



## Whole-Home Air Purification System

# Installation and User Manual

Congratulations on selecting SecureAire's most advanced Whole-Home Air Purification System! SecureAire's patented design utilizes ACTIVE Particle Control technology, proven to capture and remove airborne contaminants from your home while INACTIVATING™ (killing) viable airborne pathogens including bacteria, viruses, and mold.

**Safe,  
Healthy,  
and Clean  
Indoor Air!**

## About your new SecureAire Whole-Home Air Purification System

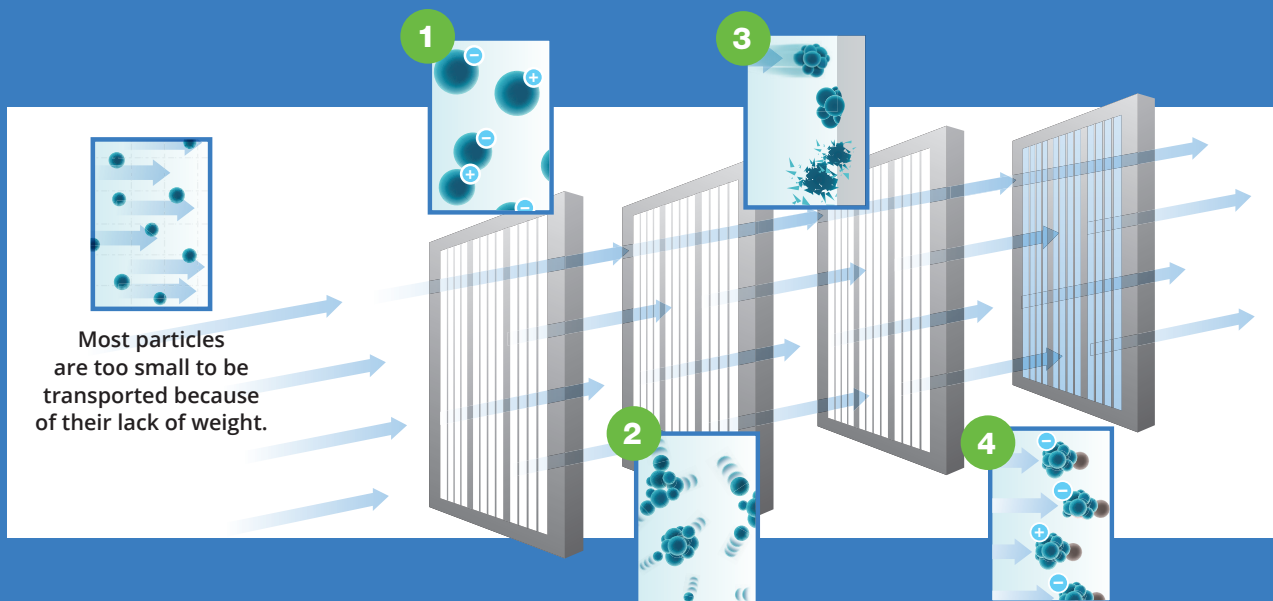
The Whole-Home Air Purification System easily mounts into the return air ductwork of any gas, oil, or electric forced air furnace or central air conditioning system with design airflow up to 2000 cfm.

### ACTIVE Particle Control™

The SecureAire Whole-Home Air Purification System is based upon ACTIVE Particle Control™ technology that is continuously working to remove airborne contaminants in the living space, including particulates, pathogens, and VOCs.

## ACTIVE Particle Control: How it works

### The Advanced and Patented 4-Step process



#### STEP 1: CONDITION

Particles entering the SecureAire System become electrically **CONDITIONED**.

#### STEP 2: COLLISION

Conditioned Particles are forced to **COLLIDE**, gaining mass in the process.

#### STEP 3: CAPTURE & INACTIVATE

Collisions make particles easier to **CAPTURE** within the filter media. Once **CAPTURED**, any viable pathogens will be **INACTIVATED** or killed.

