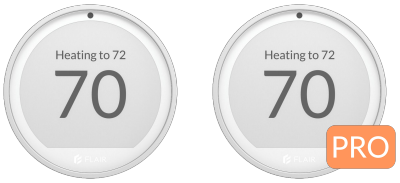
FLAIR

Zoning and Air Balancing Solution Guide

Installation and User Guide

Flair Smart Vents

Flair Bridge & Bridge Pro



Flair Puck/Puck Pro

Compatible with both Puck and Puck Pro.
Puck Pro is not a requirement.

Static Pressure Kit

This guide provides detailed instructions for installing, configuring, and operating a zoning and air balancing system on the Flair's hvacOS™ platform including the usage of Flair's Smart Vents, Pucks, Bridge, Bridge Pro, and Static Pressure Kit.

We're Here to Help

CONTACT FLAIR

For dedicated dealer phone and email support, login or register.

Existing Flair Pro?
Login to the Pro Portal for contact information.

PRO PORTAL

flair.co/pros

Not yet a Flair Pro?
Complete the Pro registration and a member of our team will be in touch.

PRO REGISTRATION

flair.co/register

Contents

1.1 About This Guide

Purpose

This guide provides detailed instructions for installing, configuring, and operating a Flair Smart Vent system using Flair's hvacOS™ platform to create home zoning and air balancing solutions. It is designed for both HVAC professionals and homeowners looking to integrate Flair Smart Vent solutions into home HVAC systems for enhanced comfort, energy efficiency, and room-level climate control and air balancing.

Audience

This document is intended for:

- **HVAC Contractors:** Professionals responsible for installing and maintaining heating/cooling systems.
- **System Integrators:** Those configuring heating/cooling solutions with Flair products.
- **End Users:** Homeowners, tenants, landlords, etc. that are utilizing a Flair Smart Vent System

Scope

This guide covers:

- An overview of Flair's Zoning and Air Balancing solutions and their benefits.
- Installing an Entry Level or Pro Smart Vent solution.
- Step-by-step configuration using the Flair hvacOS™application.
- Best practices for ensuring optimal performance.

NOTE: This guide does not include instructions for setting up other solutions (Staged Heating/Integrated Controls or Ductless Controls) supported by the Flair platform, detailed wiring diagrams, or a full overview of the Flair Application. Those materials are available at:

PRO TRAINING

flair.co/protraining

How to Use This Guide

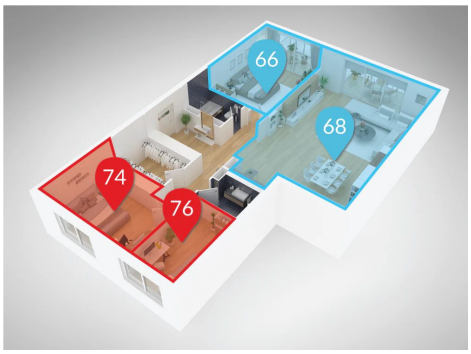
- **Quick Start Guide:** A high-level overview to get your installation underway rapidly.
- **Detailed Installation Instructions:** Guidance for mounting, wiring, and configuring devices.
- **Operation Guide:** Information on system behavior and how to use the Flair app for control.
- **Troubleshooting:** Common issues and solutions for seamless operation.

By following this guide, users can confidently set up a Flair Zoning and Air Balancing solution that maximizes comfort and efficiency using Flair's platform.

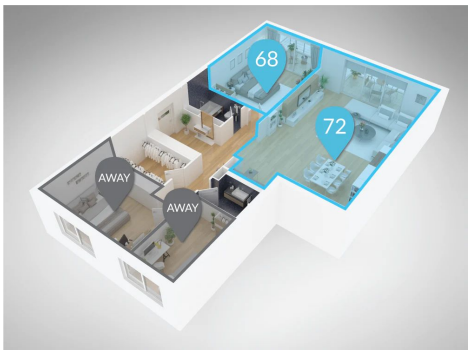
1.2 Benefits of Flair's Zoning and Air Balancing

Overview

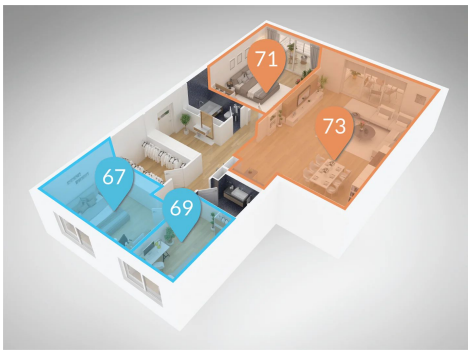
Many homeowners experience inconsistent heating and cooling in their homes, with certain rooms getting too much or too little airflow. Most homes also waste energy by heating and cooling rooms that are unoccupied at any given time. Smart Thermostats don't address the underlying airflow issues, and conventional zoning systems are impractical, expensive and require intrusive installations. Flair's Smart Vent solutions solve for both issues, focusing your heating and cooling on occupied spaces, addressing hot/cold rooms, and reducing wasted energy costs in unoccupied spaces.



Eliminate Hot and Cold Spots
Consistent comfort throughout your home as Flair Smart Vents automatically adjust airflow to balance temperatures.



Save Money and Energy
Heat or cool only the rooms that are occupied, reducing energy waste and saving up to 30% on utility bills.



Independent Room Control
Customize the temperature of each room according to your preferences, without the need for expensive and intrusive zoning solutions.

A Flair Smart Vent system dynamically controls airflow to different rooms based on temperature, occupancy, and user preferences. This increases comfort while minimizing energy consumption. Unlike traditional zoning dampers, Flair Smart Vents can be deployed on existing HVAC equipment, fully wirelessly with a battery life of 3-4 years, and require no access to ductwork or additional wire pulls.

Benefits of Flair Smart Vents for Zoning and Air Balancing

- **Room-level temperature control** without major HVAC modifications.
  Comfort at a room level – the way homeowners actually experience comfort. Eliminate the age-old complaint of rooms that get too hot or cold, and fix vertical airflow balance.
- **Automatic balancing** of temperature across seasons.
- **Energy savings** by optimizing airflow to in-use rooms.
  Stops wasting energy and protects equipment by operating within its static pressure limit and leveraging multi-speed fan control capability (Pro solutions only).
- **Ease of installation** compared to conventional zoning solutions.
  Zone homes you could never zone before – great for townhomes, homes with vertical in-wall trunks, finished basements, or for converting a home from a legacy single zone to multi-zone solution without the need to change equipment, pull wires, or open walls.
- **Price points that homeowners can afford**, with the performance and features of zoning alternatives they cannot afford.

1.3 Flair's Zoning and Air Balancing Solutions

How Flair Manages Central HVAC Systems

Flair's hvacOS™ platform automates coordination between Flair Smart Vents, thermostats (both smart and non-smart), and HVAC equipment all based on user preferences. There are three primary Zoning and Air Balancing solutions:

GOOD

Entry Level

- Designed for homeowners seeking improved comfort and quick, affordable installation.
- Relies on:
  - Smart Thermostat integration (recommended, but not required)
  - Room Sensors or Flair Pucks (for room-level monitoring and control)
  - The Flair Bridge(s) (for communication)
  - Smart Vents

BETTER

Pro:
Static Pressure

PRO ONLY

- Designed for high performance zoning and air balancing solutions - *Requires professional HVAC installer*
- Uses:
  - Smart Thermostat integration (strongly recommended for full automation)
  - Flair Smart Vents
  - Flair Bridge Pro (for advanced control and fan integration)
  - Static Pressure Kit (for monitoring system pressure)

BEST

Pro+:
Static Pressure + Fan Control

PRO ONLY

Same as Pro plus:

- Multi-speed air handler with fan control capabilities (optional but recommended)
- Mitsubishi/Fujitsu/LG/Samsung/etc. thermostat adapter (if needed for fan speed control)

Smart Vent solutions ensure systems operate efficiently to provide optimal comfort and minimal energy waste.

1.3 Flair's Zoning and Air Balancing Solutions

Overview

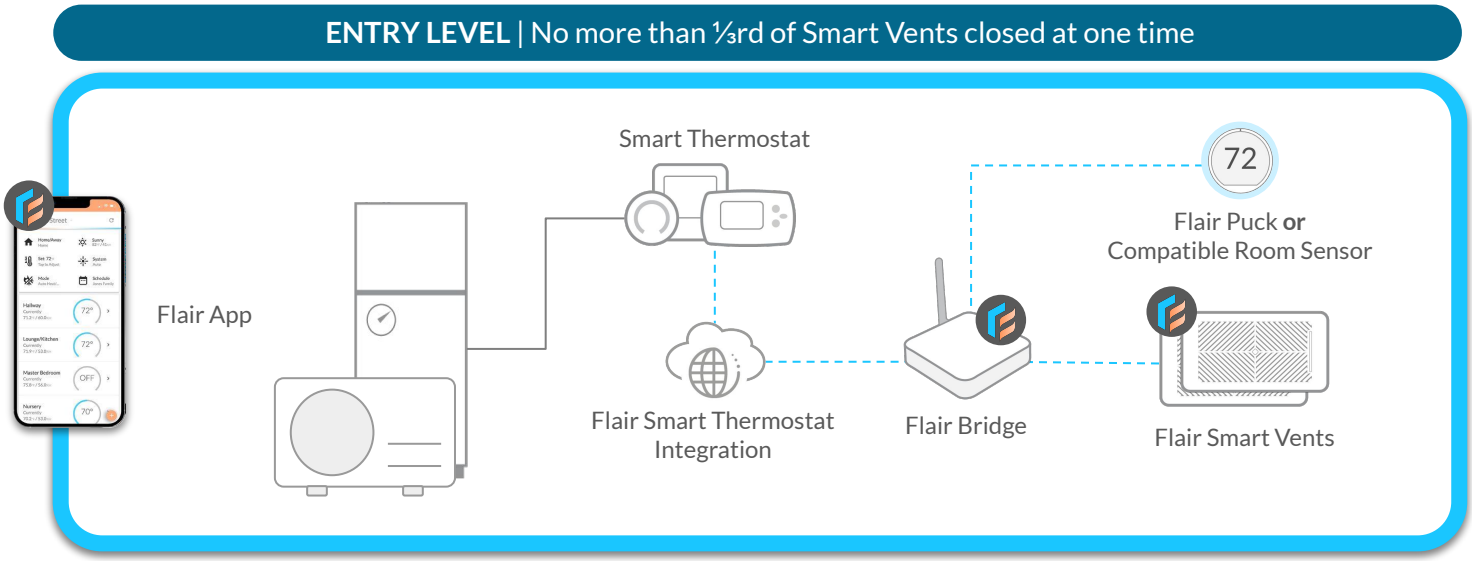
Flair offers three solutions for implementing Smart Vent zoning and air balancing, an Entry Level and two Pro approaches. These solutions integrate with various heating systems to maximize comfort and efficiency and selectable based on specific home issues to address and homeowner preference.

Solution: Entry Level

In this setup, Flair's Smart Vents work with the Flair Bridge or Bridges and typically integrate with a smart thermostat. Each room with a Smart Vent(s) will have an integrated Smart Thermostat, a compatible remote sensor, or a Flair Puck to enable thermostatic control of the Smart Vent(s). Backpressure is managed through the Flair '⅓ Rule' which means that no more than one out of three vents at any one time will be closed. When used with an integrated smart thermostat, the Flair Smart Vent system can either balance while following setpoints from the thermostat or drive the thermostat to manage the 'calls' for heating and cooling as needed in addition to adjusting airflow itself.

This solution is designed for partial home airflow and simple zoning alternatives.

FLAIR + INTERFACE TO THIRD PARTY THERMOSTATS/SENSORS



Key Features:

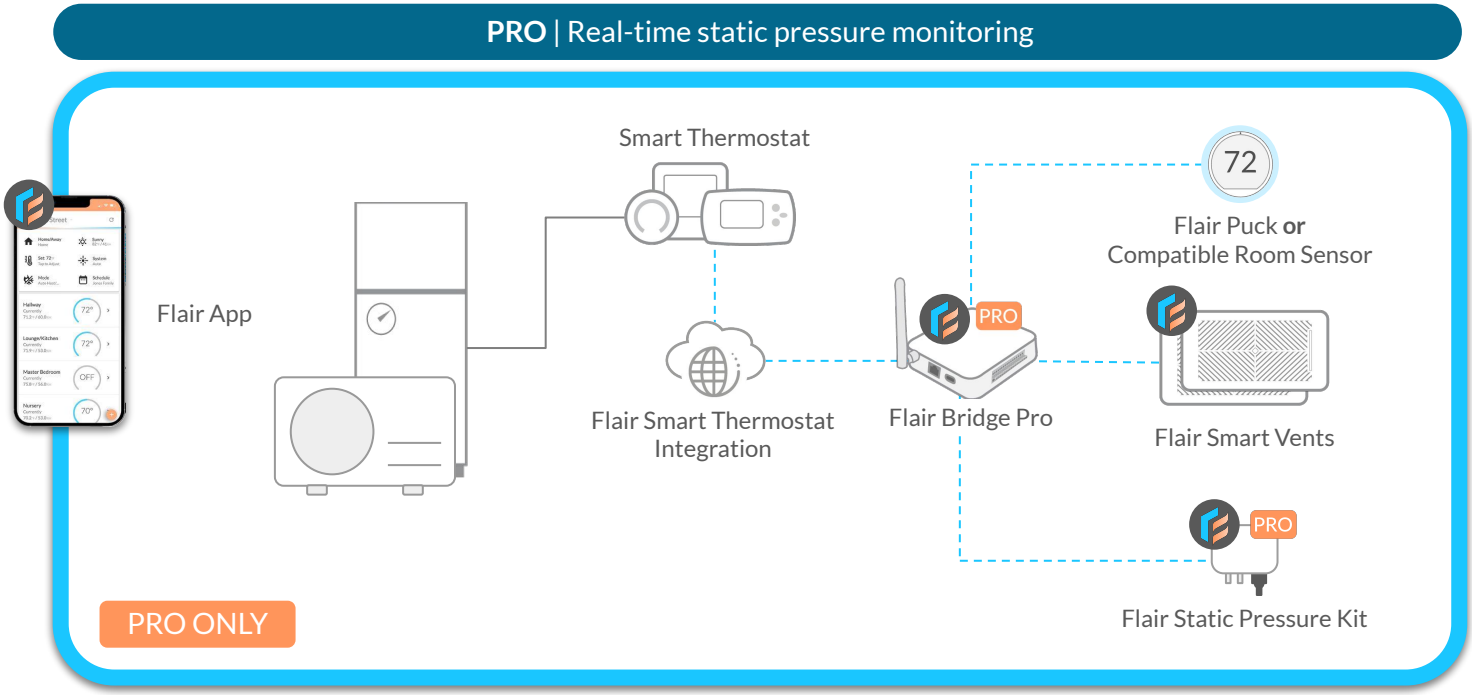
- Simple optimization of comfort and efficiency by redirecting air from rooms getting too much heating or cooling to rooms not getting enough.
- Easy installation with no wiring or ductwork access needed for installation.
- Works with any centrally ducted equipment and protects the equipment from excessive backpressure.
- Utilizes smart thermostats (recommended) to call for heating and cooling.

1.3 Flair's Zoning and Air Balancing Solutions

Solution = Pro: Static Pressure

In this setup, Flair Smart Vents work with the Bridge Pro, smart thermostats (recommended), compatible remote sensors, or Flair Pucks, and Flair's Static Pressure Kit. Total External Static Pressure (TESP) is measured in real time by Flair's Static Pressure Kit connected to the Bridge Pro to ensure equipment is operated within the desired static pressure limit (adjustable) while Smart Vents open and close and heating/cooling is called for.

FLAIR + STATIC PRESSURE KIT



Key Features:

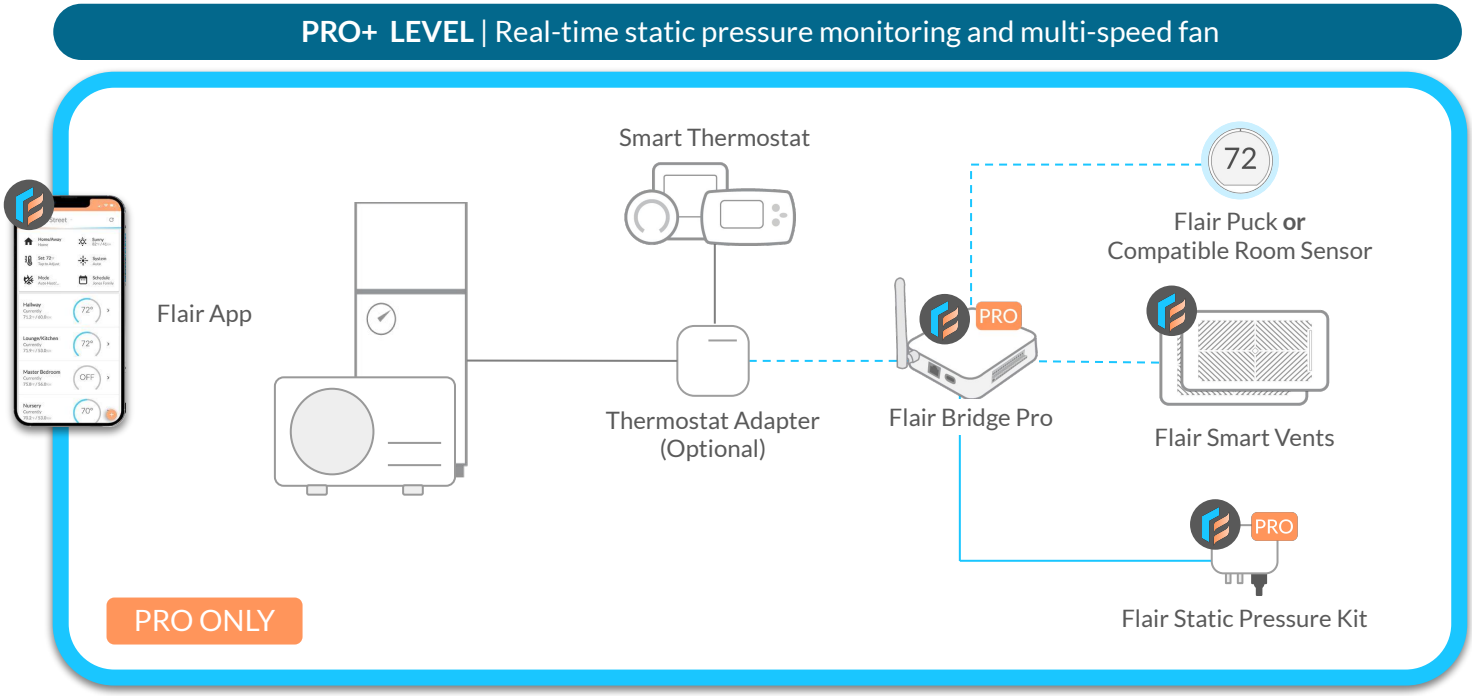
- Advanced optimization of comfort and efficiency in line with top-tier OEM solutions.
- Static pressure based backpressure protection ensuring ideal operating conditions for air handler.
- Rapidly deployable without wire pulls for dampers or thermostats making professional, equipment-integrated zoning cost effective and attractive for homeowners.
- Pro only products sold exclusively through professional HVAC distribution and dealers.

