Quick Guide DB-PR700 (Outside)

One-Point 25 Pascal Leakage to Outside Pressurization Test (blowing air into the duct system)

Using the Minneapolis Duct Blaster®, DG-700 Digital Gauge and Minneapolis Blower Door™

1. Connect the Duct Blaster fan to the duct system.

a) Choose a location to install the Duct Blaster fan. In single, double or triple returned systems, the largest and closest return to the air handler is usually the best choice. **Note:** In multi-return systems (a return in every room), installing at the air handler cabinet is often best.

b) Remove any remote filters from the chosen return and then connect the black square transition piece to the return using temporary tape. Completely seal the remaining open area of the return with tape.

c) Pull the Duct Blaster fan and flex duct out of the carrying case. Connect the flex duct to the ***exhaust side*** of the fan (i.e. the side with the metal guard) using the round transition piece and connect trim. Connect the open end of the flex duct to the square transition piece using the velcro strap on the flex duct.

d) Connect the fan speed controller to the fan and plug it into a 110V outlet.

e) Install the Flow Ring which you think best matches the needed fan flow.

Fan Configuration	Flow Range (cfm) For Series B Duct Blaster
Open (no Flow Ring)	1,500 - 600
Ring 1	800 – 225
Ring 2	300 – 90
Ring 3	125 – 20

2. Prepare the duct system and house for the Test.

a) Adjust the HVAC system controls so that the air handler does not turn on during the test.

b) Temporarily seal off all remaining supply and return registers, and combustion or ventilation air inlets which are connected to the duct system. Use ***Duct Mask ™*** temporary register sealing material provided with your Duct Blaster, or use painters tape and paper.

c) Turn off any exhaust fans, vented dryers, and room air conditioners.

d) Remove all central filters (i.e. in air handler or return plenum).

e) If the Duct Blaster is installed in an attic, garage or crawlspace - open vents or access panels or doors from these spaces to the outside.

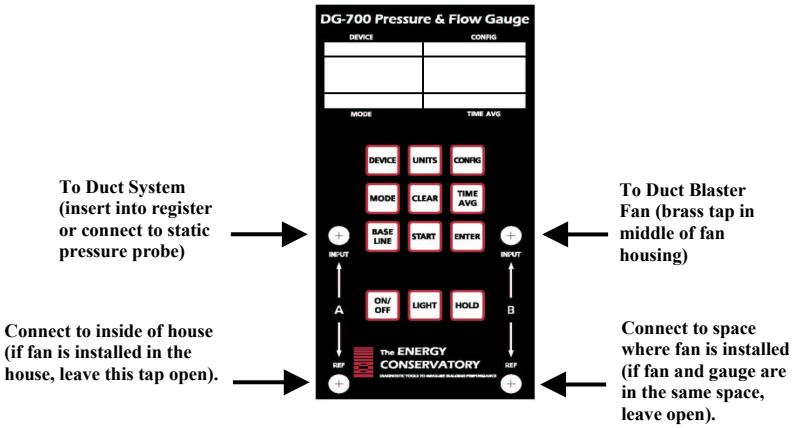
f) Install the Blower Door system (including a gauge to measure building pressure with reference to outside) in a centrally located exterior door. Set up the Blower Door fan to pressurize the house (blowing air into the house). Because we will not be measuring air flow through the Blower Door fan during the test, the fan can be set up in pressurization test mode, or it can be set up in the standard depressurization test mode with the fan direction switch reversed to blow air into the house.

g) Prepare the house for a Blower Door test as described in the Blower Door manual.

3. Connect tubing to the Duct Blaster Gauge.

a) Select a location to measure duct pressure. The best location for measuring duct pressure is often in the supply trunkline or plenum. Drill a small hole (1/4" to 3/8" OD) into the duct to allow a static pressure probe to be installed. Install the static pressure probe with the end of the probe pointing into the air flow from the Duct Blaster fan. If the duct system is reasonably airtight (e.g. less than 200 cfm25 of leakage), duct pressures can be measured at any supply register by inserting a hose through the temporary register seal.

b) Connect tubing to the DG-700 as shown in the illustration to the right.



4. Conducting the Test.

a) Turn on the Blower Door fan and pressurize the house to 25 Pascals.

b) Turn on the Duct Blaster DG-700 gauge by pressing the **ON/OFF** button.

c) Press the **MODE** button once to put the gauge into the **PR/ FL** Mode. In this Mode, **Channel A** is used to measure duct system pressure while **Channel B** is used to display air flow through the Duct Blaster fan.

d) Check (and adjust if necessary) the selected test Device (i.e. fan) and Configuration (i.e. Flow Ring) shown in the upper part of the gauge display to match the fan and Flow Ring being used in the test. For example, the Device icon for the Series B Duct Blaster fan is **DB B**, and the Configuration icon for Ring 2 is **B2**. Press the **DEVICE** button to change the selected fan. Press the **CONFIG** button to change the selected Flow Ring.

e) With the Blower Door fan continuing to run, turn on the Duct Blaster fan by slowly turning the fan controller clockwise. Continue to increase the fan speed until the pressure between the duct system and the house (**Channel A** on the Duct Blaster DG-700) reads zero.

f) Now re-check the Blower Door building pressure gauge and if necessary, re-adjust the Blower Door fan speed to maintain a building pressure of 25 Pascals.