#### STEP 4: TRANSPORT

Particles escaping **CAPTURE**, are **CONDITIONED** and are thereby used to **TRANSPORT** contaminants from the treated space to the SecureAire filter.

## Before installation

### When Installing this Product:

1. This document provides instructions for the installation and electrical wiring of SecureAire's Whole-Home Air Purification System.
2. Read these instructions carefully as failure to comply can damage the product or cause a hazardous condition.
3. Review the specifications provided to ensure that it is suitable for your application.
4. The installer must be a trained, experienced mechanical and electrical technician.
5. After the installation is complete, please complete the system start-up procedures to ensure correct installation and operation of the product.

### What's Inside the Box:

- SecureAire Platinum Air Purifier
- 8-foot electrical plug-in cord

### Installation Tools Needed:

Phillips screwdriver	Custom sheet metal fittings
Wire cutter	Sheet metal cutting tools
Wire stripper	Locking pliers or clamps
Wire crimper	Sheet metal screws
Drill	Silicone sealant

### SecureAire Product Model Numbers and Airflow Rating:

Model Numbers	Maximum Airflow (cfm)
ACS1620-PLT	1200
ACS2020-PLT	1400
ACS1625-PLT	1400
ACS2025-PLT	2000

### Replacement Filter Part Numbers:

Filter Size (HxWxD in inches)	Platinum Series Filter Part Number
16x20x2	R1620-PLT
20x20x2	R2020-PLT
16x25x2	R1625-PLT
20x25x2	R2025-PLT

## Before Installation (continued)

### **Application Considerations:**

(For additional information see the *SecureAire Residential Air Purification System Application Guidelines Addendum*)

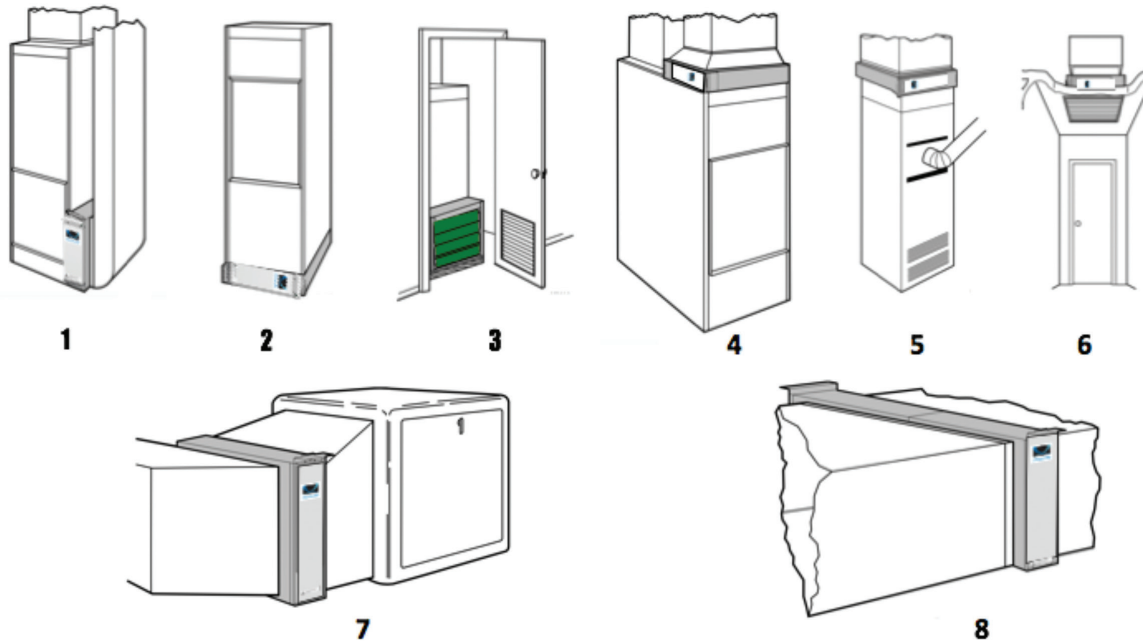
The SecureAire Air Purifier is designed to work with gas, oil, and electric forced air furnaces and central air conditioning systems.