1.3 Flair's Zoning and Air Balancing Solutions

Solution = Pro+: Static Pressure + Fan Control

In this setup, Flair Smart Vents work with the Bridge Pro, smart thermostats (recommended), compatible remote sensors, or Flair Pucks, Flair's Static Pressure Kit, and optionally with thermostat adapters/air handlers that support multi speed fan control. Total External Static Pressure (TESP) is measured in real time by Flair's Static Pressure Kit connected to the Bridge Pro to ensure equipment is operated within the desired static pressure limit (adjustable) while Smart Vents open and close and heating/cooling is called for. For air handlers that support fan speed control natively or through a 24 VAC thermostat adapter, the Bridge Pro will additionally manage the fan speed automatically.

FLAIR + STATIC PRESSURE KIT + FAN CONTROL (NATIVE OR ADAPTER)



Key Features:

- Advanced optimization of comfort and efficiency in line with top-tier OEM solutions.
- Static pressure based backpressure protection ensuring ideal operating conditions for air handler.
- Automatic fan speed control (optional) that adjusts fan speed to match heating/cooling load.
- Rapidly deployable without wire pulls for dampers or thermostats making professional, equipment-integrated zoning cost effective and attractive for homeowners.
- Pro only products sold exclusively through professional HVAC distribution and dealers.

1.3 Flair's Zoning and Air Balancing Solutions

Choosing the Right Solution

To determine the best solution, consider the following:

Entry Level
This solution is ideal for homeowners who are comfortable with simple smart home and home improvement projects.
This solution involves a phillips screwdriver and app setup with no wiring or special knowledge of HVAC. While the solution can't match the performance of the Pro solutions, it can be easily procured and installed in an hour or two, often the fastest and easiest way to fix long standing comfort problems in a home.

Pro Level	PRO ONLY
These robust solutions are ideal when equipment integration and the associated performance benefits are desired to address partial or whole home air balancing and energy efficiency issues.	
Direct equipment static pressure monitoring and fan speed management maximize comfort and minimize energy consumption, all while maintaining strict operating conditions for the air handler. This is especially ideal when paired with air handlers that directly or indirectly (through 24 VAC thermostat adapters) expose fan speed controls, as this allows a Smart Vent system to close more vents at any given moment and for equipment 'turn down' to be leveraged to match actual building utilization and associated heating/cooling needs.	

By selecting the right solution, Flair ensures that any HVAC system operates efficiently and provides the right level of comfort and cost savings to address any air balancing issue in any home for every homeowner with the least intrusive (fully wireless, no wire pulls), easiest to install, and price competitive airflow management and zoning options in the market for contractors.

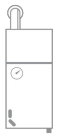
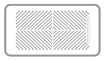
2.1 System Requirements

Overview

Before installing and configuring Flair's Zoning and Air Balancing solutions, ensure that all necessary components and system requirements for the chosen solution are met. This section outlines the required hardware, software, and compatibility considerations.

Required Components for Flair Smart Vent Systems

Entry Level | Pro (Static Pressure) | Pro+ (Static Pressure + Fan Control)

		**Central HVAC System with Ductwork** – The most common system in North America and sometimes called 'forced air'. **Multi Speed Air Handler (For Pro+ Solution: Static Pressure + Fan Control)** – Native or with thermostat adapter (if needed for fan speed control).
		**Flair Smart Vents** – Needed in any room that gets enough or too much airflow.
		**Smart Thermostat (Highly Recommended)** – Amana, Bryant Evolution, Carrier Infinity, Daikin, ecobee, Goodman, Honeywell Home, Nest, or Sensi. See thermostat compatibility chart for additional details. Flair can work alongside non-integrated smart thermostats but setpoint syncing and heating/cooling management are limited.
	 Flair Puck **or** Compatible Room Sensor	**Flair Puck or Room Sensors** – Required for controlling Smart Vents thermostatically. Every room with at least one Smart Vent needs an integrated smart thermostat, Flair Puck, or compatible room sensor (ecobee SmartSensor, Honeywell Home Smart Room Sensor, or Sensi Sensor). See thermostat compatibility chart for additional details on compatible room sensors.
		**Internet Connection (Ethernet or Wi-Fi)** – A stable internet connection (Ethernet or Wi-Fi) is required for app connectivity and system control. Ensure the network does not have strict firewall settings that could block Flair devices.
Optional		**Flair Bridge** – Network communication hub. Required for Entry Level solutions. For Pro solutions, a Bridge can enhance range in large or complex homes and enables Ethernet setup when the Bridge Pro isn't placed near a wired internet connection.
		**Flair App** – Available for iOS and Android for system configuration and management.
		**Flair Bridge Pro** – Required to monitor static pressure and optionally control air handler fan speed. PRO ONLY
		**Flair Static Pressure Kit** – Required to monitor static pressure. PRO ONLY

2.2 Installation at a Glance

Overview

This section provides a high-level overview of the installation process for Flair's Zoning and Air Balancing solutions. The steps below summarize the key actions required.

Step 1: Install the Flair App

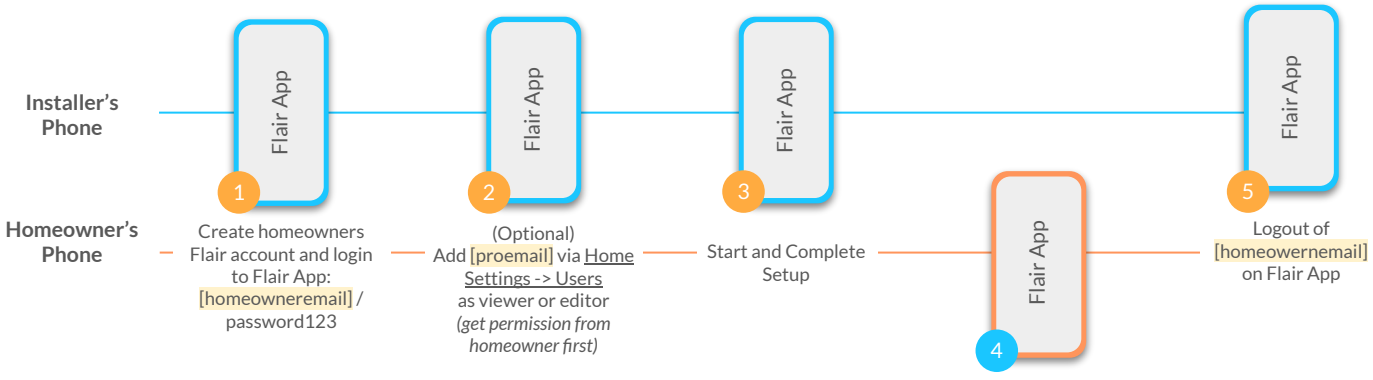
Download on the App Store — flair.co/ios

GET IT ON Google Play — flair.co/android

Use the Flair Web App — my.flair.co

Recommended for Installer

If you are an installer, we recommend creating an account under the homeowner's email address and hand the system over to the homeowner upon completion.



Do not set up the system using the homeowners phone

Do not set up the system using your installer email account

Do set up the system using your installers phone + the homeowners email address

2.2 Installation at a Glance

Step 2: Follow the In-App Instructions

- The Flair App will guide you through adding Flair devices, integrating with thermostats, and installing the Static Pressure Kit and multi-speed fan controls if you are installing a Pro solution.
- The Flair App will also guide you through configuring the core system settings and provide guidance on features that help you get most out of your Flair system.
- A detailed view of Flair App Instructions for setup can be found in Section 3 of this guide.

Step 3: Hand the System Over to the Homeowner PRO ONLY

Help the customer to get the Flair App installed and optionally (and with their permission) give you access to their system remotely:

1. In the Flair App on your device (not the homeowners) go to Home Settings -> Users
2. Enter your work email address in the “Invitation Email”*
3. Select “User can make changes to this home”
4. Tap the arrow
5. You’ll receive an invitation email to join this home and view it from your Flair account
6. Have the customer do the following:
    a. Install the Flair App on their phone
    b. Log in using their email address and the temporary password
    c. Tap the Flair menu, go to Account Settings and change their password

*This is the email address you will use to remotely view the customer’s setup if needed.
If you are a large company with many installers, you might want to create your Flair account using a general company email address that others can use to access your customers’ Flair homes.

Homeowner Support - Give the Homeowner the Following:

HOMEOWNER GUIDE - SMART VENT

flair.co/homeowner-guide-smart-vent

HOMEOWNER SUPPORT EMAIL

support@flair.co

3.1 Choosing the Right Setup

Overview

When thinking about a Flair Zoning and Air Balancing solution, there are many things to consider. The simplest starting point is to consider your goals. One of the most common problems in central HVAC systems is temperature imbalance with some rooms getting hotter or colder at different times of the day due to solar gain, vertical stratification (heat rising to upper floors), building envelope and insulation variability, duct layout, equipment in rooms, etc.

Where to Place Sensors and Smart Vents

The simplest way to design an effective system is to use the Flair System Builder.

FLAIR SYSTEM BUILDER

flair.co/system-builder

However, there are two relatively simple rules to consider when selecting which rooms to install sensors and vents:

1) If you care about the temperature in a specific room, you need a temperature sensing device in that room. That can be a Flair Puck, an integrated smart thermostat, or the compatible smart thermostat remote sensors. More info on compatibility can be found in the next section.

2) Rooms with too little airflow year round aren't great candidates for Smart Vents but **rooms with enough or too much airflow are ideal candidates for Smart Vents,** as these rooms can use Smart Vents to redirect airflow to rooms with too little airflow.

		Pro & Pro+ Thermostat Adapter, Flair Static Pressure Kit, Flair Bridge Pro	Entry Level Flair Bridge	Room Sensors can be: Smart Thermostat, Flair Puck, 3rd Party Sensor		
				Room Sensor Needed	Smart Vent Needed	Standard Register Remains
When Cooling	Too Hot			Yes	No	Yes
	Too Cold			Yes	Yes	No
	No Issue			Yes	Yes	No
When Heating	Too Hot			Yes	Yes	No
	Too Cold			Yes	No	Yes
	No Issue			Yes	Yes	No

3.1 Choosing the Right Setup

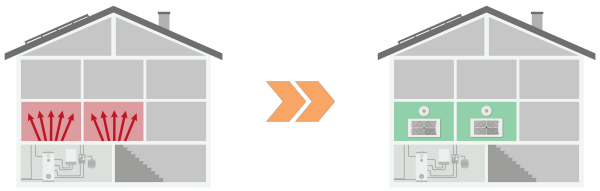
Example Systems

Flair Zoning and Air Balancing solutions not only allow a single zone home to be retrofit into a zoned home (at a room level) without the need of new equipment or ducting, but can solve virtually any temperature imbalance issues in a home.

From solving over and under heated or cooled rooms, to balancing temperatures throughout the home, or handling cold basements and hot upper floors, Flair Smart Vents can handle the issue.

Rooms that Over Heat or Cool

Too Much Airflow



PROBLEM

Too much airflow in rooms off the duct run and closest to the HVAC air handler.

SOLUTION

Add Flair Smart Vents to those rooms for better air balance & accurate set points

Whole Home Air Balancing

Room-by-Room Set Point Management

PROBLEM

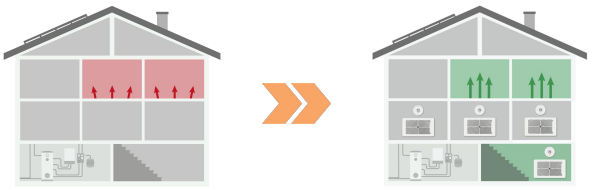
The whole home has uneven temperatures depending on the time of day/season.

SOLUTION

Add Flair Smart Vents to the majority of rooms for enhanced zoning & temperature control.

Rooms that Under Heat or Cool

Too Little Airflow



PROBLEM

Too little airflow in rooms at the end of the duct run and furthest from the air handler.

SOLUTION

Add Flair Smart Vents to other rooms to redirect air & reach the desired set points.

Handling Vertical Stratification

Solving for Rising Heat

PROBLEM

Upper floors overheat.

SOLUTION

Add Smart Vents upstairs to limit overheating in winter, and downstairs to send more AC upstairs during summer.

3.1 Choosing the Right Setup

Entry vs. Pro Solution Installations

The most fundamental difference between the Flair solutions are levels of system performance, install simplicity, and equipment integration.

Entry Level

This solution is more conservative in how it protects against excessive backpressure because it doesn't have the ability to directly observe the HVAC equipment's Total External Static Pressure (TESP). The solution intentionally limits the ratio of Smart Vents that can close.

Pro:
Static Pressure PRO ONLY

This solution can close as many Smart Vents at any given moment as feasible given a static pressure limit. This can improve air balancing performance.

Pro+:
Static Pressure + Fan Control PRO ONLY

When static pressure monitoring is combined with air handler fan speed control, Flair's Smart Vent system effectiveness is unlocked. The solution offers significant advantages to temperature recovery, reliably achieving multiple disparate setpoints at the same time across different rooms, and dramatically lowering the energy needed to keep occupied rooms comfortable.

Another way to think about the difference between these systems is the "Focus Area":

- The **Entry Level** solution's focus area is always at least 2/3rd of the square footage (approximately) because Flair utilizes the 1/3rd rule, only allowing 1 out of 3 vents in a zone to close at any given time.

- In contrast, the **Pro Solutions,** especially Static Pressure + Fan Control (Pro+), allows for systems to reduce airflow (cfms) to as low as 30%, which in turn lowers the static pressure and allows far more Smart Vents to close at any given time. Practically, this means focusing on a home office during the work day, a bedroom or two during the evening, or balancing the whole home, all can be managed with the minimal amount of energy and with no comfort compromise.

3.1 Choosing the Right Setup

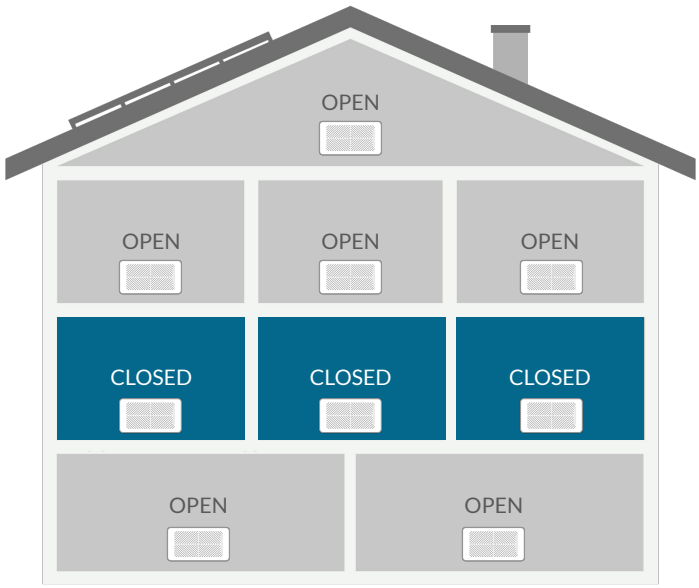
Solution Recommendations & Requirements

Entry Level

Airflow focus area as low as ⅔ of home

Max area 'locked out' by smart vents - closed

The **Entry Level** solution's backpressure protection ensures no more than ⅓ of Smart Vents are closed at any given time. This allows for air to be redistributed to other areas of the home, but less aggressively or granularly than the Pro solutions.



