Quick Guide 2 - Depressurization Testing (pulling air out of the duct system)

Conducting a Total Duct Leakage Test Using the Minneapolis Duct Blaster® and DG-3 Digital Gauge

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. Disconnect the flex duct from the fan and insert the foam flow conditioner into the ***round*** transition piece. Connect the flex duct along with one of the flow rings to the ***inlet side*** of the fan (i.e. the side without the metal guard) using the round transition piece and connect trim. When installing the flow ring, sandwich it between the round transition piece and the fan inlet flange. Use the flow ring which you think best matches the needed fan flow. Connect the open end of the flex duct to the square transition piece using the velcro strap on the flex duct.

Fan Configuration	Flow Range (CFM)
Ring 1	800 – 225
Ring 2	300 – 90
Ring 3	125 – 20

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

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).

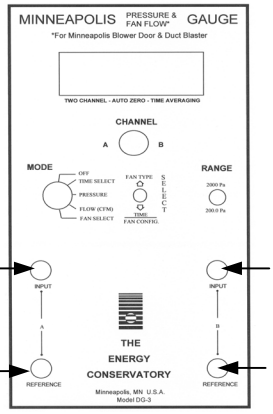
e) Open a door or window between the house and outside to prevent changes in house pressure when the Duct Blaster is running.

f) 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.

3. Connect hoses to DG-3 Pressure 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) Use **CHANNEL A** to measure duct pressure, and **CHANNEL B** to measure Duct Blaster fan flow. Connect hoses to the DG-3 as shown in the diagram.



To Duct System (insert into register or connect to static pressure probe)

Connect to inside of house (if fan is installed in the house, leave tap open). Be sure window is open.

To Duct Blaster Fan (brass tap in middle of fan housing)

To Plastic Tap on Round Transition Piece

4. Gauge Settings for DG-3.

a) Turn the **MODE** switch to the **FAN SELECT** position and choose the Duct Blaster fan and current flow ring configuration. To change the fan type to the Minneapolis Duct Blaster fan, toggle the **SELECT** switch up twice.

-8-0 This indicates that you have chosen the Minneapolis Duct Blaster fan, and that the fan is in the "Open" inlet configuration (e.g. no flow rings installed).

To change the flow ring configuration for the Duct Blaster fan, toggle the **SELECT** switch down.

-8-1 Duct Blaster with Ring 1 installed.
-8-2 Duct Blaster with Ring 2 installed.
-8-3 Duct Blaster with Ring 3 installed.

b) Put the **RANGE** switch in the **High Range** position (2000 Pa), and turn the **CHANNEL** knob to **"A".**

c) Turn the **MODE** switch to **PRESSURE**.

5. Conducting the Test.

a) With the **CHANNEL** knob set to **"A"**, turn on the Duct Blaster fan by slowly turning the fan controller clockwise. As the fan speed increases, duct pressure indicated on **CHANNEL A** should also increase. Increase fan speed until the duct system is depressurized to the specified Test Pressure (typically -25 Pa).

b) While leaving the fan speed unchanged from **a)** above, turn the **CHANNE**L knob to **"B"**, and turn the **MODE** switch to **FLOW**.

c) The gauge will now display the total duct leakage reading in cubic feet per minute (cfm).

If the cfm leakage reading displayed on the gauge is blinking, install the next smaller flow ring. If you change flow rings, be sure to use the **Fan Select** feature to update the gauge with the new flow ring installed before reconducting the leakage test. **Note:** Never monitor **CHANNEL A** (duct pressure) with the **MODE** switch in the **FLOW** position.