



Case Study

COMMUNITY:

**Smith Creek
Woodburn, OR**

CONTRACTOR:

**Apex Air
Vancouver, WA**

3.5 deg. F

Average heating mode air temperature delta room-to-room (Jun - July)

4.4 deg. F

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

6.0 CFM

Average CFM delta across all supply ducts measured at commissioning

Situation/Overview

In May 2021 Rheia began working with DR Horton with a pilot program for Smith Creek in Woodburn, OR. The pilot home was a 2,230 sq. ft., two-story single-family home with a slab-on-grade foundation. The 2021 Oregon building code requires ducts and equipment to be located in conditioned space.

Install

Using a two-man crew, the system was installed.

The Rheia home was commissioned in collaboration with the contractor's technician. The home was balanced using Rheia's Verify mobile app. Measurements showed the balanced airflows corresponded to the Manual J design within industry standards margins.

A thermostat and sensor network was installed for long-term monitoring to assess the performance of the system.

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

Installation time savings of a half day was observed versus the conventional system installation.

Airflows measured an average 3.2 CFM delta for the installed ducts at commissioning. ACCA standard 5 allows no more than 25 CFM or 20% difference per duct versus the Manual J design estimates.

ACCA Manual RS specifies the maximum acceptable room-to-room temperature difference as 4 degrees F for heating and 6 degrees F for cooling. This pilot home achieved an average of 3.5 deg.F in heating mode and 4.4 deg. F in cooling mode during the monitoring period.