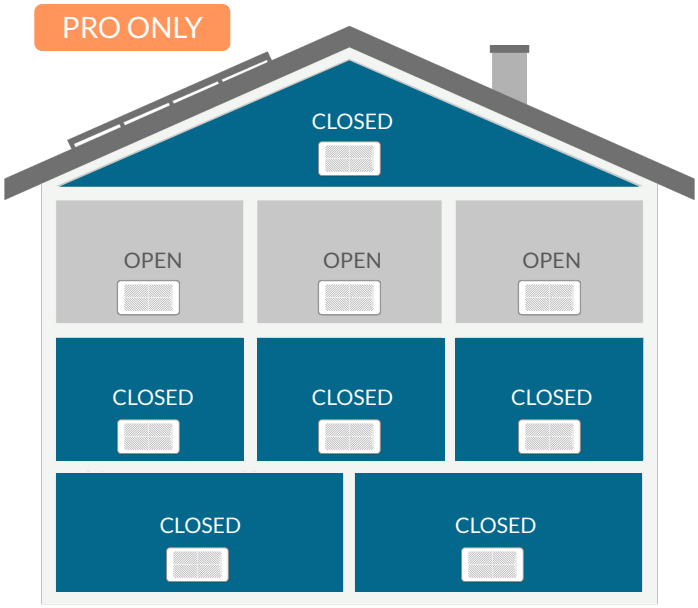
Pro & Pro+

Airflow focus as low as ⅓ of home

Max area 'locked out' by smart vents

The **Pro** solutions' backpressure protection is managed to a static pressure level through the Static Pressure Kit and the Bridge Pro. This allows for air to be redistributed more aggressively and granularly than the Entry Level solution.

An additional benefit of the Pro installations is **adjustment of speed taps** and other system settings at time of commissioning which can help to maximize the effectiveness of a Smart Vent system for a given home, ductwork, and HVAC equipment scenario.



3.1 Choosing the Right Setup

		BENEFIT LEVEL		
	SOLUTION FEATURES	Entry Level	Pro: Static Pressure	Pro+: Static Pressure + Fan Control
Comfort	Whole Home Air Balancing	Good	Better	Best
	Partial Home (50% or less of sq. ft.) Spot fixes for overheating and overcooling or under heating, and under cooling	Good	Better	Best
	Single Room / Small Area Fixes (<15% of home) for rooms that get too much heating and cooling	Best Generally doesn't need static pressure or multi speed fan features to be effective.	Good But may be overspecified	Good But may be overspecified
	Single Room or Small Area Fixes (<15% of sq. ft.) spot fixes for rooms that get too little heating and cooling	Solved best by partial home install Utilize flair.co/system-builder for building the optimal system in this case as it can be counterintuitive.		
	Room Based Setpoints Different setpoints for different rooms	Good	Good	Best
Operating Efficiency	Rapid Temperature Recovery	Good	Better	Best
	Minimizes Heating & Cooling Unused Spaces	Good	Good	Best
	Minimizes Duct Losses	Good	Good	Best
	Operates HVAC Equipment Most Efficiently	Good	Better	Best
	Prolongs Equipment Life	N/A	Better	Best
	Equipment Protection	Good	Best	Best
	Adapts to External Factors Filter Loading, Manual Vent Changes	X	Better	Best
Cost Efficiency	Cost - Equipment	$ Bridge + Smart Vents	$$ Bridge Pro + Smart Vents + Static Pressure Kit	$$ / $$$ Bridge Pro + Smart Vents + Static Pressure Kit + Thermostat Adapter (Opt)
	Cost - Installation Time	$	$$ More time but much less time & complexity than Flair alternatives	$$ More time but much less time & complexity than Flair alternatives
	Cost - Energy Savings	Good	Better	Best

3.1 Choosing the Right Setup

Thermostats, Remote Sensors, and Pucks ('Temp. Sensing Device')

All Smart Vent solutions require a smart thermostat, and any room that has Smart Vents needs a room sensor (Flair Puck, compatible remote sensor, or integrated smart thermostat) to operate Smart Vents thermostatically. Some rooms that don't need a Smart Vent can still benefit from having an integrated temperature sensing device to ensure that heating and/or cooling is run to achieve and maintain that room's setpoint.

When deciding the ideal mix of temperature sensing devices for a Flair Smart Vent solution, consider whether there is already equipment that can be utilized, whether in-room control is important, such as when users may not have or wish to use phone control, and compatibility with Flair. The tables below show Smart Thermostat (24 VAC) integration and Room Sensor compatibility with Flair to help guide decision making on which temperature sensing devices are best for a particular system.

	ecobee	Honeywell Home (Wi-Fi connected)	Honeywell Home (non Wi-Fi connected)	Nest	sensi	Daikin	Goodman	Amana	Carrier	Bryant	Other Thermostats
THERMOSTATS											
Airflow Management *	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thermostat Management **	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗
Room Sensor Integration with Flair	✓	✓	N/A	✗	✓ Touch 2 model	✗	N/A	N/A	✗	✗	✗
Humidity Sensing	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✗
Occupancy Sensing	✓	✓	✗	✓	✗	✗	✗	✗	✓ Infinity	✓ Evolution	✗
In Room Control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ROOM SENSORS											
Branded Room Sensor	EB-RSHM2PK-01	C7189R2002-2/U XRSENSOR-1PK/U	N/A	✗ Nest room sensors currently not integrated	RS01-SG-1	✗	N/A	N/A	✗	✗	✗
Flair Room Sensor	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro	Puck / Puck Pro

***Airflow Management:** Flair automation opens and closes Smart Vents to bring conditioned air to the rooms that need it most.
****Thermostat Management:** Flair controls the set point and mode of a smart thermostat to better manage temperature in the home.

3.2 Measuring and Selecting Vent Sizes and Grills

Available Smart Vent Sizes

Size	SKU	UPC
4x10	FLAIRVENT410	868596000206
4x12	FLAIRVENT412	868596000244
4x14	FLAIRVENT414	868596000282
6x10	FLAIRVENT610	868596000213
6x12	FLAIRVENT612	868596000251
6x14	FLAIRVENT614	868596000275
8x8	FLAIRVENT88	850047423016
8x10	FLAIRVENT810	850047423139
10x10	FLAIRVENT1010	850047423023
12x12	FLAIRVENT1212	850047423030

Optional Smart Vent 'Covers'/Grills

2-Way throw patterns to match customers flooring and style requirements.

In some cases, Flair Smart Vents may be installed in scenarios where a different grill pattern is desired, whether that be the stamped face of the grill or the color and finish. Flair makes a variety of alternate grill patterns focused on common floor sizes and colors:

Available in three sizes: 4x10, 4x12 & 4x14

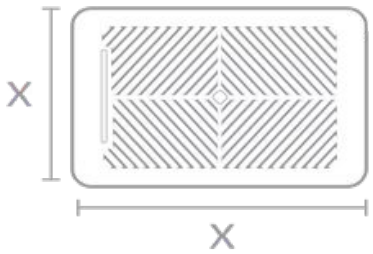
Cast Iron Black Espresso Caramel

	Size	SKU	UPC
Cast Iron Black	4x10	FLAIRGRILL410B	850047423108
	4x12	FLAIRGRILL412B	850047423115
	4x14	FLAIRGRILL414B	850047423122
Espresso	4x10	FLAIRGRILL410DB	850047423047
	4x12	FLAIRGRILL412DB	850047423054
	4x14	FLAIRGRILL414DB	850047423061
Caramel	4x10	FLAIRGRILL410LB	850047423078
	4x12	FLAIRGRILL412LB	850047423085
	4x14	FLAIRGRILL414LB	850047423092

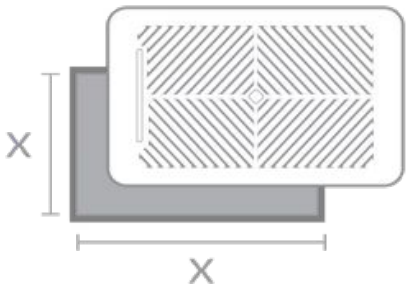
3.2 Measuring and Selecting Vent Sizes and Grills

Measuring Smart Vents

Flair Smart Vents come in a variety of sizes. Like all grills and registers, measurements refer to the size of the opening in the floor/wall/ceiling that the vent will drop into rather than the outer dimensions of the vent itself. Careful measurement ensures that the correct Smart Vents are purchased, eliminating additional shipping/exchanges or project delays. Here are two simple ways to measure vents:

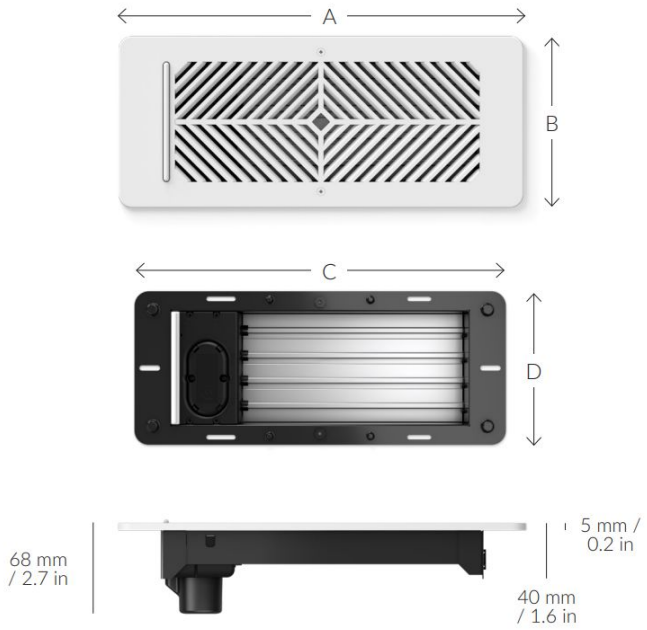


METHOD 1 - Fastest
Measure the outside dimensions and round down to the nearest even number (inch).
The method isn't recommended in Canada.



METHOD 2 - Most Accurate
Remove your vent and measure the duct opening.

Vents not within reach?
Use your phone to quickly get accurate vent sizes with Measure (iPhone) or AR Ruler App (Android).

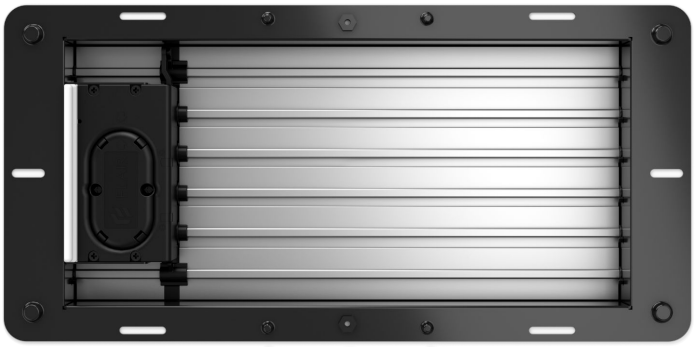


Size	A (in)	B (in)	C (in)	D (in)	Free Area Without Cover (sq in)
4x10	12.0	5.1	9.6	3.6	27.4
4x12	14.0	5.1	11.6	3.6	34.6
4x14	16.0	5.1	13.6	3.6	41.8
6x10	12.0	7.0	9.6	5.6	46.6
6x12	14.0	7.0	11.6	5.6	57.8
6x14	16.0	7.0	13.6	5.6	69.0
8x8	12.2	10.2	9.6	7.6	65.8
8x10	10.2	10.2	7.6	7.6	50.6
10x10	12.2	12.2	9.6	9.6	85
12x12	14.2	14.2	11.6	11.6	127.4

3.2 Measuring and Selecting Vent Sizes and Grills

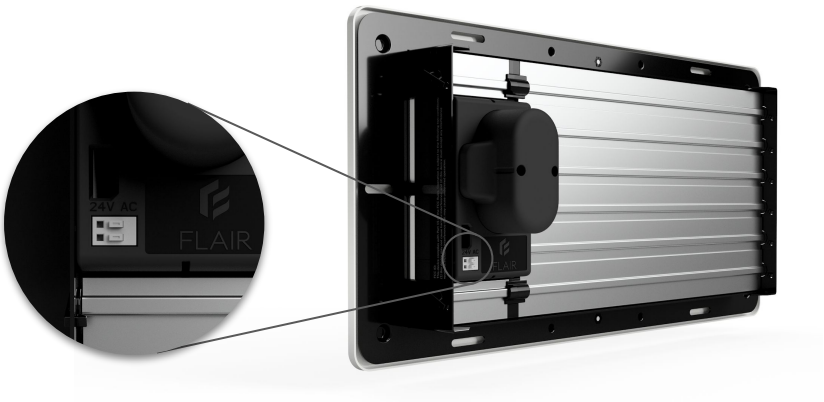
Smart Vent Power Installation & Power Options

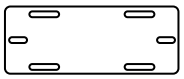
Professional grade.



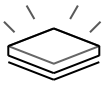
The only Smart Vent **designed for Pros**.

Installs in minutes, runs for years.





Extra Mounting Holes
For ceiling and wall installs. Extra mounting holes means never having to patch drywall.



Rugged Steel Construction
Durable steel construction that's safe and never yellows or gets brittle.

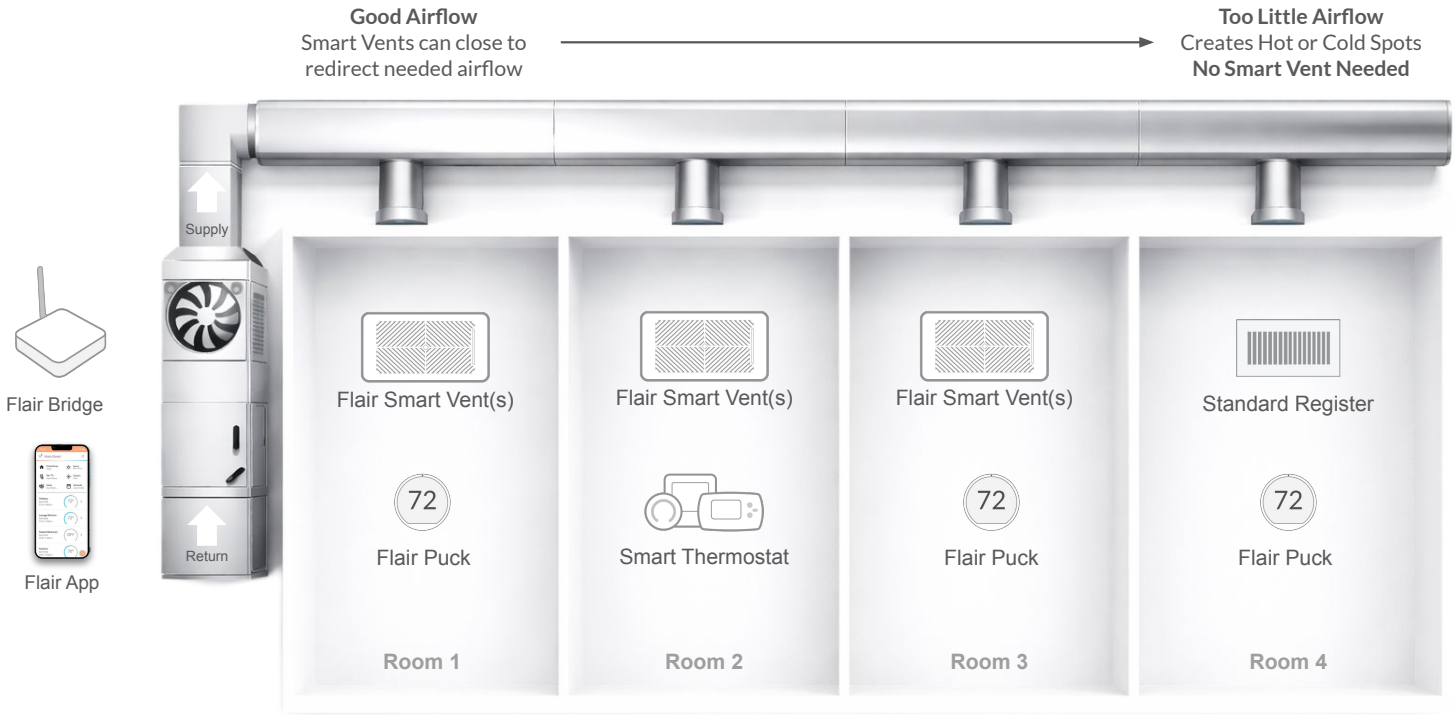
Optional Wired Configuration
With 24 VAC powered installation option, ideal for renovators and builders.

Battery Capacity
3-4 years of battery life with alerts when running low.