**Airflow considerations are vital to the heating and cooling system's performance, longevity, and safety, as well as the performance of the SecureAire Air Purifier. Industry standards are established to ensure proper design and installation of this product and the associated ductwork. Please see the Appendix for additional detailed application guidelines.**

## Before Installation (continued)

### Choosing a Mounting Position:

The SecureAire Air Purifier mounts in any position within the return air duct, usually next to the furnace blower compartment. There are directional arrows on the filter to confirm proper cabinet location. See below for proper locations for the SecureAire Air Purifier in a variety of furnace and air handler installations.



#### Type Description

<b>1</b>	Upflow with side install. The SecureAire Air Purifier is mounted vertically where return enters side inlet of furnace.
<b>2</b>	Upflow with install beneath furnace. The SecureAire Air Purifier is mounted horizontally where return enters from below.
<b>3</b>	Upflow with closet install. The SecureAire Air Purifier is mounted vertically on furnace between furnace and louvered return air opening in closet door.
<b>4</b>	Counterflow with the SecureAire Air Purifier is mounted horizontally in return plenum just above furnace and opposite heating plenum.
<b>5</b>	Counterflow furnace with the SecureAire Air Purifier mounted horizontally in return duct or plenum just above furnace.
<b>6</b>	Central fan installation, with the SecureAire Air Purifier mounted horizontally in central return duct.
<b>7</b>	Horizontal furnace, with the SecureAire Air Purifier mounted vertically in return duct near furnace.
<b>8</b>	Two or more SecureAire Air Purifiers used in a high capacity system.

## Installing the SecureAire Air Purifier: Upflow Furnace Example

The following procedure describes a typical installation on an existing upflow furnace with a side return. (Figure 1-1). Other changes in installation procedures may be necessary to complete your installation.

**NOTE: Prior to beginning your installation, remove and discard the existing furnace filter (if used). Thoroughly clean the blower compartment. EPA recommends a professional duct cleaning whenever the system's normal airflow will stir up and circulate dust or debris into the home. <https://www.epa.gov/indoor-air-quality-iaq/should-you-have-air-ducts-your-home-cleaned>**

### **WARNING** **Electric Shock Hazard!** **Can cause personal injury!**

**Do not, under any circumstances, use an electrical extension cord other than the 8-foot cord provided with the unit.**

**Before installing or servicing this system, always make sure that the main power to the system is turned off. There may be more than one electrical disconnect switch.**

## The Step-by-Step Installation Process

### Step One: Review the installation plan and airflow direction

Temporarily place the SecureAire Air Purifier on the floor, orienting as it will be when installed. Temporarily insert and remove the SecureAire Air Purifier to make sure there is adequate clearance for easy removal if that is ever necessary.

**If the installation of the unit requires the airflow direction to be reversed, this is easily accomplished by removing the grid access panel (Step 3) and rotating it 180 degrees when reinstalling it (Step 7).**

## Installing the SecureAir Air Purifier: Upflow Furnace Example

### Step Two: Remove the door and filter

**A.** Unlatch the front door.



**B.** Remove the main filter.



### Step Three: Remove the grid access panel and (3) wire grids

**A.** Remove the front plastic panel via the four (4) Phillips head screws on the top of the panel and the (4) Phillips head screws on the bottom of the panel. Gently slide out the three (3) wire grid assemblies and set them aside. The cabinet is now ready to be connected to the heating or cooling equipment and the return ductwork.



## Installing the SecureAire Air Purifier (continued)

### Step Four: Pre-wire the power supply

**(PRE-WIRE ONLY DO NOT CONNECT TO POWER)**

Installation of the SecureAire Air Purifier should be performed by a licensed electrician or a certified HVAC technician. Electrical wiring must comply with applicable local codes and standards.

