Step 1: Prepare the building

Refer to the Gauge QuickGuide and become completely familiar with its operation before performing a test.

- Fireplaces and stoves must be cold with doors closed (cover ashes).
- Close and lock outside doors and windows so they don’t open during the test.
- Open all interior doors leading to conditioned spaces.
- Shut off HVAC, combustion appliances, exhaust fans, dryers, A/C and furnaces. Ensure they will not come on.
- Turn gas hot water to Pilot.

Remove or cover ashes. Turn gas valve to Pilot. Close all windows and outside doors.

Step 2: Install the system

- Set up the Door Panel. Refer to your “Door Panel QuickGuide”
- Connect the Ethernet style Speed Control Cable to the fan and gauge.
- Connect the yellow tube between yellow ports marked “Ref B” on fan and gauge. If the fan has a green port (“Input B”), connect the green tube.
- Connect the short red tube to the red gauge port.

**Traditional Cloth**

- Pass the red tube through the Door Panel and toss the end at least 5 feet away from the fan’s airstream.
- Water in tube will result in erroneous readings.

**SmartCloth**

- Connect the red tube to the tube insert found near the front, mid-right of the cloth.
- SmartCloth can still be used like the traditional method if desired.

- Install the fan blowing outdoors. Cover the fan. Refer to “Range Configurations” QuickGuide for assistance on selecting proper fan coverage.
- Connect power cord between fan & a wall outlet.

Power light must be on.

- Place gauge near fan, or attach gauge to Door Panel.
Step 3: Conduct depressurization test, (CFM@50)

- Ensure that all doors and windows are closed.
- If possible, use Range with larger opening to get more flow and try again.
- Change [Range] on the gauge to match.
- Re-adjust fan speed.

Flow reads “--” at test pressure?
If the test pressure has been reached, but “--” appears, the fan is running too slowly to accurately measure flow.
- Add the next lower Range
- Change [Range] to match

Gauge set up

Select your device from the graphics under “Retrotec Blower Door” then select Range. Use Range Plate B8 for most houses, try Range B4 for tighter new houses, and Range Ring A for leakier older houses. For 300 fans, start with Open Range.

Step 4: Desired results not achieved?

Cannot achieve test pressure at full speed?
If fan reached 100% speed but could not achieve 50 Pa:
- Ensure that all doors and windows are closed.
- If possible, use Range with larger opening to get more flow and try again.
- Change [Range] on the gauge to match.
- Re-adjust fan speed.

Flow reads “--” at test pressure?
If the test pressure has been reached, but “--” appears, the fan is running too slowly to accurately measure flow.
- Add the next lower Range
- Change [Range] to match

Tap [Set Pressure] [50] [Set] [@] to calculate what the flow would be at exactly 50 Pa.

Make sure the device shown on the Home screen matches your fan. To change device, tap the fan picture, then the [Change Device] key.

Select Range for 5000

Tap on [Channel B] to change the type of result or units. Refer to gauge and “Residential Pressure & Air Leakage Testing, Appendix A” manuals for guidance.

Time averaging
5 seconds

Tap [Settings] then [Time averaging] to adjust the time averaging. 5 seconds is OK for a calm day. 10 or 30 seconds can be used on windy days.

Make sure the [Default @ Pressure] is set to 50 Pa.
**Different Results**

Tap the [Channel B] key to view a different Result, or tap [Result to be displayed] on the [Settings] menu.

<table>
<thead>
<tr>
<th>Flow: CFM</th>
<th>Required by many states. Also available in metric units.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow/Area: CFM/sq ft</td>
<td>Normalized leakage area is used in many standards. All common units are available.</td>
</tr>
<tr>
<td>ACH: /h</td>
<td>Air Changes per hour can be shown directly on the gauge. Enter volume as shown below.</td>
</tr>
<tr>
<td>EfLA4/area: sq in/sq ft</td>
<td>Specialized units such as Effective Leakage Area are also available.</td>
</tr>
</tbody>
</table>

When a Result is chosen that requires an area or volume, [Area] or [Volume] will be shown on the Home screen.

Tap [Area] or [Volume] to change. The area and volume can also be changed from the [Settings] menu.

**Pressurization test**

Turn the fan around to blow air into the house.

Tube configuration is the same as the depressurization test.

**Adjust fan with gauge**

Connect Speed Control Cable to the fan. Solid green Status light indicates gauge is connected.

Tap [Set Pressure] [50] [Set] to get gauge to control to a pressure of 50 Pa.

CAUTION: Doors opening during the test will cause fan speed to increase which will create a pressure pulse when that door is re-closed, disturbing dust, soot, and particulates, causing damage. STOP the Fan if a door opens.

Tap [Set Speed] [50] [Set] to set speed to 50%.

When [Set Speed] or [Set Pressure] is used, the Jog keys become active on the Home screen. Use the [JogUp] [JogDown] arrow keys to increase or decrease the target by 5 Pa or 1%.

Tap [Stop] to turn the fan off.

**Adjust fan speed remotely**

Use optional WiFi to control the fan remotely. Refer to “GaugeRemote QuickGuide”.

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**Show leakage area Result**

Equivalent Leakage Area (EqLA) describes the leakage area in terms of one large hole in a flat surface.

Tap the [Channel B] key, then ..., and select “EqLA: sq in”

[Channel A] shows the building pressure and [Channel B] “EqLA” shows the combined size of all holes in the building.

Leakage area is not a required result, but is a nice way to visualize the size of the hole in the ducts.
Perform a Blower Door test on a room and record the EqLA at 50 Pa.

Install cardboard in upper part of doorway with a 20 x 20 inch hole cut in it.

Perform a second Blower Door test on the building, record the EqLA at 50 Pa.

Subtract the first result from the second result and the value should be 400 sq. in. (+/-10%).

Control fan speed with software

Speed control is handled automatically with FanTestic software, for complete automation.

Field check system monthly

Field check gauge weekly

Check for gauge accuracy, blocked, leaking, or pinched tubes weekly, and anytime results are in question.

- Set [Time Average] to 5 seconds in [Settings].
- Tap [Channel B] and select “Pressure: Pa”.
- Connect the red tube between the red and yellow ports.
  - If readings on Channel A and Channel B are within 2% and don’t drop noticeably in 5 seconds, the gauge is functioning correctly.
- Remove red tubes and repeat with the yellow tube between the blue and green ports.

Check gauge and tubes regularly to eliminate the most common source of errors.