3.3 Typical Configurations

Solution = Entry Level: Example System (Non Integrated Thermostat)

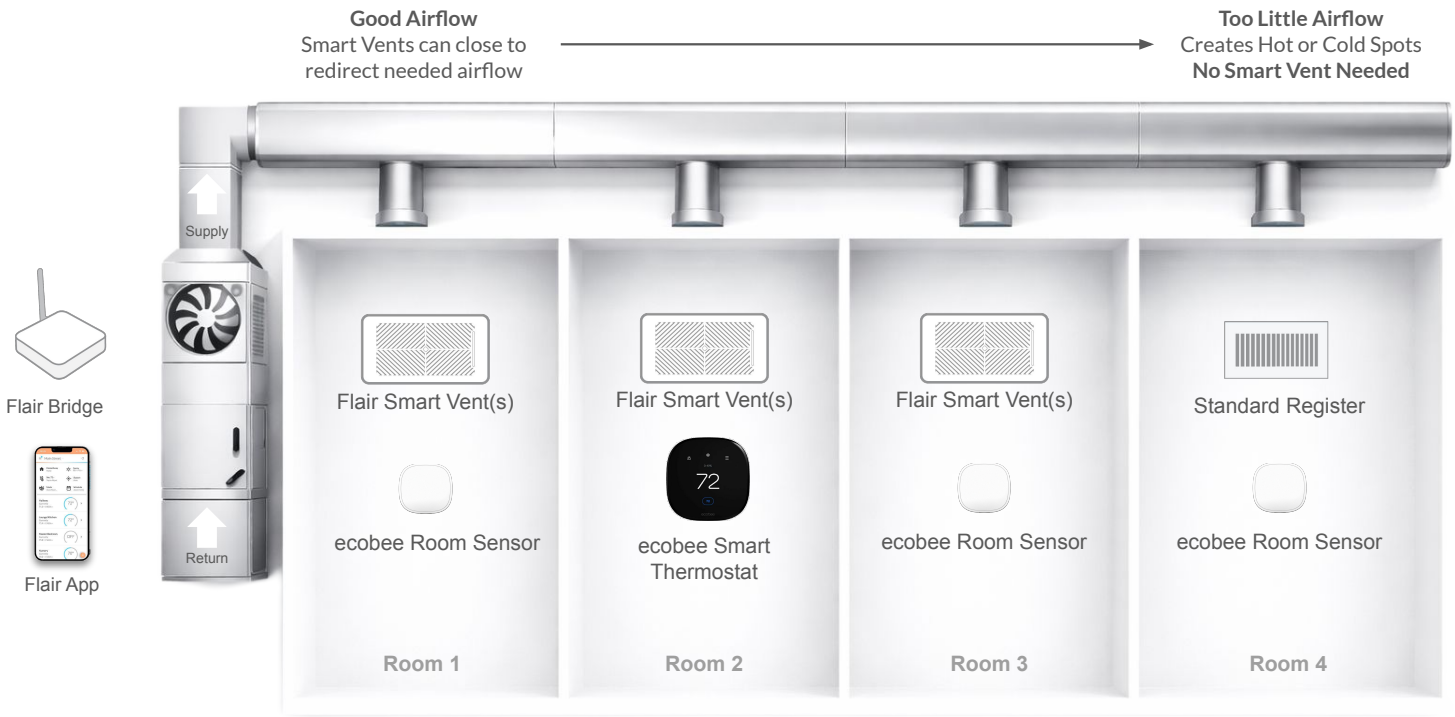
Below, is an example of a typical installation of Flair with a non integrated Smart Thermostat. In this example, Flair Pucks are temperature sensing devices. Using existing smart thermostats or smart thermostats and their room sensors may lower the equipment related cost of deploying a Flair Smart Vent system. Examples on the following pages show ecobee, Honeywell Home, and Nest implementations. Flair system components include the Bridge as the network communicating hub, Pucks as temperature sensing devices, Smart Vents, and the Flair App.



3.3 Typical Configurations

Solution = Entry Level: Flair & ecobee Example System

Below is an example of a typical installation of Flair with an ecobee Smart Thermostat. In this example, ecobee SmartSensors are used instead of the Flair Puck. The Flair Puck can always be used in place of ecobee SmartSensors in any Flair solution. Using existing smart thermostats or smart thermostats and their room sensors may lower the equipment related cost of deploying a Flair Smart Vent system. In this solution, Flair system components include the Bridge as the network communicating hub, Smart Vents, and the Flair App. The ecobee Smart Thermostat is the interface with the air handler.

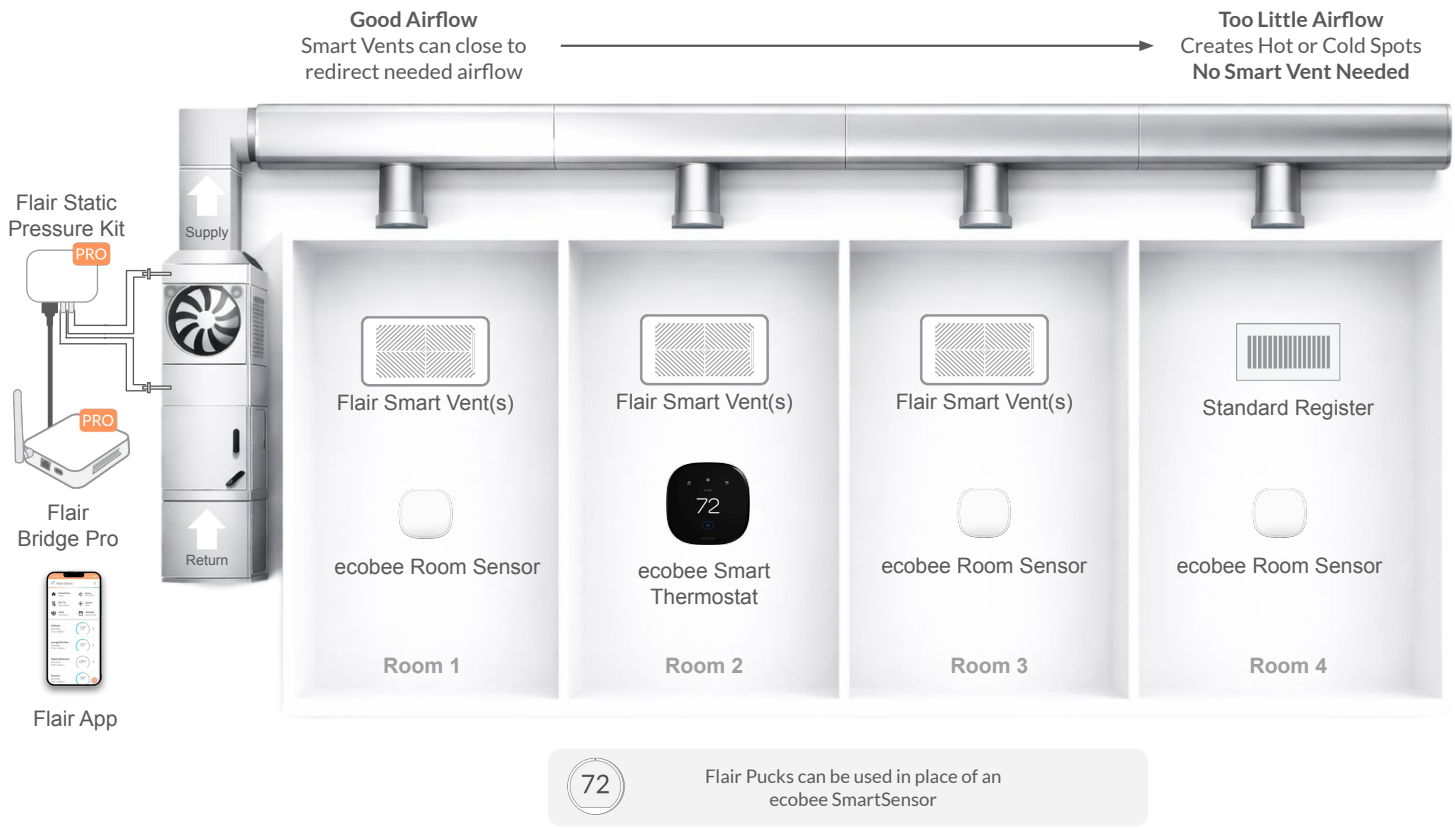


3.3 Typical Configurations

Solution = Pro & Pro+: Flair & ecobee Example System

PRO ONLY

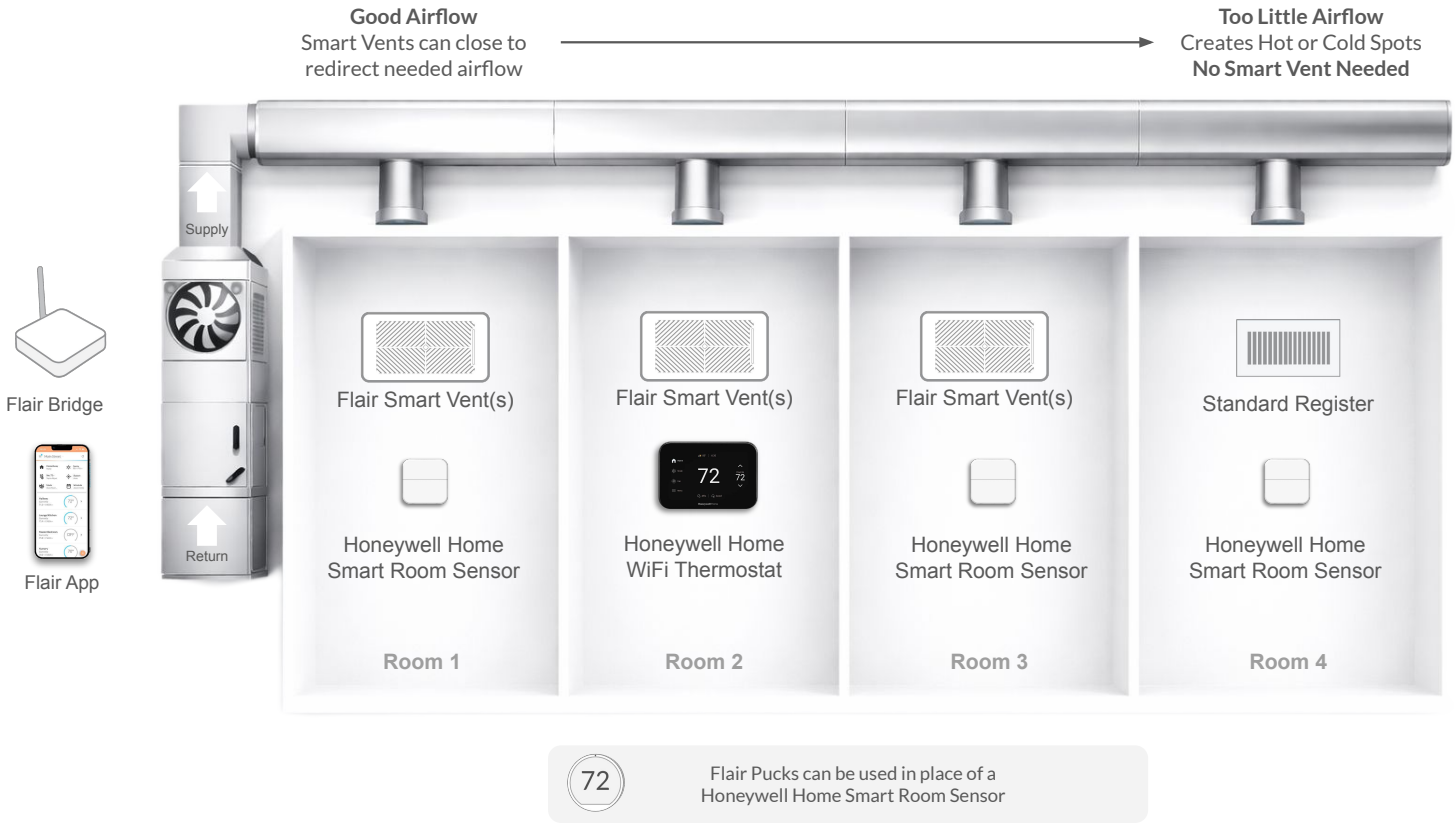
Below is an example of a typical installation of Flair with an ecobee Smart Thermostat. In this example, ecobee SmartSensors are used instead of the Flair Puck. The Flair Puck can always be used in place of SmartSensors in any Flair solution. Using existing smart thermostats or smart thermostats and their room sensors may lower the equipment related cost of deploying a Flair Smart Vent system. In this solution, Flair system components include the Bridge Pro with the Static Pressure Kit directly connected to the HVAC system air handler, Smart Vents, and the Flair App.



3.3 Typical Configurations

Solution = Entry Level: Flair & Honeywell Home Example System

Below is an example of a typical installation of Flair with a Honeywell Home WiFi Thermostat. In this example, Honeywell Home Smart Room Sensors are used instead of Flair Pucks. Flair Pucks can always be used in place of Honeywell Home Smart Room Sensors in any Flair solution. Using existing smart thermostats or smart thermostats and their room sensors may lower the equipment related cost of deploying a Flair Smart Vent system. In this solution, Flair system components include the Bridge as the network communicating hub, Smart Vents, and the Flair App. The Honeywell WiFi Thermostat is the interface with the air handler.

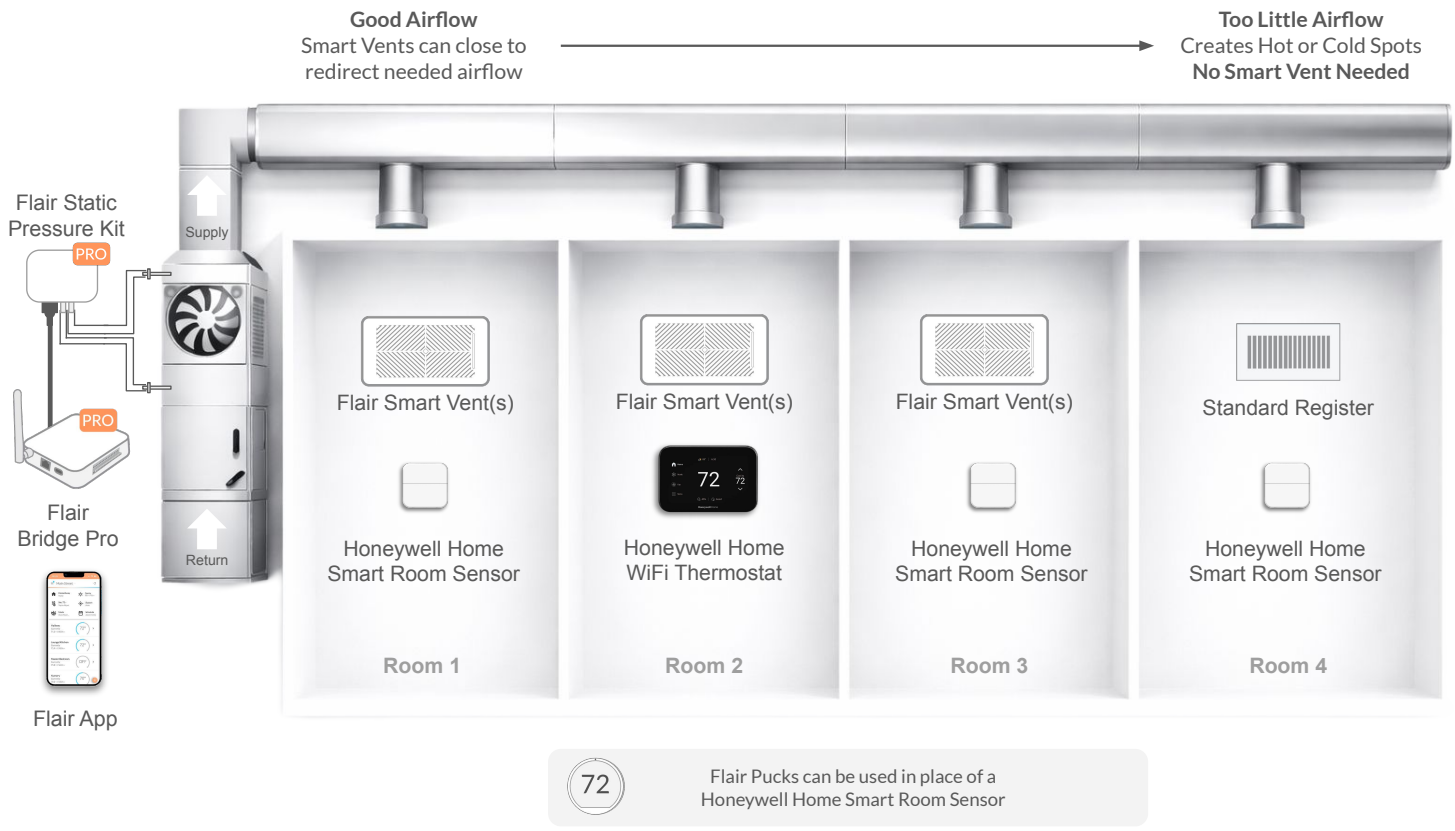


3.3 Typical Configurations

Solution = Pro & Pro+:
Flair & Honeywell Home Example System

PRO ONLY

Below, is an example of a typical installation of Flair with a Honeywell Home WiFi Thermostat. In this example, Honeywell Home Smart Room Sensors are used instead of Flair Pucks. Flair Pucks can always be used in place of Honeywell Home Smart Room Sensors in any Flair solution. Using existing smart thermostats or smart thermostats and their room sensors may lower the equipment related cost of deploying a Flair Smart Vent system. In this solution, Flair system components include the Bridge Pro with the Static Pressure Sensor Kit directly connected to the HVAC system air handler, Smart Vents and the Flair App.

