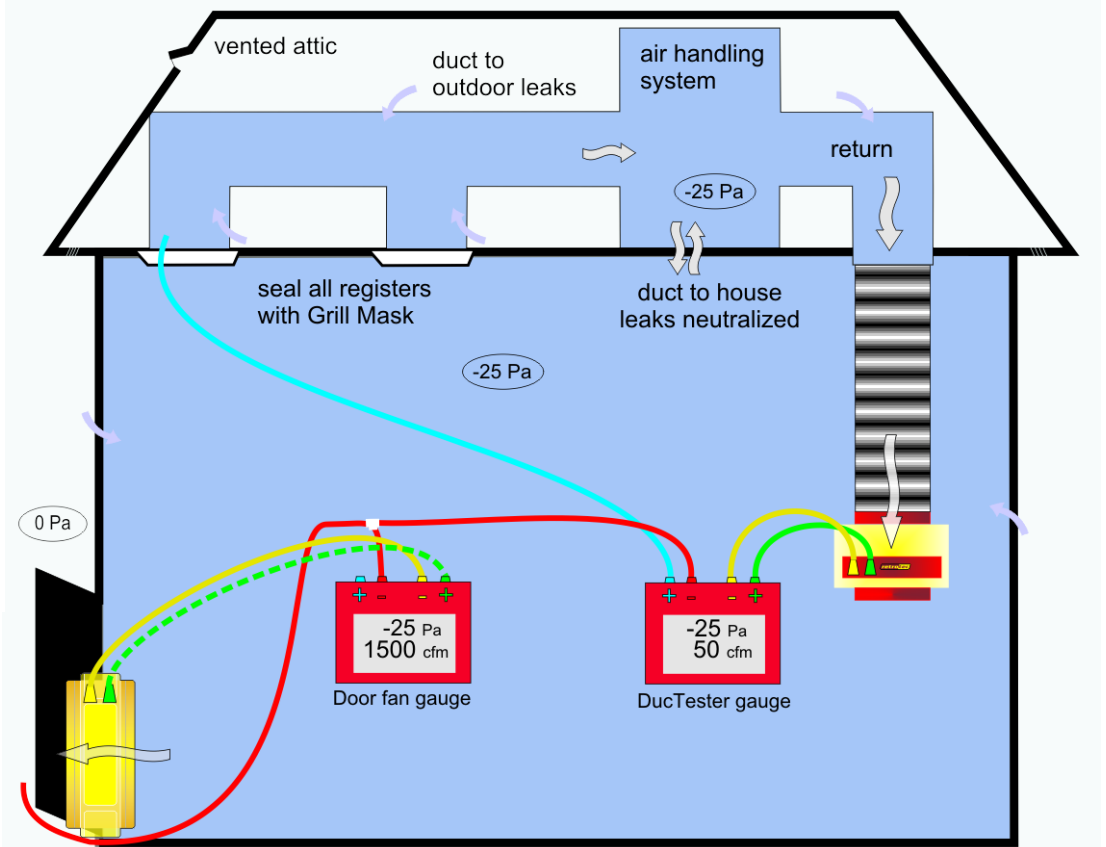
-25 Pa  
100 cfm/1000ft<sup>2</sup>  
area: 1000.0 ft<sup>2</sup>

Manual control may be used but if "@ 25 Pa" does not appear, change the defaults using **[Set up]** under "Flow" and/or "Flow/area".

Press **[Enter]** to change the area. Press **[Setup]** to add or remove results available using the **[Mode]** key.

Duct-to-outdoor leaks are measured by eliminating the pressure between the ducts and the house which allows duct-to-outdoor leaks to be measured separately.

Connect green tube on some models.



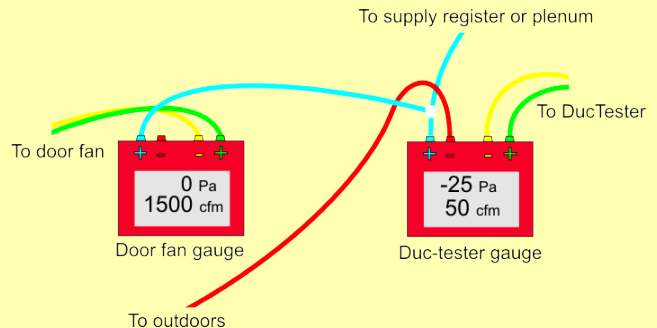
### Method #1: Set both to -25 Pa

1. Complete the previous Total Duct Leakage test.
2. Close all doors and windows and shut off exhaust fans.
3. Connect the door fan per diagram.
4. Connect the red ports together with one tube outdoors to allow duct and house pressures to be measured against the same reference.
5. Set the DucTester then door fan to -25 Pa by pressing **[Set Pressure] [2] [5] [Enter]**.
6. Press **[@]** to display the results "@25Pa".
7. Record duct leakage to outdoors from the DucTester gauge.

Note: if the door fan pressure fluctuates more than 2 Pa, press **[Time Avg]** to reduce it. If still above 2 Pa, use the Baseline feature as outlined in *QuickGuide-DM2MkII*.

