



# OWNER'S GUIDE

## SMART ATTIC ROOF MOUNT FAN



AFR SMT ES-2.0

**! DO NOT THROW AWAY!**

SERIAL NUMBER FOR FAN IS LOCATED ON THE BACK COVER OF THE OWNER'S GUIDE.

**■ LEAVE WITH HOMEOWNER**

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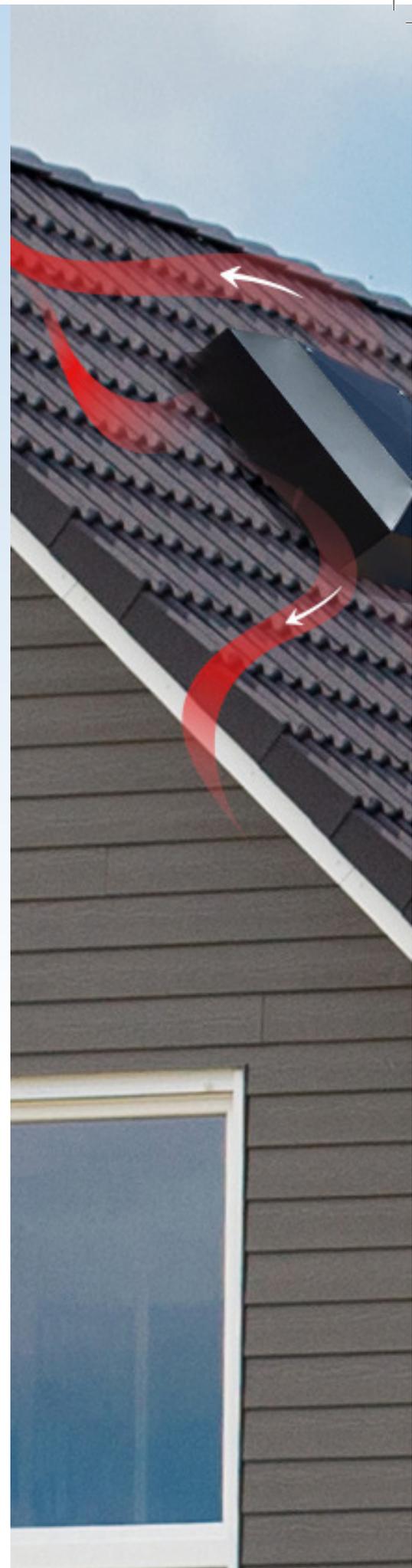
## WARNINGS

- ⓘ CAUTION:** This unit has an unguarded impeller. Do not use in locations readily accessible to people or animals.
- ⓘ CAUTION:** Do not operate any fan with a damaged cord or plug. Discard fan or return to an authorized service facility for examination and/or repair.
- ⓘ CAUTION:** Do not run cord under carpeting. Do not cover cord with throw rugs, runners, or similar coverings. Do not route cord under furniture or appliances. Arrange cord away from traffic area and where it will not be tripped over.
- ⓘ CAUTION:** Automatically started device. To reduce the risk of injury, disconnect from power supply before servicing. Do not use fan with any solid state speed control device. For residential use only.

### QC MANUFACTURING, INC.

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TEMECULA, CA 92591

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WEBSITE WWW.QUIETCOOLSYSTEMS.COM



# 1. SYSTEM OVERVIEW

## 1.1 INTRODUCTION

### CONGRATULATIONS

on the purchase of your new QuietCool Smart Attic Fan!

QuietCool Attic Fans are the best in the business. New for 2020, our Smart Line of attic fans have gotten even smarter! Now through the use of a smartphone app, you can control all the settings of your Smart Attic Fan right from your couch!

With the QuietCool Smart Control App, you can see your current attic temperature and humidity, modify the temperatures for the multiple speeds of the fan, setup presets for the different seasons of the year, and even operate your fan on a timer!