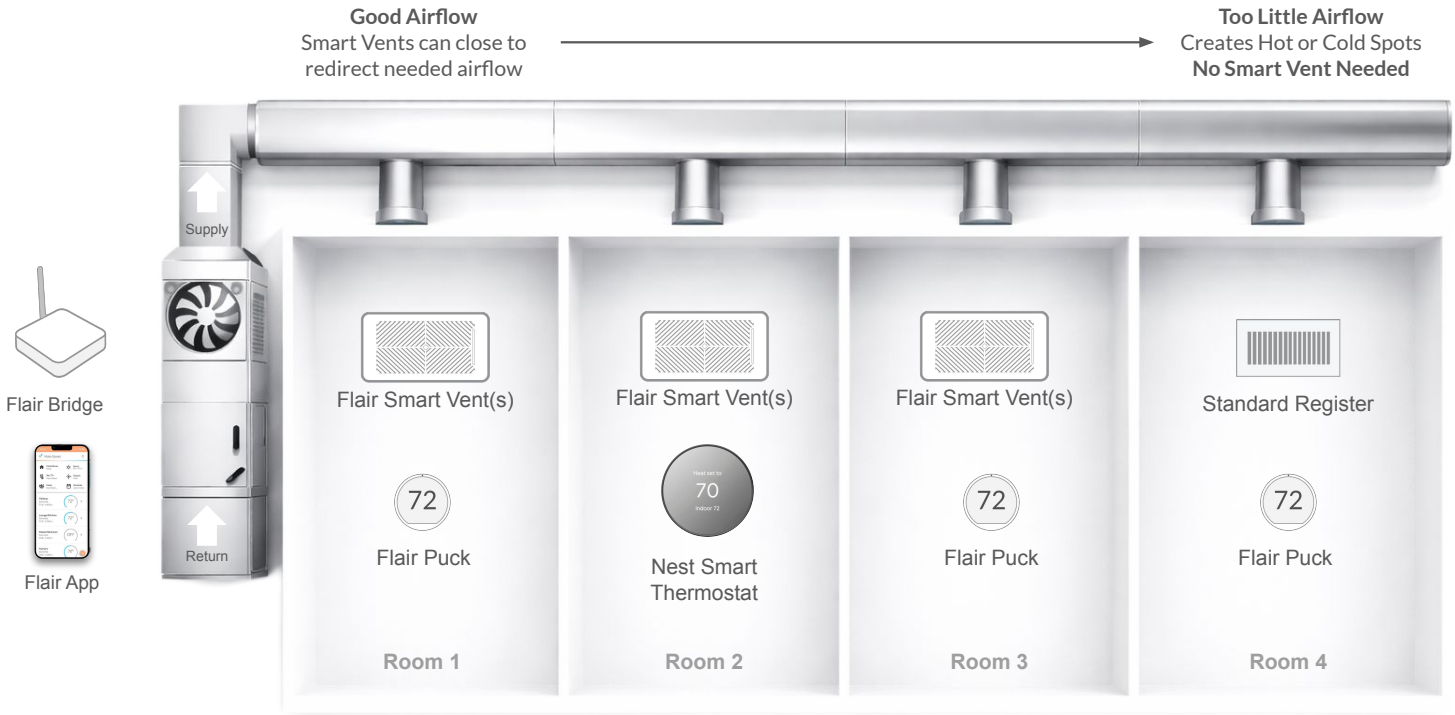


72 Flair Pucks can be used in place of a Honeywell Home Smart Room Sensor

3.3 Typical Configurations

Solution = Entry Level: Flair & Nest Example System

Below is an example of a typical installation of Flair with a Nest Smart Thermostat. In this example, Flair Pucks are used as the temperature sensing devices as Nest Temperature Sensor data is not available in the Nest-Flair integration. Using existing smart thermostats may lower the equipment related cost of deploying a Flair Smart Vent system. In this solution, Flair system components include the Bridge as the network communicating hub, Smart Vents, Pucks as temperature sensing devices and the Flair App. The Nest Smart Thermostat is the interface with the air handler.

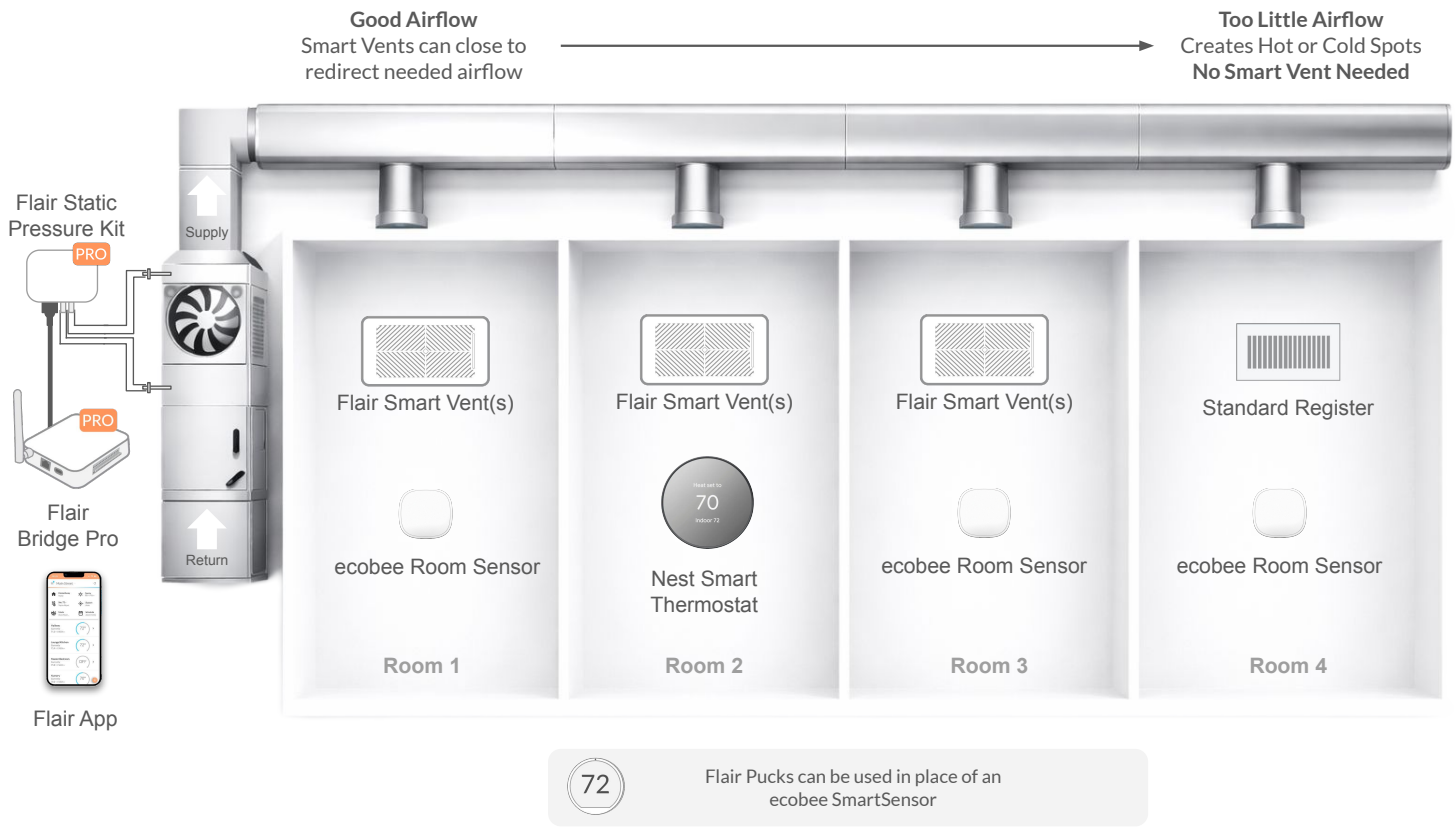


3.3 Typical Configurations

Solution = Pro & Pro+: Flair & Nest Example System

PRO ONLY

Below is an example of a typical installation of Flair with a Nest Smart Thermostat. In this example, Flair Pucks are used as the temperature sensing devices as Nest Temperature Sensor data is not currently available in the Nest-Flair integration. Using existing smart thermostats may lower the equipment related cost of deploying a Flair Smart Vent system. In this solution, Flair system components include the Bridge Pro with the Static Pressure Sensor Kit directly connected to the HVAC system air handler, Pucks as temperature sensing devices, Smart Vents, and the Flair App.

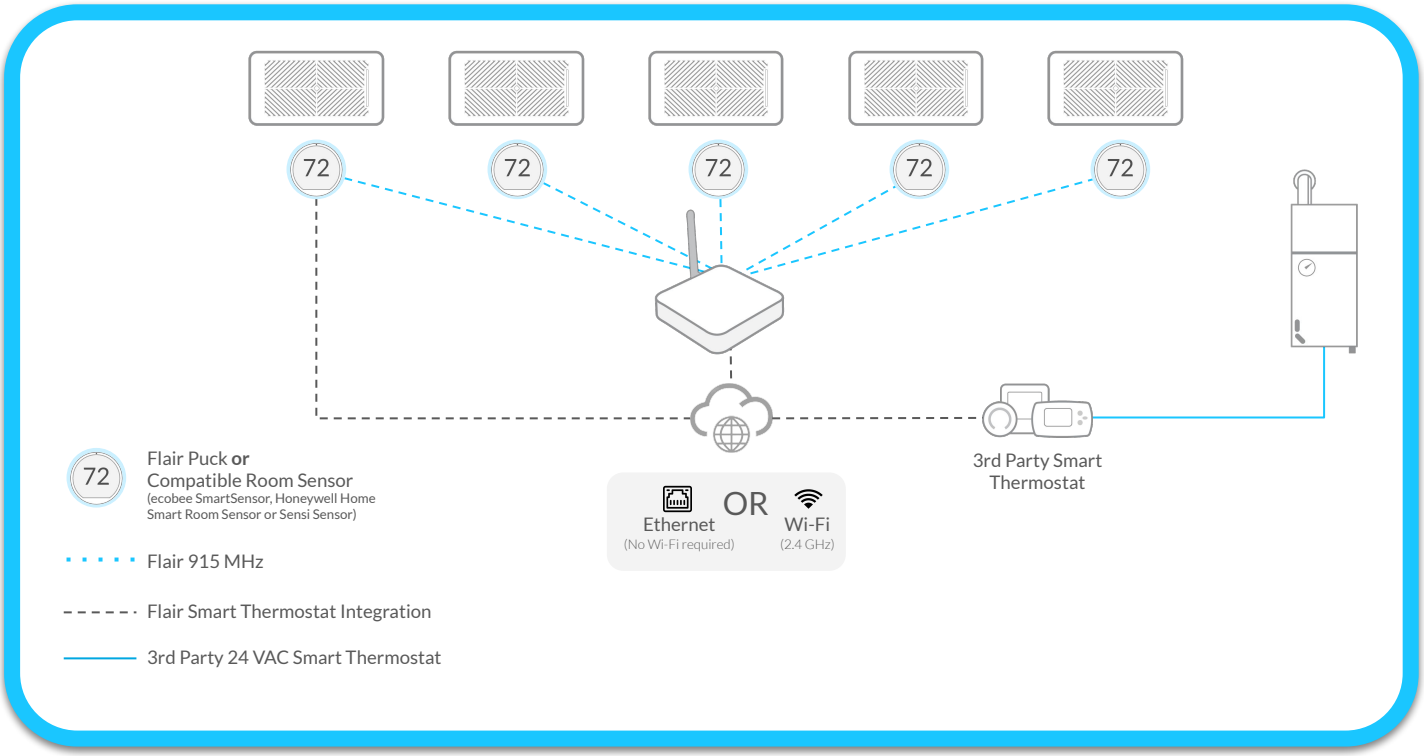


3.4 Networking and Communication Diagram Examples

Solution = Entry Level

The Flair Entry Level Zoning and Air Balancing solution is created by integrating the Flair Bridge with a Smart Thermostat through cloud-to-cloud integration. Flair Pucks or compatible 3rd party room sensors are used to measure room temperature and humidity. 3rd party sensor data is delivered through the Smart Thermostat integration. Flair devices (Bridge, Smart Vents and Pucks) communicate critical system data wirelessly to adjust Smart Vents (open/close) to address a homes zoning and air balancing needs.

Bridge + Temperature Sensing Devices + Smart Vents



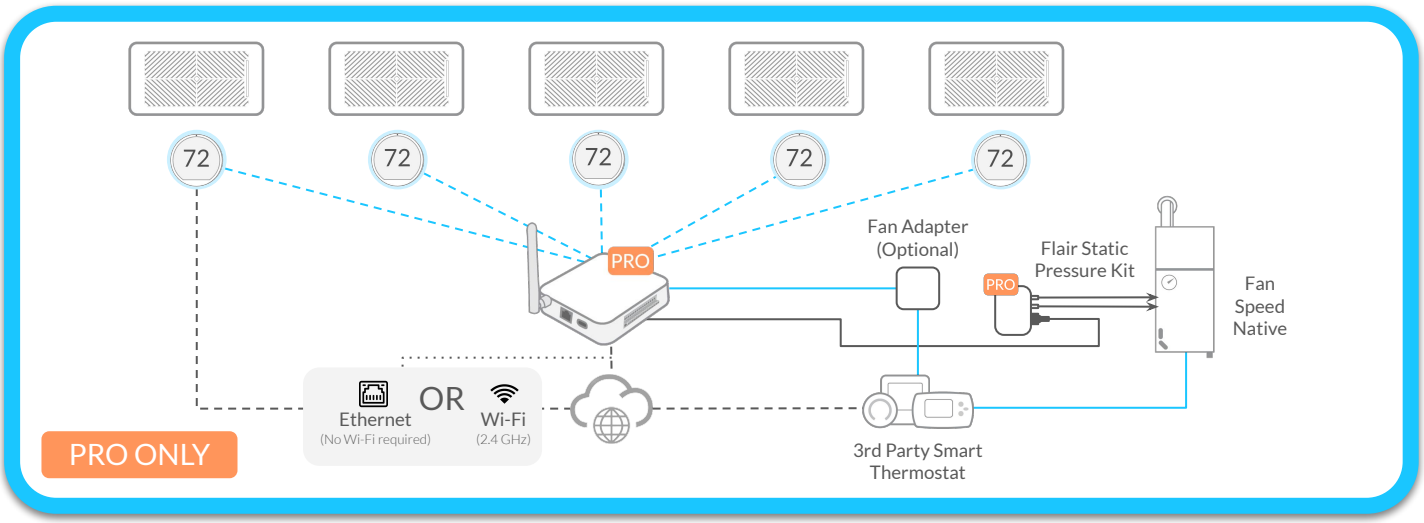
3.4 Networking and Communication Diagram Examples

Solutions = Pro & Pro+

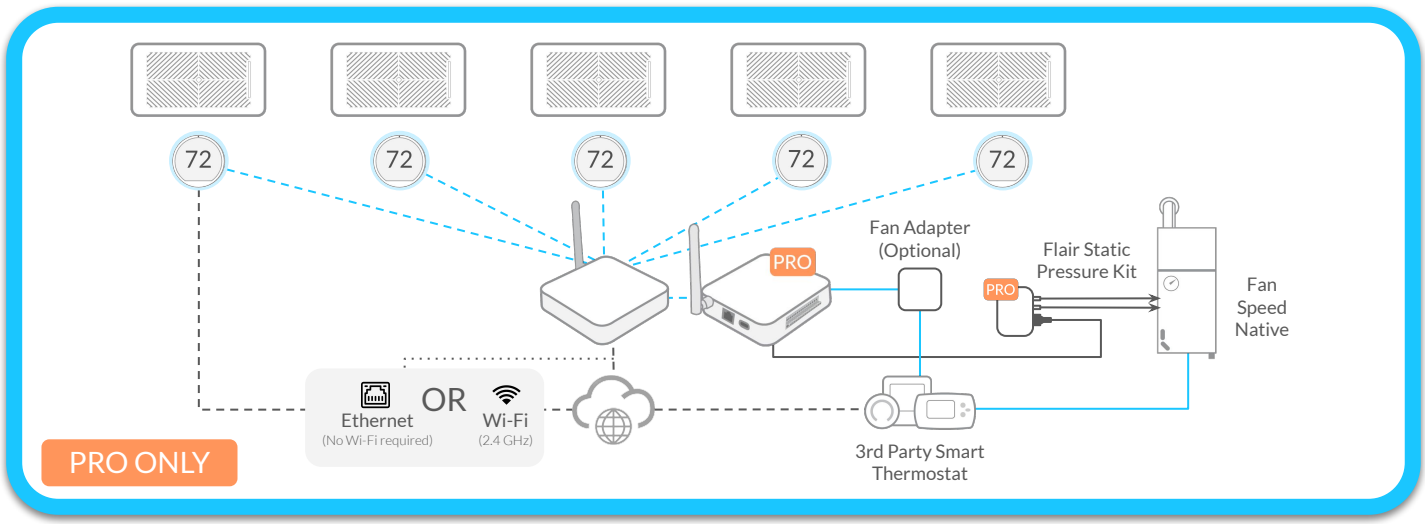
PRO ONLY

Flair Pro Zoning and Air Balancing solutions are created by integrating the Flair Bridge Pro (with or without an optional Bridge as a network communication hub) and the Static Pressure Kit to an air handler. Flair also integrates with Smart Thermostats and compatible room sensors either directly through a compatible thermostat adapter or through a cloud-to-cloud integration. Flair devices communicate critical system data wirelessly to adjust Smart Vents (open/close) to address a homes zoning and air balancing needs.

Bridge Pro + Temperature Sensing Devices + Smart Vents



Bridge Pro + Bridge + Temperature Sensing Devices + Smart Vents



Flair 915 MHz

Flair Integration

Flair Smart Thermostat Integration

3rd Party 24 VAC Smart Thermostat

72 Flair Puck **or** Compatible Room Sensor
(ecobee SmartSensor, Honeywell Home Smart Room Sensor or Sensi Sensor)

Why Add a Bridge (Optional) to Your Pro Install?

- If you prefer an Ethernet connection but the air handler location doesn't support it.
- Improve range to Flair devices for larger homes (2,500+ sq. ft.) or those with challenging layouts.

3.5 Networking and Communication Miscellaneous

Migrating from Bridge Pro Only to Bridge + Bridge Pro Setup

If a Bridge Pro Only setup is struggling to maintain a strong connection between the Bridge Pro and Flair devices, you may need to utilize a Bridge. Ideally, this additional Bridge is centrally located for ideal Radio Frequency (RF) connectivity between the Bridge, Temperature Sensing Devices, Smart Vents, and Bridge Pro.