### Method #2: Set duct to house to 0 Pa

1. Complete the previous Total Duct Leakage test.
2. Close all doors and windows and shut off exhaust fans.
3. Connect the door fan per diagram.
4. T the blue ports together with one tube in the ducts to allow house and outdoors to be measured to the same reference.
5. **With door fan off**, set the DucTester to -25 Pa by pressing **[Set Pressure] [2] [5] [Enter]**.
6. Press **[@]** to display the results "@25Pa".
8. Set the door fan to 0 Pa by pressing **[Set Pressure] [0] [Enter]**. Record duct leakage to outdoors from the DucTester gauge.

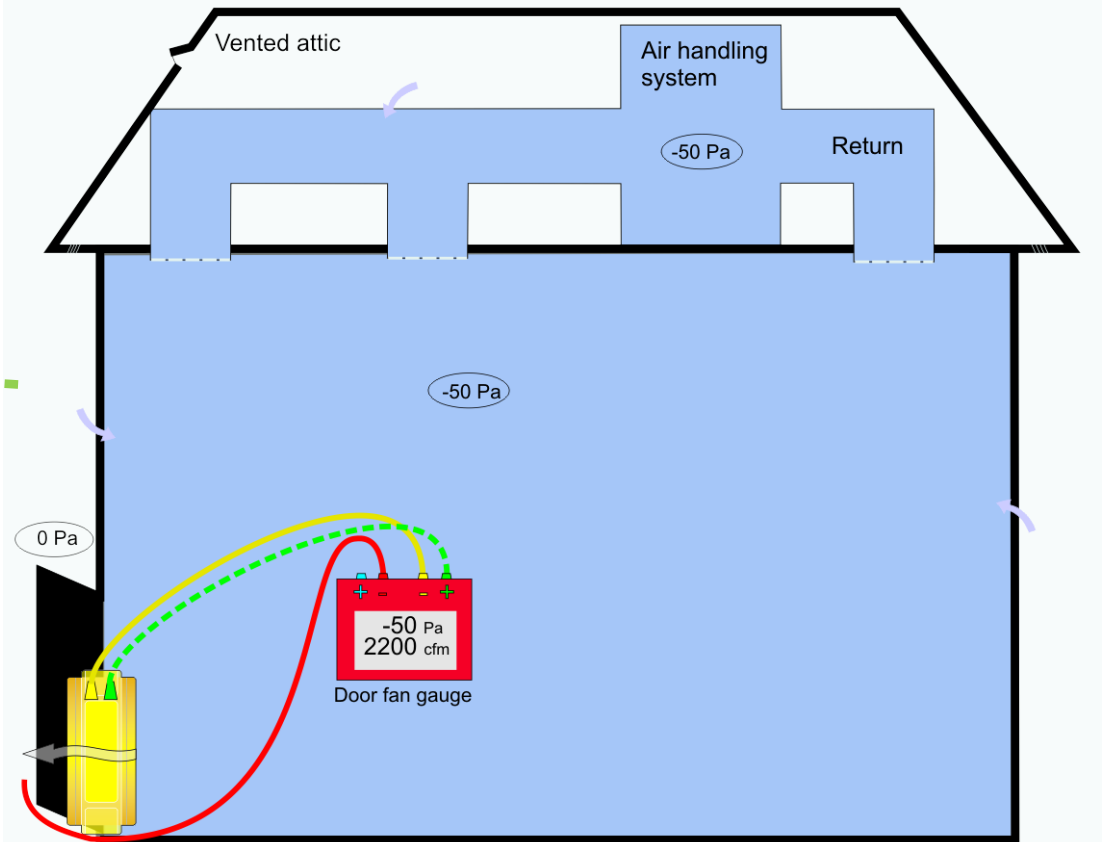


# Total Building Leakage



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

Connect green tube on some models.



1. Remove all Grill Mask from registers.
2. Remove the DucTester .
3. Connect the door fan per diagram.
4. Set the door fan to -50 Pa by pressing **[Set Pressure] [5] [0] [Enter]**.
5. Press the **[@]** key until “@ 50 Pa” is displayed for more accurate results.
6. Record the total building leakage in cfm at -50 Pa.

Press **[Mode]** for desired results such as:

"Flow" in units of "cfm @50 Pa"  
These are the most common units in the USA.

-50 Pa  
**1500 cfm**  
 @50.0Pa

"Air Change" in units of "/h @50 Pa"  
The 2nd most common units requires Volume.

-50 Pa  
**3.5/h**  
 @50 Pa  
 Volume : 12000 ft<sup>3</sup>

"EflA per Area" in units of "in<sup>2</sup>/in<sup>2</sup> @ 50 Pa"  
Units for Washington State require floor area in sq.ft.

-50 Pa  
**.00030** <sup>in<sup>2</sup></sup>/<sub>in<sup>2</sup></sub>  
 @50.0Pa  
 Area = 1000ft<sup>2</sup>

Press **[Setup]** to add or remove results available using the **[Mode]** key