**These are pre-wire instructions only. Power is not connected to the unit at this point.**

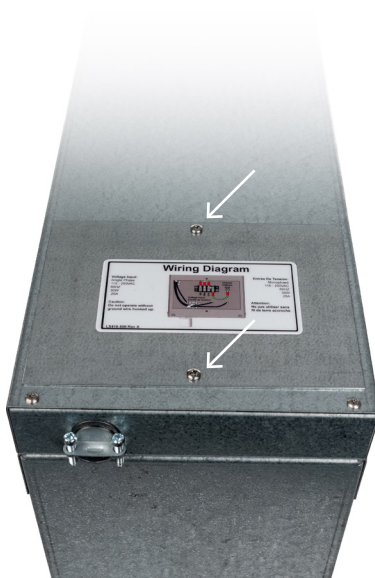
**Wire ring lugs must be used when connecting input line voltage to the terminal block. These are supplied on the plug-in power cord supplied with the SecureAire unit.**

**If connecting directly from another source, the technician must install wire ring lugs on the power wires that connect to the SecureAire terminal block.**

**The supply line voltage power source is 120V/60 Hz.**

**A.** Remove the 2 (two) Phillips head lock screws from the cabinet's top access panel.

**B.** If the existing wiring connection out of the back of the power supply will be obstructed when the unit is installed, additional knockouts are provided on both sides of the power supply. Remove the existing wiring strain relief and relocate it if needed.





## Installing the SecureAire Air Purifier (continued)

**C.** Connect unpowered wire ring lugs as shown.



**D.** When using the supplied plug-in cord, match the cord wiring color to the same color wires on the wiring terminal block.



**E.** Tighten the wiring strain relief on the outside of the power supply box.

**F.** Re-install the access panel with the 2 (two) lock screws.

### Step Five: Connect the cabinet to the furnace or air handler

- A.** If needed, cut an opening in the equipment cabinet to match the SecureAire Air Purifier's cabinet or provide a proper sheet metal transition from the cabinet to the equipment.
- B.** If necessary, place blocks under the SecureAire Air Purifier to make sure the unit sits securely.
- C.** Connect the SecureAire Air Purifier securely to the furnace. Fasten with sheet metal screws or use S-cleat type slip joints. If you are drilling holes, use locking pliers to help hold the cabinet in place during drilling.

### Step Six: Connect the cabinet to the return air plenum

- A.** If needed, install turning vanes to help distribute air equally over the full surface of the upstream side of the SecureAire Air Purifier. See the Appendix: Application Recommendations, for details.
- B.** Connect the SecureAire Air Purifier securely to the return air ductwork. Fasten with sheet metal screws or use S-cleat type slip joints. If you are drilling holes, use locking pliers to help hold the cabinet in place during drilling.
- C.** Inspect the SecureAire Air Purifier to make sure that no metal filings are lodged in the unit and free of any debris.

## Installing the SecureAire Air Purifier: Upflow Furnace Example

### Step Seven: Reinstall the (3) wire grids and grid access panel

- A.** Insert each of the wire grid assemblies back into their slots. Any grid can be inserted into any slot.
- B.** Replace the grid access panel and secure it with the four (4) Philips head screws on both the top and bottom of the panel.

### Step Eight: Seal all sheet metal joints

Seal all joints in the sheet metal connections you made to prevent ambient air from entering or leaving the ductwork. May use silicone sealant, mastic, or UL-approved sealant tape. MOUNTING