1. Finish full structure setup if you haven't already. Note that you might need to place Puck Pros closer to the Bridge Pro temporarily to complete the setup.
2. On the App's home screen, hit the '+' button, select 'Add Bridge' and follow the in-app instructions.
3. Enable network repair mode by opening the App Settings, going to 'Flair Devices', and toggling on 'Network Repair Mode'.
4. On the back of the Bridge Pro, briefly (< 1 second) tap the Reset Button.
5. After 5 minutes, check the App's home screen that no rooms say 'Offline'. If nothing says 'Offline', disable 'Network Repair Mode'.

Multiple Bridges

For very large systems, you may want to consider multiple Bridge devices. While this should be needed only in rare or exceptional circumstances, it is possible to do this with the Flair platform.

1. Finish full structure setup if you haven't already. Note that you might need to place Pucks closer to the Bridge temporarily to complete the setup.
2. On the App's home screen, hit the '+' button, select 'Add Bridge' and follow the in-app instructions.
3. Once the second Bridge is connected, enable network repair mode by opening the App Settings, going to 'Flair Devices', and toggling on 'Network Repair Mode'.
4. On the first Bridge, briefly (3 seconds) unplug the power connection and plug it back in.
5. After 5 minutes, check the App's home screen that no rooms say 'Offline'. If nothing says 'Offline', disable 'Network Repair Mode'.

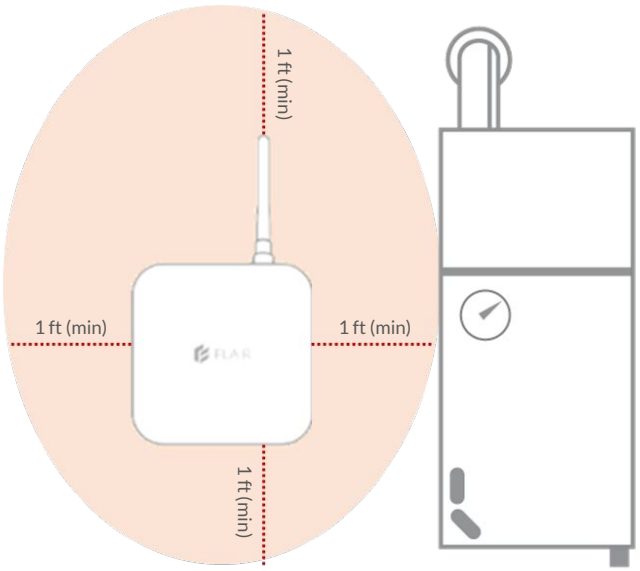
3.6 Bridge Pro's Role and Installation Details

Bridge Pro's Role

The Bridge Pro serves as a connection point for the Static Pressure Kit and a 24 VAC controller for fan speed management. The Bridge Pro can also act as the central networking hub for the Flair platform.

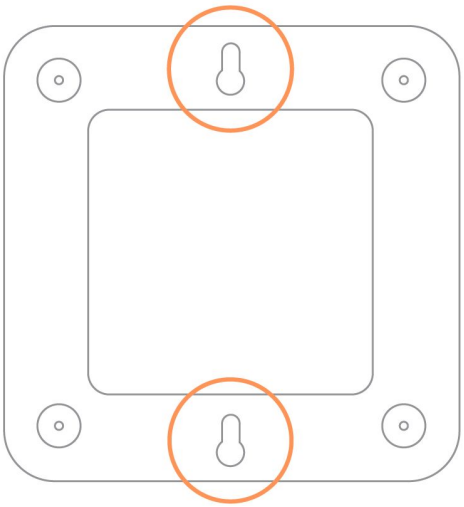
Bridge Pro Placement

The Bridge Pro is normally located near the air handler. The Bridge Pro's antenna should be at least one foot from any large metal objects.



It is typically mounted on the wall using its keyhole mounts and included screws.

Included in the Bridge Pro packaging is a mounting template sticker. Place the sticker on the wall, drill any pilot holes or anchor holes as necessary, place included anchors if necessary, and screw in the included screws, leaving enough room to slide the Bridge Pro onto the screws securely.

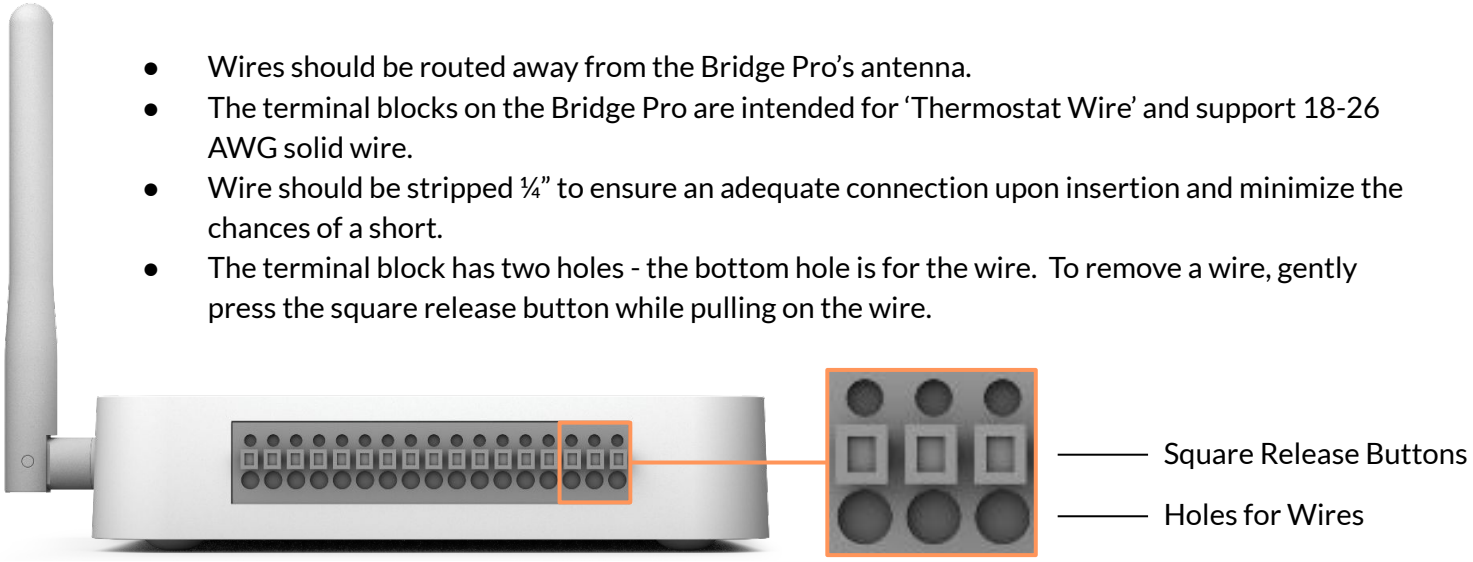


Not to scale - use sticker template provided in box, oriented vertically

3.7 Bridge Pro Wiring and Fan Speed Indicators

Bridge Pro Wiring

- Wires should be routed away from the Bridge Pro's antenna.
- The terminal blocks on the Bridge Pro are intended for 'Thermostat Wire' and support 18-26 AWG solid wire.
- Wire should be stripped ¼" to ensure an adequate connection upon insertion and minimize the chances of a short.
- The terminal block has two holes - the bottom hole is for the wire. To remove a wire, gently press the square release button while pulling on the wire.



Detailed wiring diagrams:

BRIDGE PRO WIRING DIAGRAMS

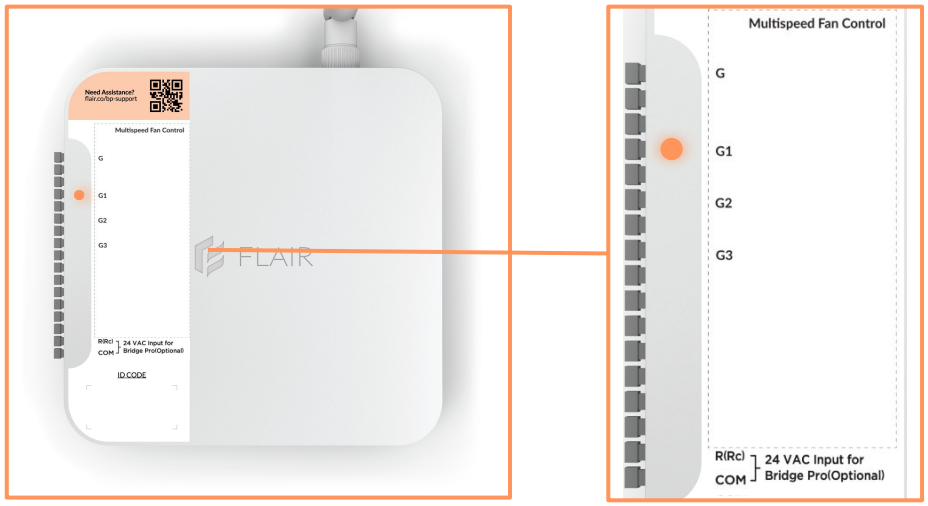
flair.co/wiring

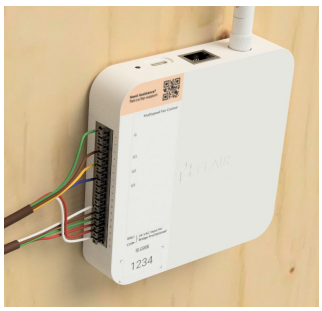
The Bridge Pro has indicator LEDs located between the terminal block and the label sticker.

The Bridge Pro ships with a label sticker designed for Staged Heating systems. The Fan Control sticker (on a separate sticker sheet) should be placed on top for setting up Zoning and Air Balancing solutions.

When an LED indicator is illuminated, it means that fan speed is currently being used.

Bridge Pro Labels and Indicator LEDs





3.8 Bridge Pro Status LED Indicators

Overview

This page provides a comprehensive list of LED indicators on the Bridge Pro, explaining the colors and patterns and what each one means. Use this guide to quickly understand the device's status, including connectivity, operation, and troubleshooting states.

Color	Status
Pulsing Blue	Ready for Wi-Fi setup
Pulsing White	Ready for Ethernet setup
Solid Blue	Connected to Wi-Fi/Ethernet setup complete
Solid Teal	Connected to Bridge or Bridge Pro as AP
Pulsing Red	No internet access*
Solid Red	Failed to connect to Wi-Fi/Ethernet
Flashing Green	OTA in progress
Solid Green	OTA successful
Solid Purple	OTA failed
Pulsing Orange	Setup mode enabled

*The Bridge Pro may take up to a few minutes to start pulsing red in the event of no internet access.
The Bridge Pro will stay solid blue after:

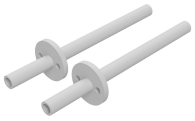
- A successful Wi-Fi/ethernet setup
- Power cycling after a successful Wi-Fi/ethernet setup

3.9 Static Pressure Kit (Pro Solution)

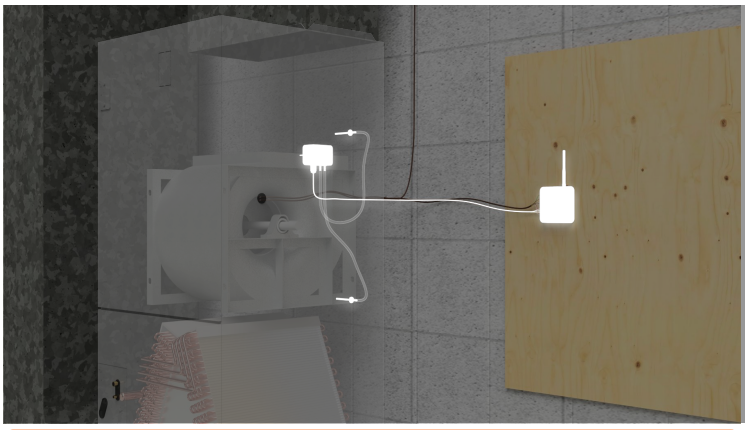
Static Pressure Kit

Differential Pressure Sensor

Tubing



Static Pressure Probes



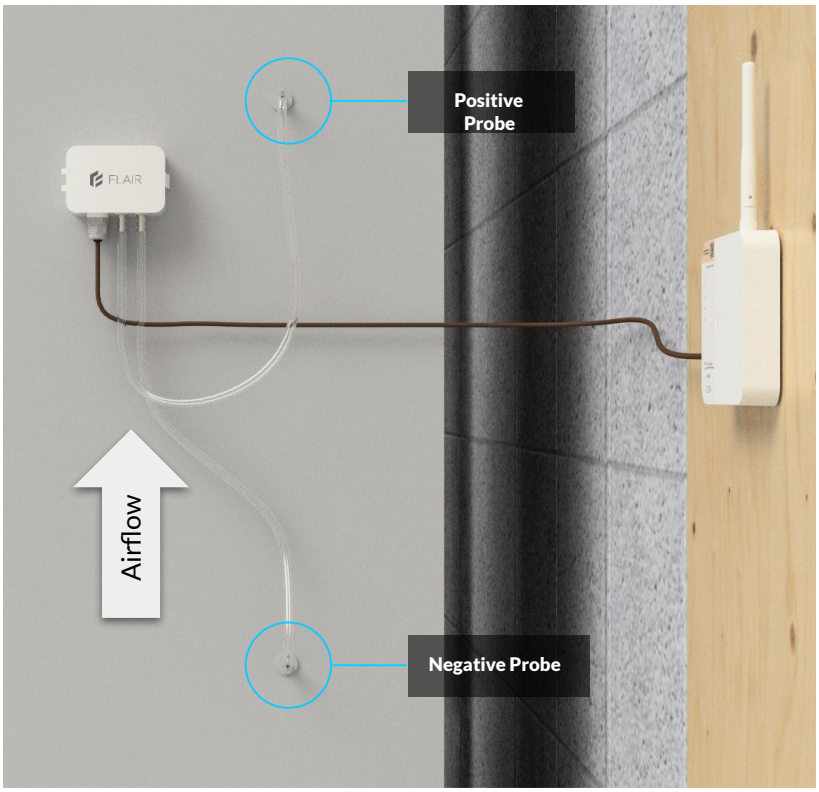
STATIC PRESSURE KIT SPEC SHEET

flair.co/spec-sheet-static-pressure-kit

Installation

The App will guide you through installing the Static Pressure Kit. The general steps are:

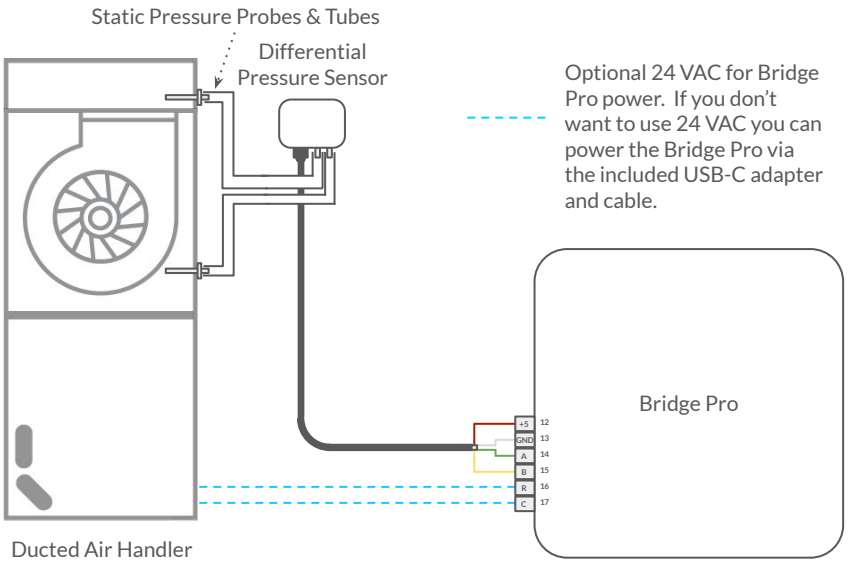
- Mounting the Sensor and Probes (hardware included)
- Connecting the tubing (included) between the probes and the sensor **(take note of the '+' and '-' ports)**.
- Wiring the sensor to the Bridge Pro (the terminal blocks on the Bridge Pro are intended for 'Thermostat Wire' and support 18-26 AWG solid wire [field supplied])
- Testing to ensure that the Static Pressure Sensor is reading



Probe Installation
Using a ¼" drill bit, drill holes on the positive and negative side of the system where you would normally measure the TESP with a manometer. Insert the probe, and secure the probe using the two screw holes. Connect the tubing between the probe and sensor. Be sure to connect the positive tube to the positive port on the sensor.

3.9 Static Pressure Sensor Kit (Pro Solution)

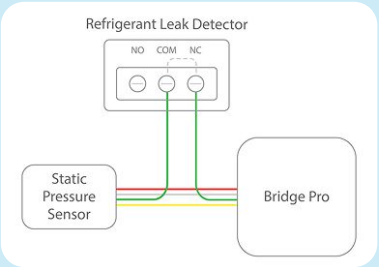
Wiring - Air Handlers to Flair Bridge Pro & Static Pressure Kit



A2L Refrigerant Support

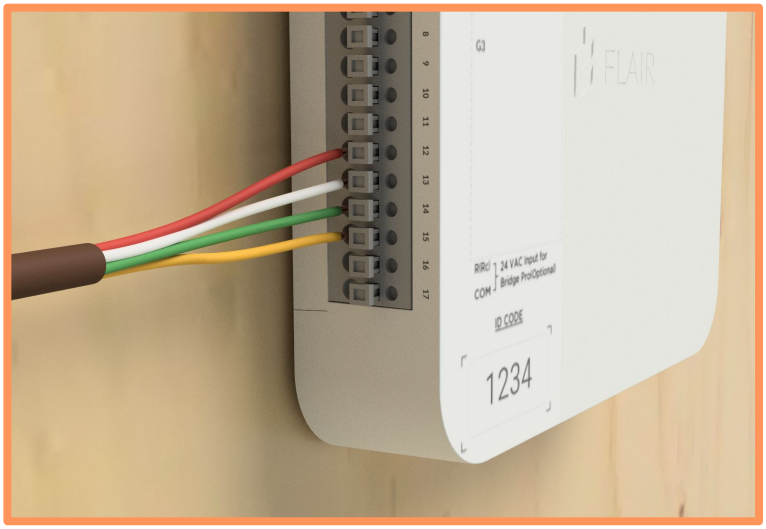
For HVAC systems utilizing A2L refrigerants, air handlers must be equipped with refrigerant leak detection and zoning systems must open all dampers during a leak event.

