# TOTAL EXTERNAL STATIC PRESSURE TEST PROCEDURE

## TEST CONDITIONS

- ❑ Identify airflow direction and the configuration of the air handler.
- ❑ Install test ports. (See NCI *Static Pressure Test Location Diagrams*)
- ❑ Inspect behind where test ports are to be installed for anything that could be damaged by a drill bit. Slip the sheath over the drill bit.
- ❑ Prepare system for testing by placing the fan in “on” position, placing the system in cooling mode, and setting the temperature at 55°. Allow the coil to get wet before reading pressures.

## TEST PROCEDURE

- ❑ Install a 3/8" test port on the supply side, where the air leaves the unit. If a coil is present, install in a location before the air enters the coil.
- ❑ Install a 3/8" test port on the return side of the unit. This port is often installed in the front or rear of the blower compartment. Do not test at the point where the air enters the inlet of the fan.
- ❑ Attach the static pressure tip to the hose and attach the hose to the manometer on the right or top pressure probe. Insert the static pressure tip into the supply air stream test port with the pointed end of the probe facing into the airflow.
- ❑ Read and record the positive (+) static pressure reading.
- ❑ Then insert the static pressure tip into the return air stream test port with the pointed end of the probe facing into the airflow.
- ❑ Read and record the negative (-) static pressure reading.
- ❑ Add the two static pressure readings together to find total external static pressure. Disregard the "+" and "-" signs when adding. Both numbers indicate the absolute pressure measured.

**Example: +.28 and -.16 = .44" total external static pressure.**

- ❑ Compare the total external static pressure to the maximum fan static pressure listed on the nameplate air handling equipment.
- ❑ To continue air diagnostics, follow the highest static pressure reading, and measure pressure drops to find restrictions in the system.
- ❑ Measure component pressure drops and compare to NCI *Static Pressure Budgets* (See NCI *Pressure Drop Procedure*)