### Step Nine: Connect power to the power supply

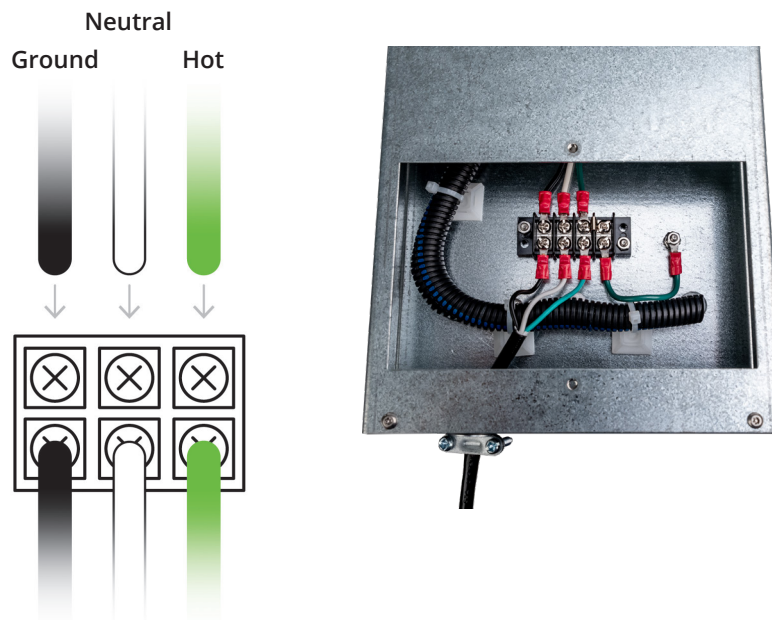
Installation of the SecureAire Air Purifier should be performed by a licensed electrician or a certified HVAC technician. Electrical wiring must comply with applicable local codes and standards.

**Wire ring lugs must be used when connecting input line voltage to the terminal block.**

**The supply-line voltage power source is 120V/60 Hz. When using the supplied plug-in power cord, plug the cord into an accessible outlet. When connecting power through another source, such as the equipment manufacturer's provided EAC terminals, follow the equipment manufacturer's directions on how to make that connection.**

### SecureAire Wiring Terminal Block

Line Voltage: 120V/60 Hz



## Installing the SecureAire Air Purifier: Upflow Furnace Example

**Note: The SecureAire Air Purifier may be wired to be on continuously, even without the system fan being on, as there are no harmful byproducts, such as ozone, produced by this device.**

### Step Ten: System Operation Check

A. Turn on the SecureAire Air Purifier with the ON/OFF switch. The switch illuminates a green light indicating that the power supply is on. An audible clicking noise (4 times loud followed by 4 times soft) indicates that the system's self-test procedure has confirmed proper operation and the high voltage power supply is working correctly.

Under normal operation, the SecureAire Air Purifier may create a slight hissing sound indicating that the high voltage grids are activated. **Note: Unlike other electronic air filtration or air cleaning products, this "hissing sound" does not indicate that ozone or any other potentially unsafe byproduct is being created. The SecureAire Air Purifier creates no harmful byproducts.**

B. Turn off the SecureAire Air Purifier and the ON/OFF switch light turns off, indicating the entire SecureAire power supply is powered off. The SecureAire Air Purifier is now safe to access. Open the front door and insert the filter (and pre-filter, if included), close and latch the door and press the ON/OFF switch to the ON position. The self-test procedure will start again and confirm the power supply is working correctly.

**Built-in User Safety** — Opening the front door before turning off the SecureAire Air Purifier will disable the high voltage circuit and de-energize the entire device.

**Congratulations! The SecureAire Air Purifier installation is complete.**

## Installing the SecureAire Air Purifier: Upflow Furnace Example

### **Please check the installation for the following:**

- System Airflow is in the direction of the arrows on the SecureAire filter.
- Turning vanes and transitions, if used, are properly installed.
- Joints in all sheet metal connections are sealed.
- All sheet metal connections are complete.
- Original furnace filter has been removed and blower compartment is cleaned.
- Replace any equipment access doors removed during the installation.
- Run the furnace or cooling system through one complete cycle to ensure system is operating.
- Consider asking the homeowner if they would like to program the thermostat's fan control for intermittent, circulate, or constant fan control.

