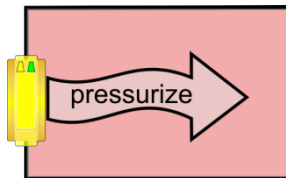




Residential Duct Test Procedures

total house and duct leakage
under **pressurization**



T  **USA**
Equipment
.NET
An Interworld Highway, LLC Company

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

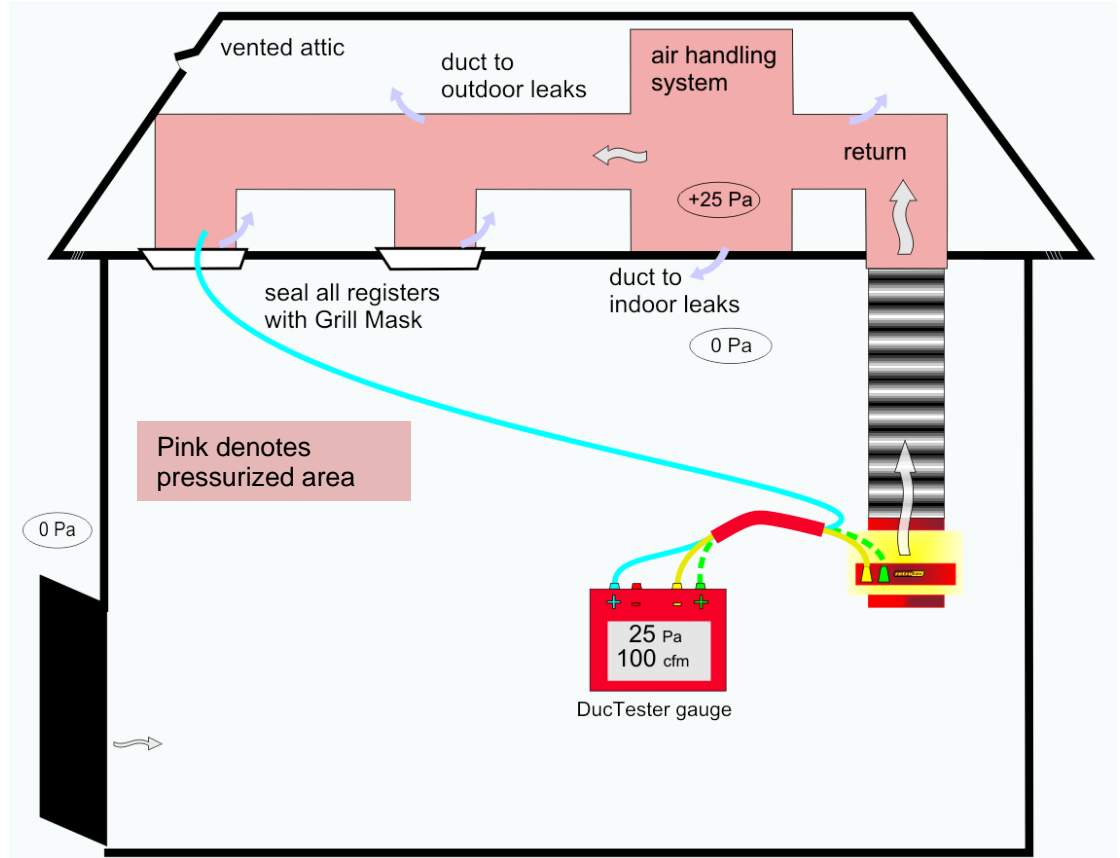
Retrotec manuals and support:
www.retrotec.com or support@retrotec.com
604-732-0142

Total Duct Leakage



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

Testing in the other direction [depressurization] is far easier because the grill mask does not get pushed off and results are 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:



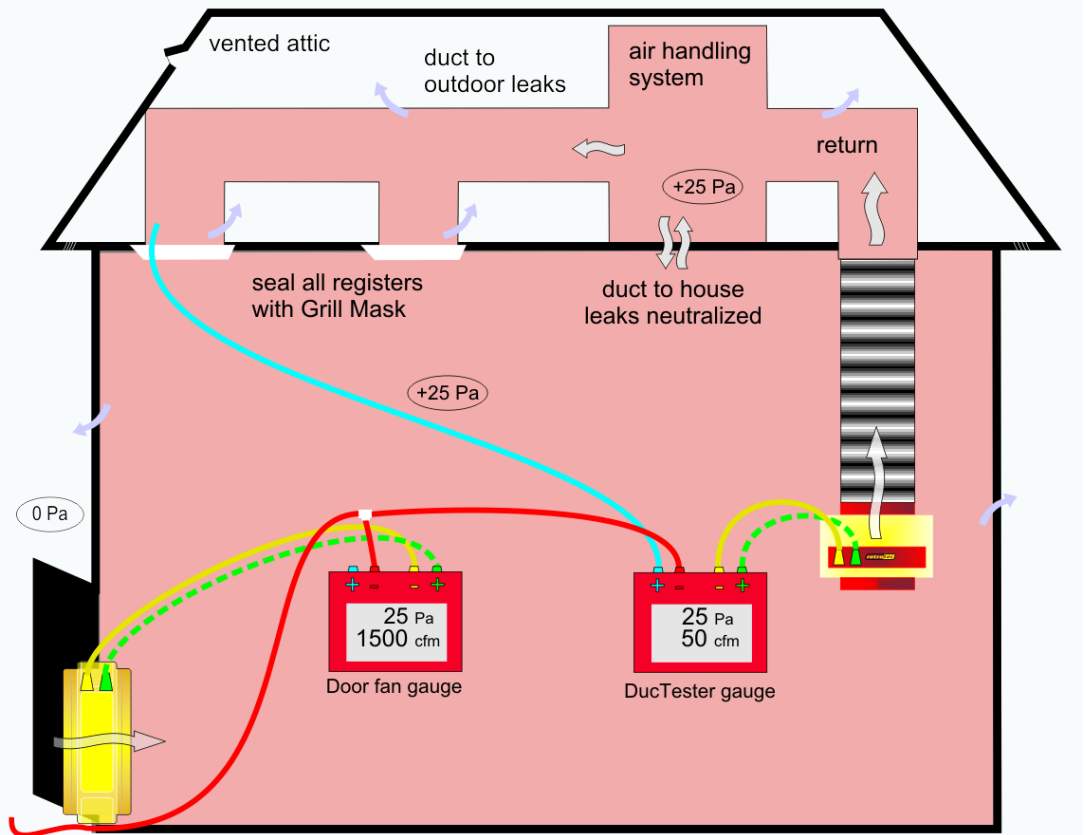
2. Press DM-2 keys:
 - a. **[Mode]** for desired results.
 - b. **[Device]** to get "Retrotec DU200"
 - c. **[Range Config]** to get "Mid".
 - d. **[Time Avg]** to get "8s".
 - e. **[Auto Zero]** to get "On".
3. Press **[Set Pressure] [2] [5] [Enter]**.
4. Press the **[@]** key until "@ 25 Pa" is displayed.
5. Record the total duct leakage.

Manual control may be used but if "@ 25 Pa" does not appear, change the defaults using **[Setup]** 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.



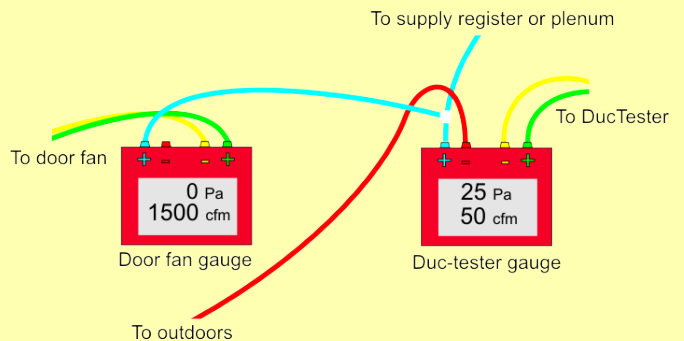
Method #1: Set both to 25 Pa

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*.