QuietCool Attic Fans work almost everywhere, anytime. During the summer, an attic can be 40-50 degrees hotter than the outside temperature, which in turn heats up the house much faster. With an attic fan, you can cool the attic to the same temperature as it is outside, greatly reducing the house from heating as quickly.



## 1.2 FEATURES

- + High Efficiency Multi-Speed Motor
- + App Based Smart Control
- + Designed and Built in California
- + 15 Year Warranty

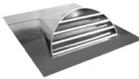
## 1.3 SYSTEM VENTING REQUIREMENTS

Ⓢ **VERY IMPORTANT: 1 SQUARE FOOT OF NET FREE VENT AREA PER 750 CFM**

Ⓢ **RECOMMENDED: 2 TO 4 SQUARE FEET OF INLET VENTS PER FAN**

Venting plays a very significant role in the performance of QuietCool fans. QuietCool recommends a minimum of 1 SQ. FT. of venting for every 750 CFM in the QuietCool system. If an attic has at least 1:750 attic venting, the QuietCool system will operate efficiently and effectively. If an attic has less than 1:750 attic venting, the system may not operate as efficiently, or effectively, as it could with 1:750 attic venting. But don't worry, the system will still operate if there is not enough venting.

Insufficient venting is a very simple problem to fix. Roofing contractors can add extra venting to most homes simply and easily. The most common types of venting is shown in the chart below.

Vent Type	Model Type	Average Size	Venting Sq. Ft.
Gable vent		12" x 19.5"	1.20
Dormer Vent		14" x 8"	0.70
Eave Vent		4" 5" 6"	0.03 0.04 0.07
Ridge Vent		4' - 12'	0.125 per ft
Soffit Vent		16" x 4" 16" x 6" 16" x 8"	0.19 0.29 0.39
O'Hagin Vent		Low/Medium Profile Tapered Low Profile Low Profile Flat High Profile	0.5 0.6 0.68 0.68
Turbine Vent		8" 12" 14"	.35 .79 1.1

\*Note: This table is only a guideline and is not a guarantee of venting capacity.

# READ BEFORE ATTEMPTING TO INSTALL AN AFR FAN GETTING STARTED

**NOTE:** Always follow local building codes because the fan may require specific fasteners or anchoring systems not discussed in this installation guide. Installation should be done by a licensed roofing contractor.

## GENERAL SAFETY INFORMATION

1. **READ INSTRUCTIONS** - All safety and operation instructions must be read.
2. **RETAIN INSTRUCTIONS** - The safety and operating instructions should be kept for future reference.
3. **HEED WARNINGS** - All warnings should be followed.
4. **FOLLOW INSTRUCTIONS** - All installation and operating instructions should be followed.
5. **WATER** - The QuietCool system should not be used near water. If you live in a very humid climate, be sure to cover your damper box with insulation to reduce condensation.
6. **HEAT** - The QuietCool system should be situated away from heat sources.
7. **DAMAGE REQUIRING SERVICE** - Only qualified service personnel should service the QuietCool system. The user should not attempt to service the product.
8. **SAFETY PRECAUTIONS** -
  - + Do not install the fan in wet or windy conditions
  - + Tie-off both yourself and your equipment when working on steep pitched roofs to avoid falls
  - + Wear safety glasses and protective gloves when using power tools
  - + Always wear slip-resistant shoes when working on the roof
  - + Do not cut through any rafters or structural members of the roof during installation

## TOOLS/MATERIALS YOU WILL NEED

- + Cordless Drill with Nut Driver
- + Roofing Nails
- + Reciprocating Saw
- + Measuring Tape
- + Weatherproof Roofing Grade Sealant
- + Roofing Knife
- + Ladder Marker or Carpenter Pencil
- + Secondary Flashing Material (for tile roof)

## CHOOSING THE RIGHT LOCATION

Choose a location to install your QuietCool roof mounted fan that allows for balanced airflow throughout the attic space. We always recommend the fan to be installed centrally located on the roof **three feet below the ridge line**. This will allow you to access the fan very easily. Your roof mount fan should not be installed any closer than **within 5 feet to an existing passive vent, ridge vent, or additional fan unit**.