## Installing the SecureAire Air Purifier: Upflow Furnace Example

The SecureAire Whole Home Air Purification System is designed to require minimal maintenance. System maintenance is limited to the replacement of the system's filter, which is easily accomplished using the following steps.

**Step One: Turn off the system power button.**

**Step Two: Unlatch and remove the front door.**



**Step Three: Carefully remove the used filter.**

Gently pull out the used filter without disturbing the accumulated dirt on the filter and place the filter in a large plastic bag for disposal.



## Installing the SecureAire Air Purifier: Upflow Furnace Example

### Step Four: Insert the new replacement filter.

Insert the new filter making sure that the replacement filter seats against back of the SecureAire cabinet and the airflow arrows on the filter are pointing in the direction of the airflow.



### Step Five: Re-attach the front door and turn system power on.



**The SecureAire Air Purifier filter replacement is now complete!**

# Specifications, Dimensions, and Approvals

## SecureAire Specifications

System Specification	ACS1620-PLT	ACS2020-PLT	ACS1625-PLT	ACS2025-PLT
Color	Alpine White			
Cabinet Material	Aluminum/Galvanized Steel			
Electrical	120/240 VAC at 60 Hz, Single Phase, 0.5A max			
Operating Temperature Range	-40 to 165 F (-40 to 74 C)			
Operating Humidity Range	0 to 95% RH (non-condensing)			
Maximum Airflow (CFM)	1200	1400	1400	2000
Unit Weight (lbs.)	20	21	21	22
Initial Pressure Drop (in WC.)	0.14	0.13	0.13	0.14

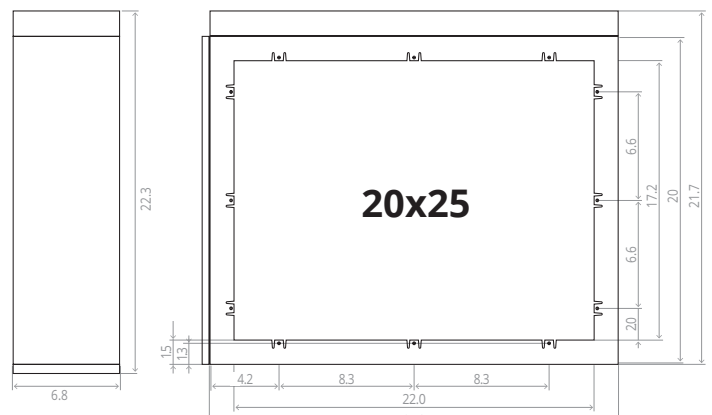
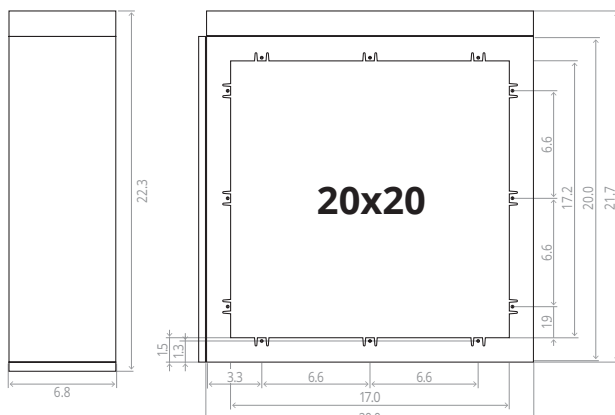
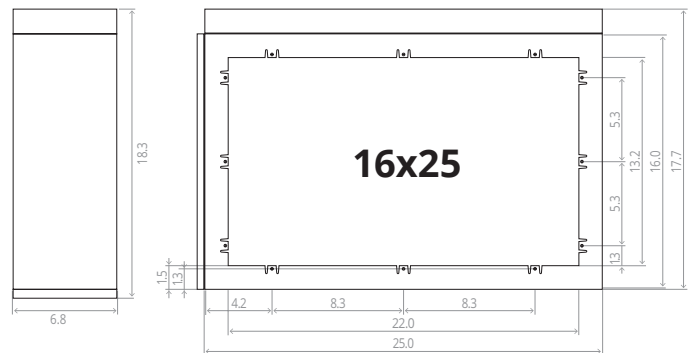
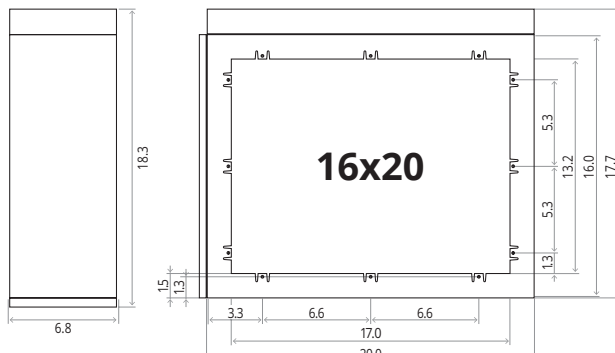
## SecureAire Air Purifier Dimensions