In order to respond to leaks, data line 'A' (pin 14 on Bridge Pro) between the Differential Pressure Sensor and the Bridge Pro must be routed through the air handler's COM and NC terminals on the systems leak detection sensor system.



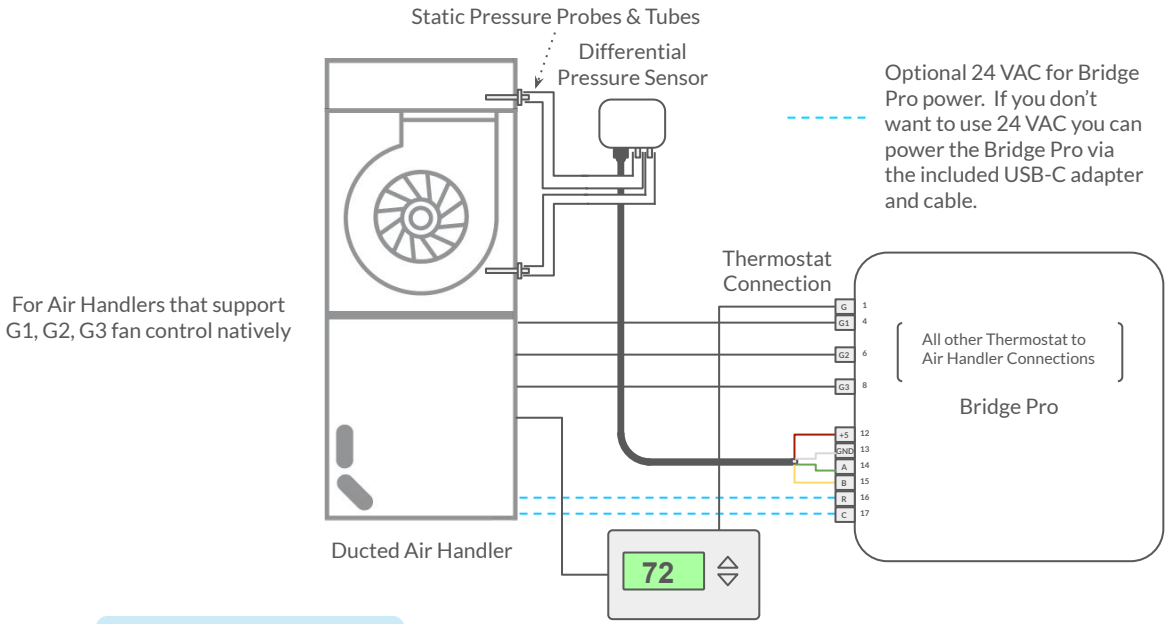
Flair Differential Pressure Sensor Wiring

Flair Bridge Pro Wiring



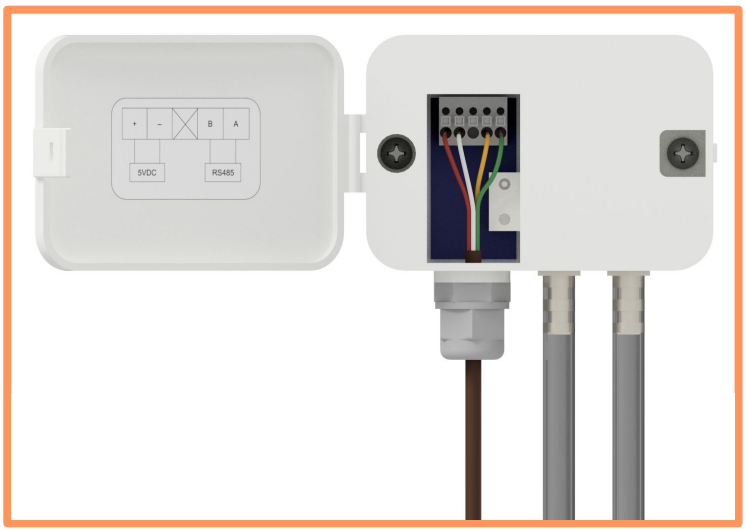
3.10 Multi Speed Fan Control w / Static Pressure (Pro Solution)

Wiring - Air Handlers that Support G1, G2, G3 Fan Control Natively



Note:
For A2L refrigerant leak detection support refer to section 3.2.

Flair Differential Pressure Sensor Wiring

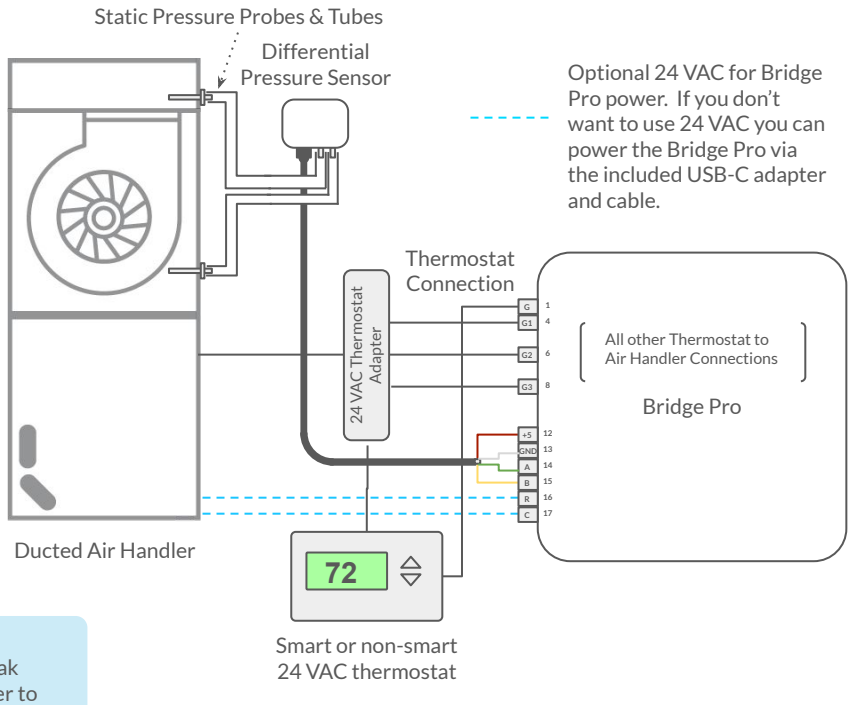


Flair Bridge Pro Wiring

3.10 Multi Speed Fan Control w / Static Pressure (Pro Solution)

Wiring - Air Handlers with Optional G1, G2, G3 Fan Control Adapter

For Air Handlers that support G1, G2, G3 fan control through an adapter.



Note:
For A2L refrigerant leak detection support refer to section 3.2.

BRIDGE PRO WIRING DIAGRAMS

flair.co/wiring

Example Adapters

MITSUBISHI ELECTRIC
PAC-US445CN-1

FUJITSU
FUJITSU UTY-TTRX

SAMSUNG
SAMSUNG MIM-A60UN

LG
LG PDRYCB320

Flair Bridge Pro Wiring

3. Detailed Installation Guide

3.11 Setup Steps

Here's an overview of the steps required to complete setup.

1	**Create a New Home**	Specify the home name, temperature scale, and address.
2	**Select System Type and Equipment Configuration**	For homes over 2,500 sq. ft. or when an Ethernet connection isn't available near the Bridge Pro, use the Bridge Pro + Bridge setup.
3	**Entry Level** **Connect Your Bridge**	For large homes, install the Bridge in a central location—ideally with Ethernet access and positioned near the Puck Pros. Multiple Bridges are supported should that be necessary and additional Bridges can be added after initial installation.
	Pro Levels **Connect Your Bridge Pro or Bridge + Bridge Pro** PRO ONLY	Mount and power the Bridge Pro (via 24 VAC or USB) and label the equipment for future service.
4	**Add Smart Vents or Smart Vents + Pucks**	Discover your Pucks and Smart Vents and assign them to rooms. Pucks show their 4-digit ID on the display, while Smart Vents use unique light patterns for easy identification on floors, walls, or ceilings.
5	**Setup or Integrate Smart Thermostats (and Sensors)**	Select your smart thermostat brand, connect your account, choose the system type (Forced Air), and assign thermostats and sensors to their rooms. Link each thermostat zone to its corresponding room(s). If you have multiple thermostats, add them here. If not using an integrated smart thermostat, select "Other."
6	**Pro Levels** **Install Static Pressure Kit** PRO ONLY	Wire the Static Pressure Sensor to the Bridge Pro, mount it, and install two probes in the airflow for your equipment type. Connect the tubing—'+' probe to '+' port and '–' probe to '–' port on the sensor. The system will then take a static pressure reading and automatically advance to set the maximum pressure for your equipment.
7	**Pro+ Level** **Wire and Configure Fan Control** PRO ONLY	In this step, turn off the equipment breaker, select available fan speeds, wire the fan control connections, restore power, and test to confirm proper fan speed control.

The Setup Wizard in the Flair app will guide you through installation and configuration, providing the most up-to-date information for a smooth Zoning & Air Balancing setup.

4.1 Understanding Smart Vent System Behavior

Smart Vent Operation

Flair's Smart Vents use a set of robust, thermostatically focused, algorithms to decide how to adjust airflow. Generally speaking, rooms that need more heating or cooling at any given moment will have their Smart Vents open and rooms that are already satisfied will close, however satisfied rooms may remain open under a number of circumstances, most often related to backpressure protection. Other circumstances where a Smart Vent may open when a room isn't attempting to hit a set point is during Smart Away if a room has gone above or below the room's Smart Away bounds.

For the **Entry Level** solution, the number of total vents for the thermostat zone is specified and ⅓ at most of those vents will close at any given time. While this limits performance compared to Pro solutions, this rule is effective at avoiding excessive equipment stress, avoiding high limit trips, avoiding frozen coils, etc., including on single speed systems and across different blower motor types.

For **Pro** solutions, the Flair Static Pressure Kit is used to limit how many Smart Vents can be closed based on a maximum static pressure. When fan speed control is available, the number of Smart Vents that can close at any given time may vary considerably as the fan speed is adjusted. Another feature of the Pro solutions is that they can automatically account for filter loading over time.

Integrated Smart Thermostat Interaction

When a Smart Thermostat is integrated into a Flair system, the system can read the temperature, mode, setpoint, and in certain cases, any additional data available from room sensors including temperature and occupancy data. Flair's Smart Thermostat integrations are also able to write to thermostats to adjust mode(heat/cool/auto/off) and setpoints. More information on how read/write interaction can be configured can be found in the Set Point Controller section (4.2). More information on smart thermostat compatibility is available in section 3.1.

Non-Integrated Thermostat Systems

When a Flair Smart Vent system is installed alongside a non-integrated thermostat (smart or otherwise), Flair is able to automatically detect the systems mode (heating, cooling) and operate accordingly. In this configuration, the setpoints applied in the Flair application are used to operate the vents and Flair Pucks are used to provide temperature data about each room. This system can be effective, however the end user must manually adjust the thermostat to ensure enough heating or cooling is being called for.

Rooms with no 'Temperature Sensing Device'

When a room in the Flair App has no temperature data but does have Smart Vents, the vents can be opened and closed by a slider in the 'room tile'.

4.2 Using the Flair App for Control

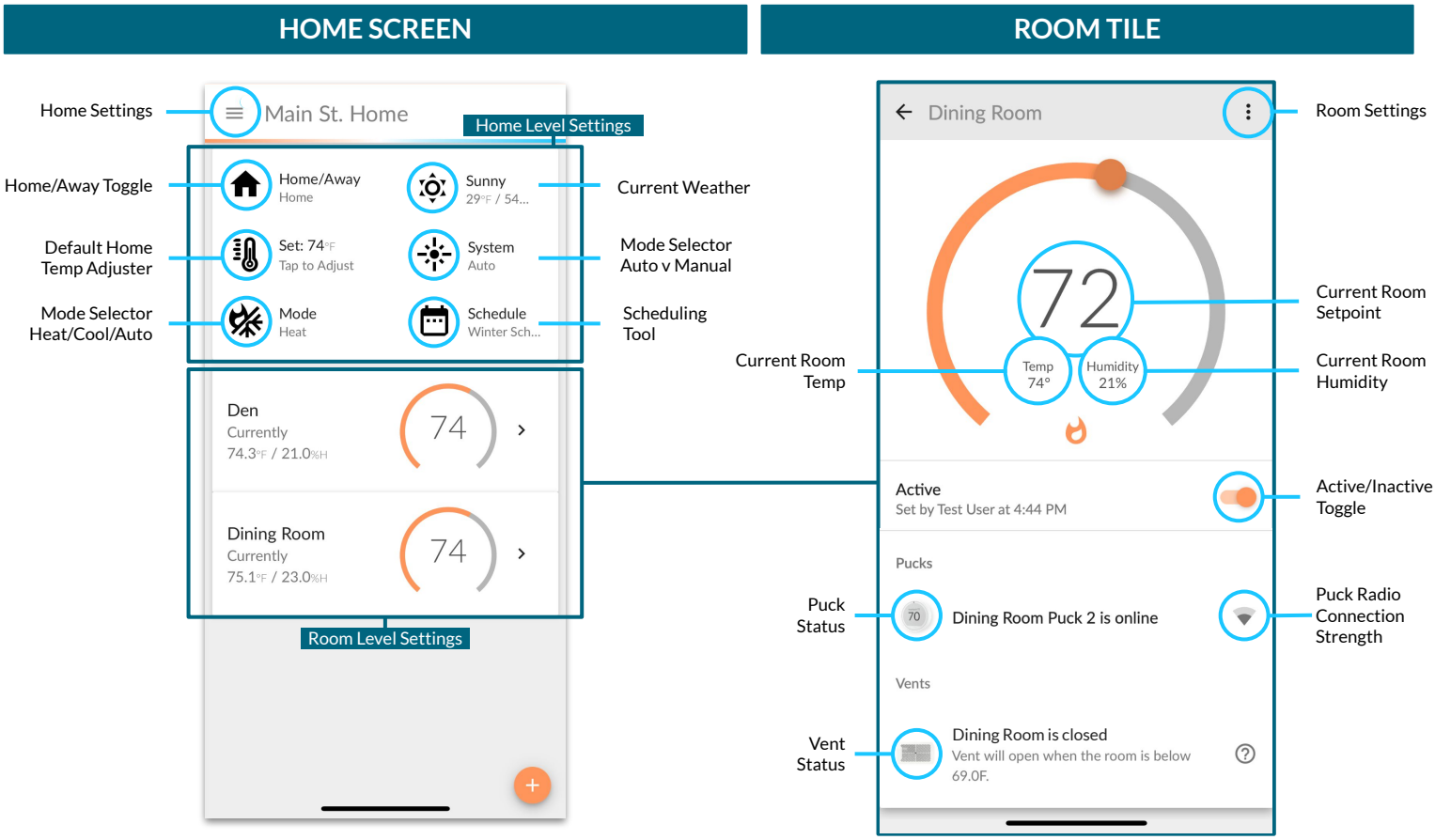
iOS, Android, and Desktop

Download on the App Store — flair.co/ios

GET IT ON Google Play — flair.co/android

Use the Flair Web App — my.flair.co

Entry Level Control - Home Screen and Room Tiles



4.3 Advanced Capabilities and Features

Active / Inactive Rooms

MORE INFO
flair.co/set-rooms

To set a room or home as **active or inactive** on the Flair app, you can either toggle the "Active" switch directly on the room tile within the app, use a schedule to set specific active/inactive times for rooms, or change your overall home status to "Home" (active) or "Away" (inactive), which will affect all rooms accordingly; you can also utilize remote sensor occupancy if your thermostat supports it to automatically adjust room activity based on presence detection.

Key points about setting rooms as active/inactive on Flair:

- **Setting Active/Inactive via Direct toggle:** Navigate to the room you want to adjust in the app and use the "Active" switch on the room tile to set it as active or inactive.
- **Scheduling Active/Inactive:** Creating a schedule within the Flair app can automatically set rooms as active or inactive at specific times of the day.
- **Home/Away Mode Impact on Active/Inactive:** Setting your home status to "Home" will generally make all rooms active, while "Away" will set them as inactive.
- **Remote Sensor Occupancy Feature:** If your thermostat has integrated occupancy sensors, you can enable this feature in the Flair settings to have rooms automatically adjust based on whether someone is present.

