



Case Study

COMMUNITY:

**Crossroads of Southport
Indianapolis, IN**

CONTRACTOR:

**Airtron
Indianapolis, IN**

3.4 deg. F

Average heating mode air temperature delta room-to-room (Sept - Oct)

4.2 deg. F

Average cooling mode air temperature delta room-to-room (May - Aug)

6.0 CFM

Average CFM delta across all supply ducts measured at commissioning

Situation/Overview

In May 2021 Rheia began working with Beazer Homes with a pilot program for Crossroads of Southport in Indianapolis, IN. The pilot home was a 3,179 sq. ft., two-story single-family home with a slab-on-grade foundation.

Install

Using a two-man crew, the system was installed in sub-zero temperatures. The floor structure was I-Joists.

The Rheia home was commissioned according to Rheia's standard procedures. At system start up, in collaboration with TSI technicians, the home was balanced using Rheia's Verify process. At that time, measurements confirmed the duct airflows corresponded to the Manual J design within industry standard margins.

A thermostat and sensor network was installed for long-term monitoring.

ACCA Manual RS specifies the maximum acceptable room-to-room temperature difference as 4 degrees F for heating and 6 degrees F for cooling.

Results

The builder observed installation time savings of almost 30% versus the conventional system,

In addition, the pilot home achieved 3.4 deg. F in heating mode and 4.2 deg. F in cooling mode during the monitoring period.

ACCA standard 5 allows no more than 25 CFM or 20% difference per duct versus the Manual J design estimates. This home measured an average per duct CFM delta of 6.0.

The home passed the Energy Star duct leakage test with a score of 1.2 cfm per 100 sq.ft