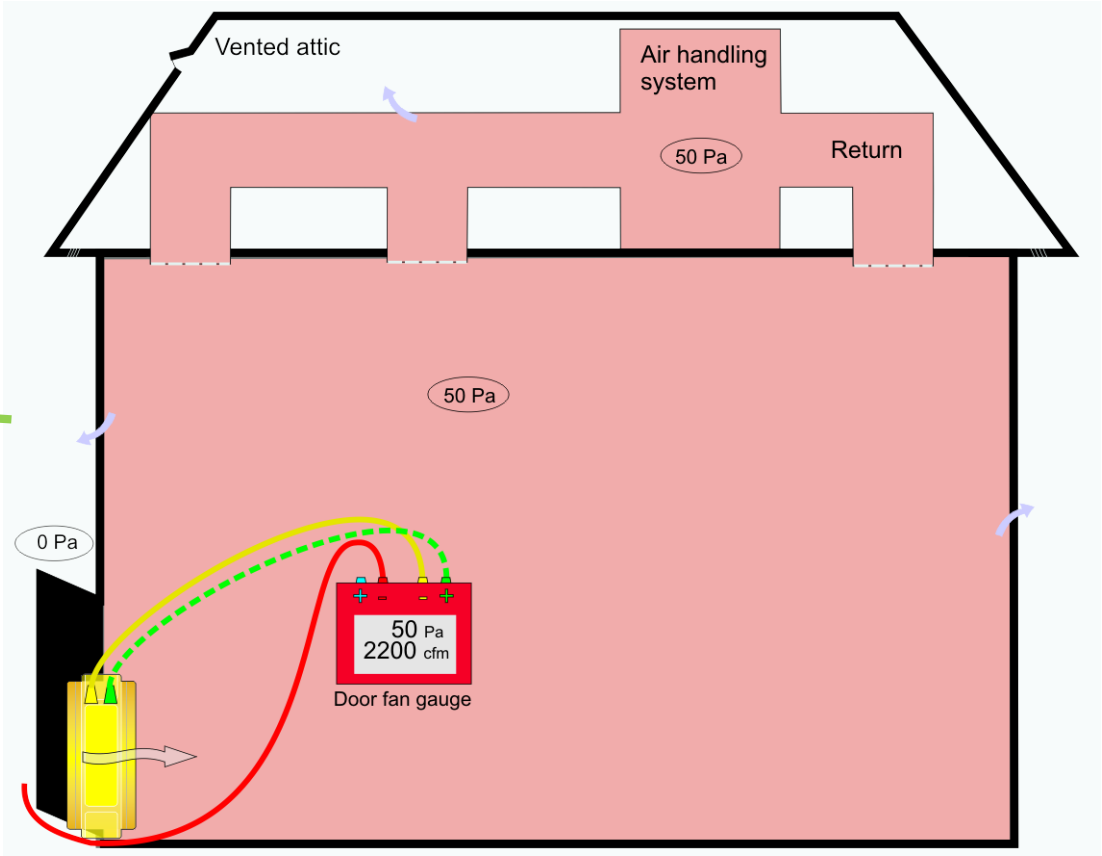
Method #2: Set duct to house to 0 Pa

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. Connect 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".
7. 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 is typically done under depressurization, however, in certain circumstances, it is necessary to pressurize.

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.

House leakage is seldom measured in the pressurization direction as shown. If you require to perform a depressurization test, turn the fan around and connect as shown. Depressurization testing of ducts is recommended because the fan does not need to be turned around for that test method.



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
 @50.0Pa
 Volume : 12000 ft³

"EfLA per Area" in units of "in²/in² @ 50 Pa"
Units for Washington State require floor area in sq.ft.

50 Pa
 .00030 in²/
 in²
 @50.0Pa
 Area: 1000 ft²

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