Residential duct leakage measurement equipment comparison: DucTester & Duct Blaster®

Use this guide to compare features of the two top US manufacturers.

Retrotec's DucTester

Speed control located inside the fan and connects to gauge with umbilical that includes an Ethernet speed control cable and all tubes.

The Energy Conservatory's Duct Blaster®

Speed control located on the power cord and connects to gauge with a mini jack.

Duct tester performance and applications

Duct testing standards for new houses typically limit the maximum acceptable leakage to 80 to 150 CFM whereas existing houses can have leakage up to an astonishing 300 CFM and still pass some code requirements. Leakage above 300 CFM is difficult to measure because the air-handler's blower wheel would then represent a significant resistance and obscure leakage on the supply side. Both duct testing systems will measure leakage well above these maximum leakages. Both systems have about the same flow rate when depressurizing ducts which is the easiest direction to test in because the negative pressure holds on the seal over the registers.

It was common practice to measure air handler flow rates using a duct tester but this method is seldom used because neither unit can duplicate a 5 Ton system which could have 2250 CFM of air-handler flow.

The Duct Testers (Fans)

DucTester DU220

Flow:

Maximum in free air: 725 CFM
Maximum at 25 Pa: 700 CFM
Pressurize on flex duct: 700 CFM
Depressurize: 700 CFM

Minimum at free air: 7 CFM
Accuracy: +/- 3% with DM-2
Calibration unaffected by the floor or at high back pressures.

Power plugs directly into fan with speed control and tubes in one umbilical. Additional control on fan with status indicator lights.

Dimensions and weight:
13 x 11 x 13.25 in, 11.75 lbs with 2 flow rings

Duct Blaster®

Flow:

Maximum in free air: 1500 CFM
Maximum at 50 Pa: 1350 CFM
Pressurize on flexduct: 1000 CFM
Depressurize: 650 CFM*
* Flow Conditioner reduces the flow.

Minimum at free air: 10 CFM
Accuracy: +/- 3% with DG-700

Power plugs directly into fan with speed control on cord or from gauge. Tubes connect separately to fan, ducts and gauge. No indicator lights.

Dimensions and weight:
10 in diameter, 7 in length, 8.5 lbs with three flow rings

Calibration meets the same standards.

Test direction: Works in both directions without changes to set up.

Test direction: Works in both directions but needs the Flow Conditioner and reference tube added to the inlet when depressurizing.

The Digital Gauges

DM-2 Mk II

Accuracy: 1% of reading, or 0.15 Pa.

Cruise Control: 0, 25, 50 Pa or any pressure entered using keyboard.

Duct Testing results:

Channel A:

- Pressure in Pa, in WC

Channel B:

- Flow in CFM at 25 and 50 Pa or any other pressure entered using the keyboard.
- Flow in CFM, CFM/ft^2, CFM/100ft^2 & CFM/1000ft^2

Compatible Duct testing Devices:

- Retrotec Model DU200 DucTesters
- Energy Conservatory Duct Blaster
- Energy Conservatory Tru-Flow Grid

DG-700

Accuracy: 1% of reading, or 0.15 Pa.

Cruise Control: 0, 25 and 50 Pa.

Duct Testing results:

Channel A:

- Pressure in Pascals, in WC

Channel B:

- Flow in CFM at 25 and 50 Pa

Compatible Duct testing Devices:

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