Room Temperature Holds

MORE INFO
flair.co/room-holds

A room hold is created when a change is made to the room by interaction with the Flair App or directly on the Flair Puck. Holds are created as a result of:

- a change to the room's set point
- a change to the Active/Inactive status of the room

To set a room temperature hold in the Flair app, simply navigate to the desired room in the app, then drag the temperature slider to your desired set point; this will automatically create a room hold at that temperature setting. You can also identify an active room hold by looking for the "hold" indicator on the room tile. A visual indicator will appear on the room tile to show that a hold is currently active

Set Point Controller

MORE INFO
flair.co/set-point-controller

When a Flair Smart Vent system is integrated with a smart thermostat, there are two options for how the two systems can interact. The simplest is when the Set Point Controller setting is set to 'Thermostat'. In this setting, Flair will follow the setpoints applied to the thermostat and apply those setpoints to each room in the Flair system, provided that no other schedules or holds have been applied to rooms in the Flair app.

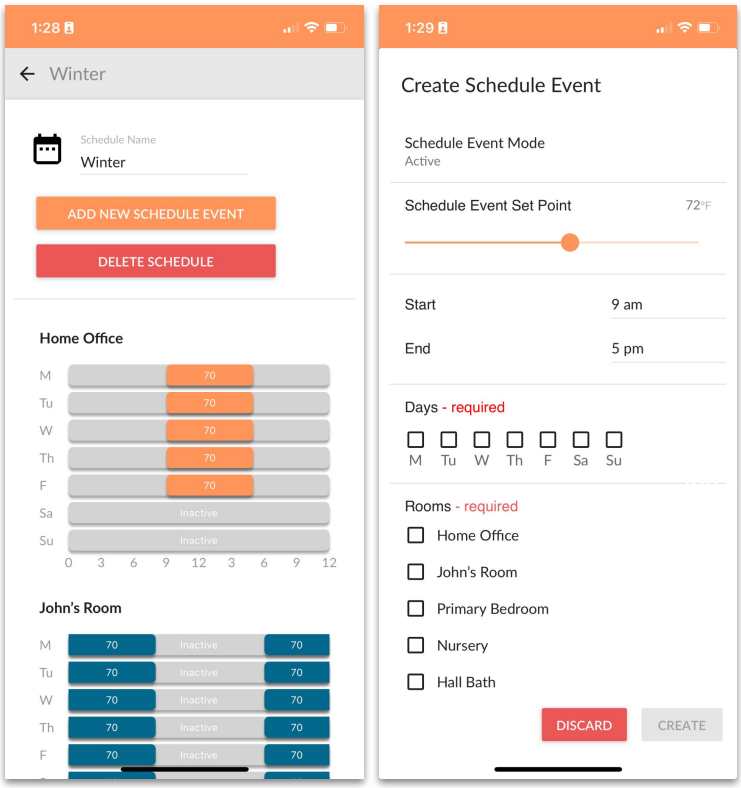
When the Set Point Controller is set to 'Flair', the Flair system will take stock of all the active room's setpoints and current temperatures and then manage the thermostat to ensure that the heating and cooling system runs less or more (as needed) to ensure setpoints are most closely met.

4.3 Advanced Capabilities and Features

Schedules

MORE INFO
flair.co/scheduling

To create and manage schedules on the Flair app, open the app, navigate to the "Schedule" section in the control bar, select "Create New Schedule," then define the schedule name, add individual schedule events with start/end times, choose the days of the week to apply the schedule, select the rooms you want to include, and finally, tap "Done" to save your schedule; you can edit existing schedules by accessing them from the Schedule tab.



Key steps:

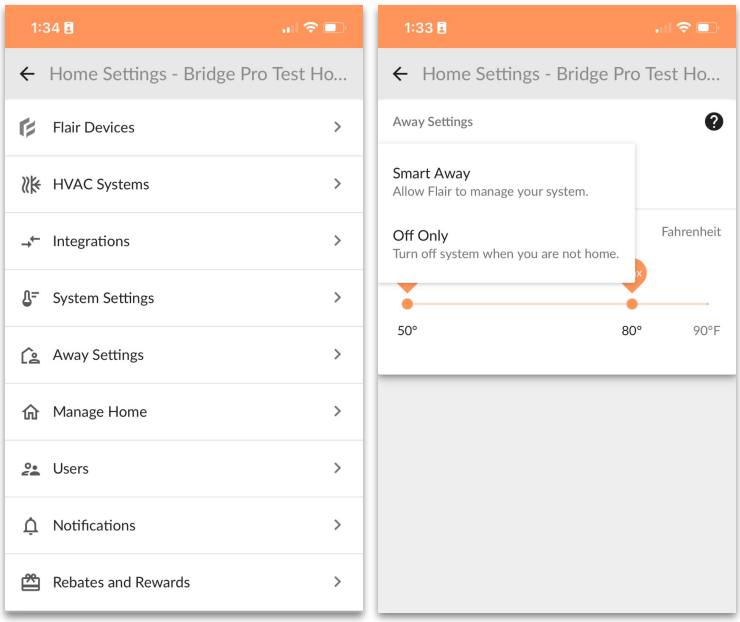
- **Access the Schedule tab:** Open the Flair app and go to the "Schedule" option in the control bar.
- **Create a new schedule:** Select "Create New Schedule".
- **Name your schedule:** Enter a descriptive name for your schedule.
- **Add schedule events:**
    - Click "Add New Schedule Event"
    - Set the start and end time for the event
    - Choose the days of the week the event should occur
    - Select which rooms the event should apply to
- **Set temperature settings:** Adjust the desired temperature for each schedule event.
- **Save the schedule:** Click "Done" to finalize your schedule.

4.3 Advanced Capabilities and Features

Smart Away

MORE INFO
flair.co/smart-away

"Flair Smart Away" is a feature on the Flair smart home system that automatically adjusts your home's temperature when you're not home, preventing it from getting too hot or too cold, typically by turning off your HVAC system while maintaining a safe temperature range to protect pets, plants, or prevent pipes from freezing, even when you're away; essentially, it's a "smart away mode" that prioritizes comfort and energy efficiency while you're not present.



To access the Smart Away feature in the Flair app, go to *"Home Settings"* > *"Away Settings"*; this is where you can configure the settings for when you are away from home, allowing Flair to adjust your climate control accordingly. When enabled, Smart Away will automatically adjust your heating and cooling based on your absence, often by setting rooms to "Inactive" to maintain a comfortable temperature while you're away.

Key points about Flair Smart Away:

- **Geofencing option:**
  You can choose to use your phone's location to automatically trigger Smart Away when you leave your home so your home automatically switches to "Away" mode when you leave and back to "Home" when you return.
- **Automatic temperature control:**
  When you set your Flair system to "Away" mode, it automatically adjusts the temperature in your home to a preset range, preventing extreme temperatures while you're gone.
- **Safety features:**
  It can kick back on the HVAC system if the temperature in a room gets too far outside the set safety bounds, even when in "Away" mode.

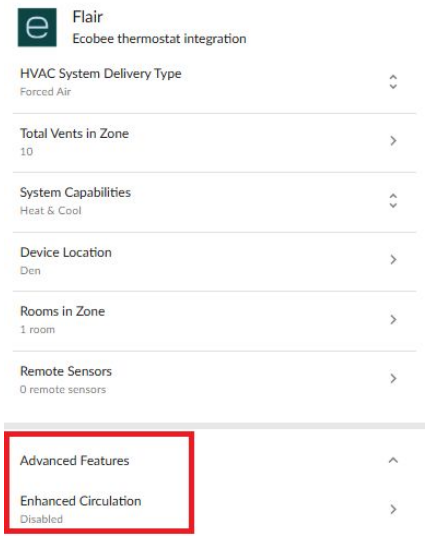
4.3 Advanced Capabilities and Features

Enhanced Circulation

MORE INFO

flair.co/enhanced-circulation

Many thermostats allow you to set a minimum fan run time per hour. These fan cycles are designed to circulate the air in the home. When running the system fan you generally want all of your Smart Vents to be open to facilitate the circulation of the air. If you have an integrated smart thermostat and have your thermostat configured to run dedicated fan cycles you will probably want to enable Flair's "Enhanced Circulation" feature.



To enable this feature, go to Home Settings -> HVAC Systems, open the settings for your thermostat, then expand the settings for Advanced Features.

Under the Enhanced Circulation Mode, there are three options:

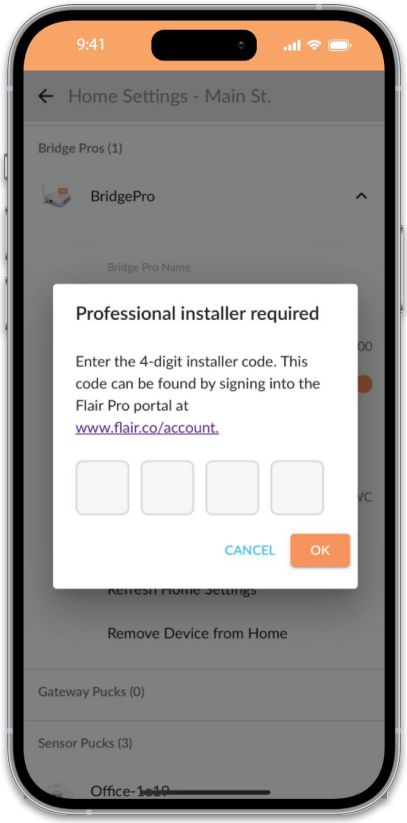
- **Disabled**: Smart Vents will operate normally, and may be closed even when the fan is running.
- **Vents in Active Rooms Only**: Smart Vents in Active Rooms open when the fan is running.
  All Vents: Smart Vents in all rooms open when the fan is running.

When Enhanced Circulation is enabled your Smart Vents will open any time the thermostat operating state is "idle" or "fan". This is true for both active and inactive Flair rooms. Please note that we receive updates once every 5 minutes for many of the thermostats we integrate with. Due to this, there may be a slight delay between the operating state updates and the Smart Vents opening and closing.

4.3 Advanced Capabilities and Features

Installer Code

MORE INFO
flair.co/installer-code

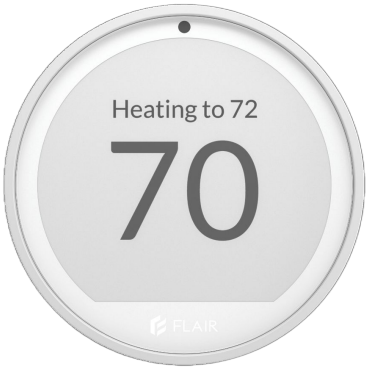


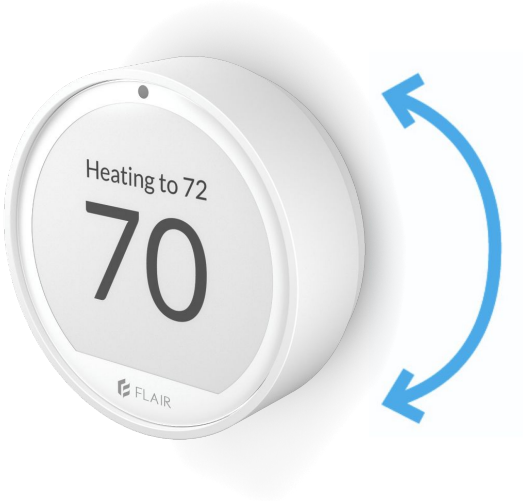
Certain features of the Flair App are intended to be adjusted by HVAC professionals rather than end users, particularly features tied to the Pro solutions including Flair's Staged Heating and Pro Zoning and Air Balancing solutions.

The Installer Code is shared when Flair Pro products are initially installed, available in the Flair Pro's Portal when logged in as a Pro, and can be made available by contacting Flair support.

4.4 Using the Flair Puck for Control

The Puck is battery powered and has Wi-Fi and 915 MHz radio frequency communication capability to enable a fully wireless control experience in the home, but can also be powered through a USB adapter if preferred.





Your Flair system can be controlled with the Flair Application or Puck. It is recommended to use the Flair Application for advanced control settings while the Puck allows for quick adjustments to the room's setpoint temperature or changing the rooms 'Active/Inactive' status.

Controlling the Puck is simple. You can push the front surface or rotate the collar.

For example, to change the setpoint temperature for a room, you can rotate the Puck. You can also set a room as 'Inactive' via the Puck by pushing once, rotating to the 'Turn Off' screen, and pushing once more.

4.5 Troubleshooting and Maintenance

Useful Setup Tips

FLAIR SUPPORT
flair.co/support

- Carefully measure all duct openings to ensure you have the proper size Smart Vent(s) for each room.
- In some cases, unboxing, and powering on all devices near your Bridge or Bridge Pro may help to ensure device discovery. Upon installation, if previously discovered/connected devices lack a reliable connection, then improving Bridge placement (if possible) or adding an additional Bridge(s) may be advisable.
- For contractor installed systems, it can be very helpful if the installer retains user-level access to the Flair home by inviting their work account with Viewer or Editor privileges just before handover to the homeowner. This allows for offset monitoring or inspection without "rolling a truck."

Connectivity

Flair device-to-device communication uses 915 MHz Radio Frequency (RF) communications. Ensure good signal strength for all Flair devices (above -75dB). In the Flair app, tap the Flair menu and go to Home Statistics to see signal strength.

- To boost signal strength, ensure the Bridge/Bridge Pro is not blocked by large metal objects or near devices that emit signal interference.

Firmware Updates

Flair periodically releases firmware updates to add features, improve security, or resolve issues. Firmware updates are downloaded over Wi-Fi and only take a few seconds to install. When a new firmware version is available, you will be notified via email. These updates will only download and install after you click a link to confirm installation.

- Firmware updates require Wi-Fi. In some instances, Flair's radio range can be larger than the range of most Wi-Fi networks. This means that a Puck may operate normally, but may be unable to download firmware updates. Temporarily moving a Puck closer to your Wi-Fi router can help. Make sure your Pucks are within Wi-Fi range before starting the firmware update process. For systems without Wi-Fi (like ethernet connected systems), you may need to move Pucks closer to the Bridge
- For your Pucks to receive a firmware update they must be discovered and online in your Flair home and must be assigned to a room. If you have Pucks that are not normally assigned to a room you can assign them to a room temporarily for the OTA firmware update.

FLAIR SUPPORT
flair.co/support

What happens in an internet outage?

In the event of an internet outage, all Smart Vents will open until internet connectivity is restored, at which point normal operation will resume. If the system has fan speed control, the fan will be set to medium for the duration of the outage.

My Flair devices are going offline/don't have a stable connection, what should I do?

If the system is Bridge Pro Only, then you may need to add a Bridge. For this, see section 3.5 for adding a Bridge to a Bridge Pro Only system. If you already have a Bridge + Bridge Pro configuration, you may want to try moving your Bridge to a more centralized location, free from any nearby large metal objects. If that doesn't work, you can add an additional Bridge to your system using the '+' button on the app home screen.

Do you support Nest Temperature Sensors?

The Flair platform is integrated with Nest Smart Thermostats. However, Nest Temperature Sensors are not currently integrated. We are currently working with Google on this but their platform currently doesn't offer an official pathway for Temperature Sensors data integration at the moment. We encourage you to look at the latest version of the documentation on flair.co as support for room sensors may change.

Can I use this with a non-integrated or non-smart thermostat?

Yes, however certain capabilities and features are unavailable in this scenario. For instance, Flair can open and close Smart Vents thermostatically based on a Puck's temperature reading, however Flair won't have a means of calling for more heat or more cooling if opening/closing the Smart Vents alone still doesn't allow for a setpoint to be achieved. If this is ok for your application, there is no need for an integrated smart thermostat.

What about Backpressure Protection?

For the Entry Level solution, Flair will never close more than ⅓ of the vents in a given HVAC zone which has been shown to be adequate for equipment safety, equipment longevity, and for avoiding things like coil freezing and heat exchanger issues. This limitation is conservative and thus limits how aggressively the Flair Smart Vents are able to balance or zone a system unlike the Pro solutions, which directly measure the static pressure to allow Smart Vents to be as effective as possible for the given ductwork and air handler.

Does the system cause noise?

Flair's Smart Vents are generally quiet although even systems without Smart Vents can be noisy due to high duct velocity, oversized air handlers, etc. If a system is very oversized, Smart Vents could result in additional noise, particularly when closed. Suggested adjustments include incorporating Pro solutions like static pressure monitoring, fan speed control, adjusting air handler speed taps to lower the blower speed, or adding a bypass.

Do I need Smart Vents in every room?

No. While it is popular to install Smart Vents in every room, it's perfectly reasonable to install a Smart Vent in a single room that gets too much airflow or a portion of the home where airflow is excessive or adequate, to redirect that air to rooms that need more airflow. Scenarios where whole or majority-home installations make sense are when fan speed control is incorporated which can allow for major efficiency gains and more directed air flow targeting, vertical stratification problems where there is too much heat going upstairs in winter and not enough AC going upstairs in summer, or where room-by-room control throughout the entire home is desired.

6. Additional Resources

For Flair Pros

PRO MARKETING CENTER

flair.co/promarketing

PRO TRAINING CENTER

flair.co/protraining

INSTALLATION VIDEOS

flair.co/installation-videos

WIRING DIAGRAMS

flair.co/wiring

CONTACT FLAIR

For dedicated dealer phone and email support, login or register.

Existing Flair Pro?
Login to the Pro Portal for contact information.

Not yet a Flair Pro?
Complete the Pro registration and a member of our team will be in touch.

PRO PORTAL

flair.co/pros

PRO REGISTRATION

flair.co/register

For Homeowners

HOMEOWNER GUIDE - SMART VENT

flair.co/homeowner-guide-smart-vent

HOMEOWNER - SUPPORT EMAIL

support@flair.co

Apps

Download on the App Store

flair.co/ios

GET IT ON Google Play

flair.co/android

Use the Flair Web App

my.flair.co