

The DG-700 Manometer (**Fig. 1**) is a widely adopted pressure measurement tool utilized by the DERN Program. Despite the availability of the DG-1000 digital gauge manometer, the DG-700 remains a go-to device. This technical bulletin contains a summary of the fundamental controls and functionalities of the DG-700 used when performing a leakage to outside and total leakage test.

- DEVICE** Used to select the Energy Conservatory test device connected.
- DB B – This mode corresponds to the typical duct blaster in the program.
 - BD 3 – This mode corresponds to the typical Blower door in the program.
- CONFIG** Used to select the configuration for testing. This corresponds to the rings depending on the flow. There are generally three rings for testing.
- A (Largest)
 - B (Mid-range)
 - C (Smallest)
- MODE** This selects the mode used during testing. In The Program, raters should focus on the following modes.
- PR/PR: Measures the pressure (Pa) for both A channel and B.
 - PR/FL: Measures the pressure (Pa) in channel A and flow (CFM) in channel B.
 - PR/FL@25 Pa: Measures the pressure (Pa) in channel A and the extrapolated CFM at 25 Pa.
- BASELINE** Initiates **Baseline** pressure measurement procedure on **Channel A**. This is done by selecting baseline followed by start. After 10 seconds, select enter to have the baseline. A baselined manometer will have “ADJ” shown on the A channel.



Figure 1 DG-700 Pressure & Flow Gauge

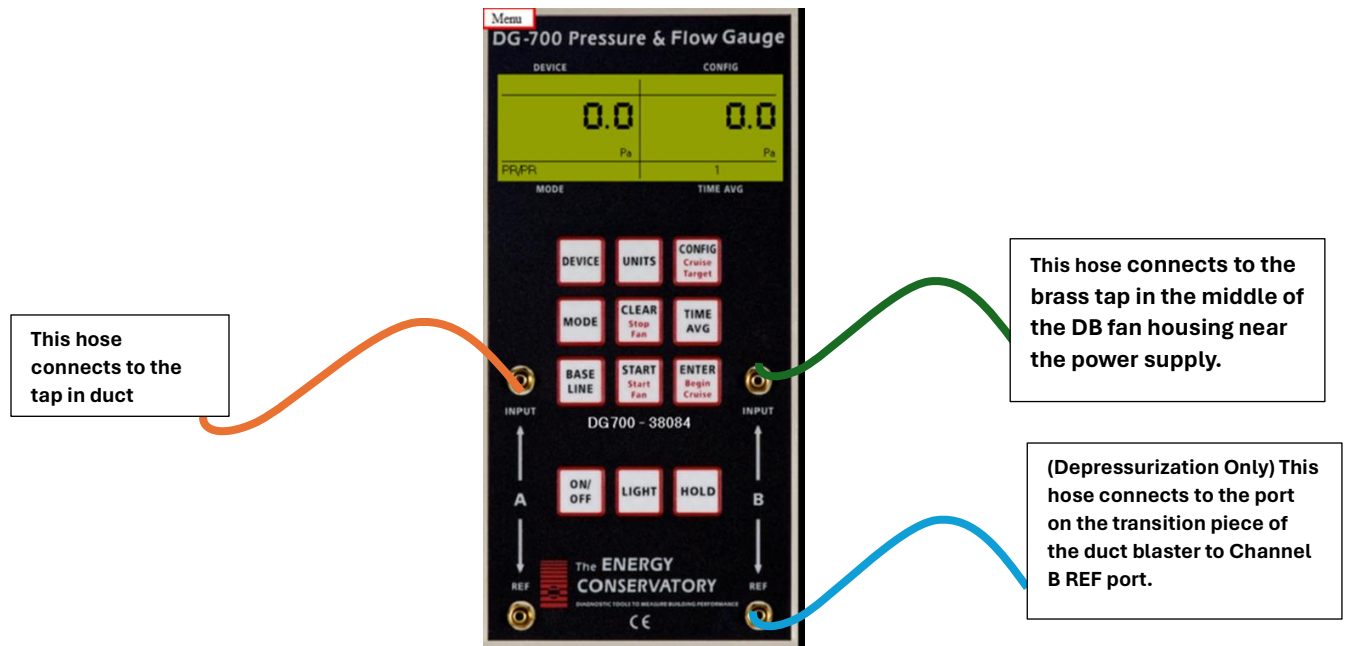
Proper setup for testing

- All registers and returns must remain sealed with either tape or vent caps at both the face and the perimeter, meaning tape is in contact with drywall.
- Raters can use tape or plugs for sealing floor registers, tape is best. If plugging is the only choice, check duct boots to ensure they are to the subfloor.



Figure 2 Duct Blaster Flow Conditioner

- **For Depressurizing only**, ensure the flow conditioner (**Fig 2**) is installed in the duct blaster. The conditioner must be pushed completely into the duct blaster flange as seen to the right.
 - Ensure a window or door is opened to the exterior during total leakage testing.
 - Remove the filter at the return used for testing and the air handler, if present, before testing.
 - The duct blaster must be located at the largest return that is closest to the air handler. A rater must test at the plenum if the return is ductless, and the plenum is open to conditioned space.
- Raters should start with the smallest ring (C) for the best accuracy.
 - Raters can conduct depressurizing and pressurizing tests for the Program. The following are the general setups for both.
 - Depressurizing:
 - The blower door depressurizes the home similar to the blower door test and the duct blaster is oriented with the metal grill facing towards the rater.
 - The flow conditioner and a ring are placed between the fan and the duct.
 - In addition to the top of channel A and B, the bottom of channel B is connected to the tap located at the fan and duct connection.
 - Pressurizing:
 - A flow conditioner is not needed.
 - The blower door is reversed to pressurize the house, and the duct blaster is oriented to have the grill facing towards the ducts and the ring towards the rater.
 - Only the taps located at the top of channel A and B have hose connections.



All RNC Program homes should be tested in accordance with RESNET standards and guidance.