Part Numbers	Height	Width	Depth
ACS1620-PLT	18"	20"	6.75"
ACS2020-PLT	22"	21"	6.75"
ACS1625-PLT	18"	26"	6.75"
ACS2025-PLT	22"	26"	6.75"

## SecureAire Filter Dimensions - Nominal

Part Number	Height	Width	Depth
R1620-PLT	16"	20"	2"
R2020-PLT	20"	20"	2"
R1625-PLT	16"	25"	2"
R2025-PLT	20"	25"	2"

## Dimensional drawings of the SecureAire Whole Home Residential System

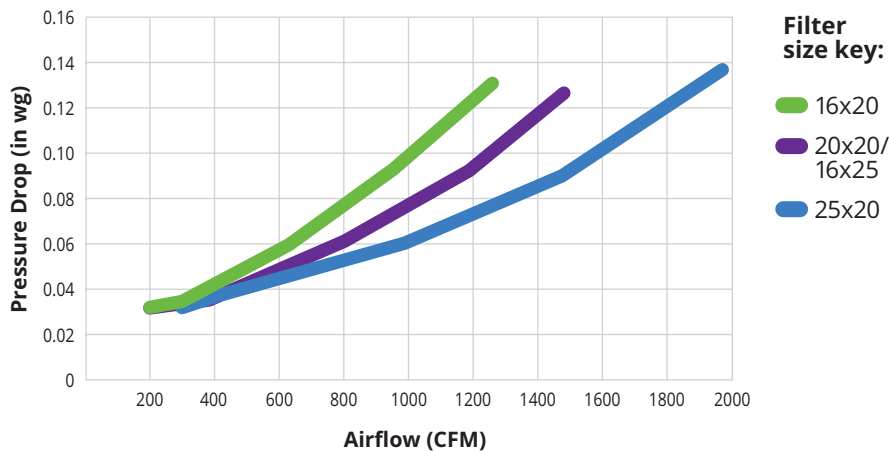


Model	Width	Height	Depth
ACS1620-PLT	20"	18"	6.75"
ACS1625-PLT	26"	18"	6.75"

Model	Width	Height	Depth
ACS2020-PLT	21"	22"	6.75"
ACS2025-PLT	26"	22"	6.75"

## Specifications, Dimensions, and Approvals (continued)

### Platinum Series Pressure Drop Curves



### Standards and Approvals

The SecureAire Whole-Home Air Purification System has been tested and verified to meet or exceed the following:

- UL 867 Electrical Standard
- CSA C22.2 No. 187-09 Electrical Standard

## Safe, Healthy, and Clean Indoor Air!

### To Learn More

Visit our website at: [www.secureaire.com/residential](http://www.secureaire.com/residential)

*SecureAire™*

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### Revision Table

Rev	Description	ECO#	Date	Approval
B	Second Release		7/8/2019	JC