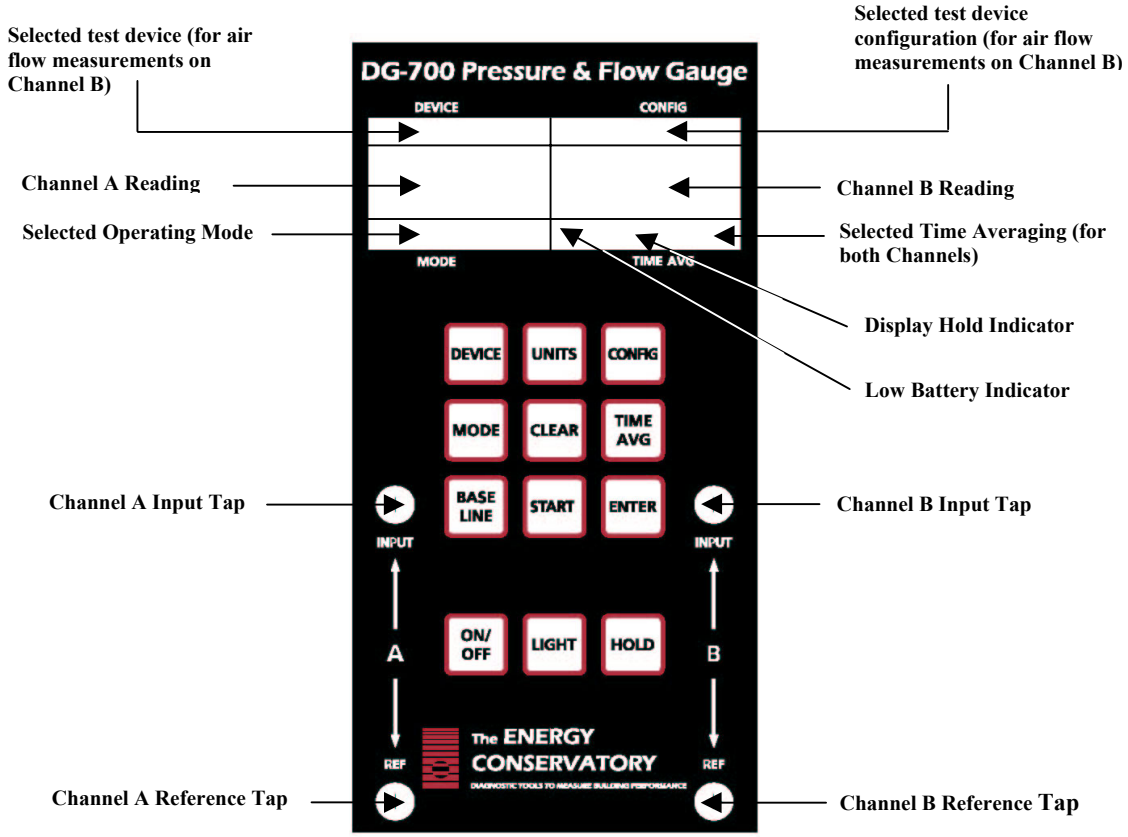
g) Re-check the Duct Blaster DG-700 and if necessary, re-adjust the Duct Blaster fan until **Channel A** reads zero. **Channel B** on the Duct Blaster DG-700 will now display the CFM25 leakage to the outside estimate. Record this number. If the leakage estimate is fluctuating more than desired, try changing the Time Averaging setting on the gauge by pressing the **TIME AVG** button.

5. "LO" appearing on Channel B

Whenever "**LO**" appears on **Channel B** in the **PR/ FL** Mode, the DG-700 can not display a reliable fan flow reading. The message "**LO**" appears on **Channel B** under the following two conditions:

a) "**LO**" is continuously displayed when there is negligible air flow through the test device.
b) "**LO**" alternates with a flow reading when the air flow reading through the device is unreliable (i.e. you are trying to measure a flow outside of the calibrated range of the test device in its current configuration). If possible, you should change the test device configuration to match the flow rate being measured (e.g. install a Flow Ring or a smaller Flow Ring).

Note: If you change the Flow Ring on the fan, be sure to change the Configuration setting on the gauge to match the installed Ring.



Button	Purpose	Button	Purpose
DEVICE	Used to select the Energy Conservatory test device connected to **Channel B** (not active in **PR/PR** mode).	**BASELINE**	Initiates **Baseline** pressure measurement procedure on **Channel A** (not active in **PR/AH** mode).
UNITS	Selects the pressure and air flow units for **Channel A** and **B**.	**START**	Used to start measurement procedure for **Baseline** and **NSOP** measurements. Also used to reset time averaging buffers and manually initiate auto-zero procedure.
CONFIG	Used to select the configuration for the currently chosen test device (not active in **PR/PR** mode).	**ENTER**	Used to accept and enter **Baseline** and **NSOP** pressure readings. After entering **Baseline** reading, **Channel A** will display baseline adjusted pressure.
MODE	Selects the current operating mode.	**ON/OFF**	Turns gauge On and Off.
CLEAR	Used to exit out of a **Baseline** pressure measurement procedure. When in **PR/AH** mode, resets gauge back to beginning of AH flow measurement procedure (i.e. **NSOP** measurement).	**LIGHT**	Turns display backlight On and Off.
TIME AVG	Used to select the time averaging mode (not active during **Baseline** and **NSOP** measurements).	**HOLD**	Turns display Hold feature On and Off.