## ROOF PITCH REQUIREMENTS (MAX ROOF PITCH 8/12)

For roofs with less than a 3/12 roof pitch, the fan should be curb mounted

**IMPORTANT:** Do not cut through any rafters or structural members while cutting the fan hole. Only cut out the roof decking.

## 2. INSTALLATION

### 2.1 INSTALLING AFR

Installation Video:

Watch the video by scanning the QR code or visit [www.QuietCoolSystems.com/support](http://www.QuietCoolSystems.com/support)



1. Determine in which area you would like to install your QuietCool AFR.
2. From inside the attic, find the center point between the two roof rafters and mark it as the center of the fan hole. Partially insert a screw into the center point mark.

**ⓘ NOTE: If you have a tile roof, you will need to move the tiles out of the way before tracing and cutting.**

3. Go to the roof. Using the screw as a reference point and the provided template, trace out the 22" diameter circle.
4. Use a reciprocating saw to cut out the traced hole pattern from the roof decking. Remove the cut out decking material from around the hole as needed.

**If installing on a tile roof, continue to step 5. If installing on a shingle roof, skip to step 11.**

5. Apply weatherproof barrier to the roof.
6. Position the fan so that it is centered with the vent hole.
7. Lifting the fan unit up at an angle, apply weatherproof sealant to the bottom side of the fan unit. This will help keep the fan in place and will seal nice and tight.
8. Using a minimum of 8 roofing nails, nail the fan to the roof through the primary flashing. To prevent leaking, be sure to apply weatherproof sealant on the nail heads. Once complete, apply more weatherproof barrier to the top of the flashing.
9. Using sheets of aluminum, construct a secondary flashing out of two pieces of material by cutting out a semi-circle shape on either side while flaring up the edges that will stick up above the tile, creating a "bib" that will go around the fan. Once constructed, install the flashing material on top of the primary flashing and attach using weatherproof sealant.

Figure 2.1A



Figure 2.1B



Figure 2.1C

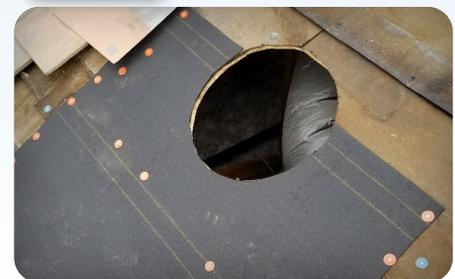


Figure 2.1D



Figure 2.1E



Figure 2.1F



Figure 2.3G



Figure 2.3H



Figure 2.3I



10. Apply weatherproof sealant all around the fan housing and secondary flashing, closing the gap between the flashing, the fan unit, and the tile. Using an angle grinder, cut the removed tiles as needed. Re-install the tile around the fan unit.

11. Re-install the hood onto the fan unit.

### Shingle Roofs:

12. If you have a shingle roof, insert the reciprocating saw sideways between the shingles and roof decking. Starting at the 3 o'clock position of the vent hole, begin cutting in a sweeping motion under the shingles, cutting through any roofing nails or staples. Continue cutting counter-clockwise around the vent hole until reaching the 9 o'clock position. Using a roofing knife, cut a 4 inch horizontal slit in the shingles at the 9 o'clock and 3 o'clock positions of the hole, allowing the fan's flashing to slide underneath the shingles.

13. Slide the fan unit underneath the shingles until the fan reaches the top of the hole. (See Figure 2.3G)

14. Lifting the fan unit up at an angle, apply weatherproof sealant to the bottom side of the fan unit. This will help keep the fan in place and create a tight seal. (See Figure 2.3H)

15. Secure the fan flashing to the roof using a minimum of 8 roofing nails. Finish applying weatherproof sealant around the fan and nails and secure the shingles by re-nailing them into the roof. (See Figure 2.3I)

16. Re-install the hood onto the fan unit.

## 3. WIRING

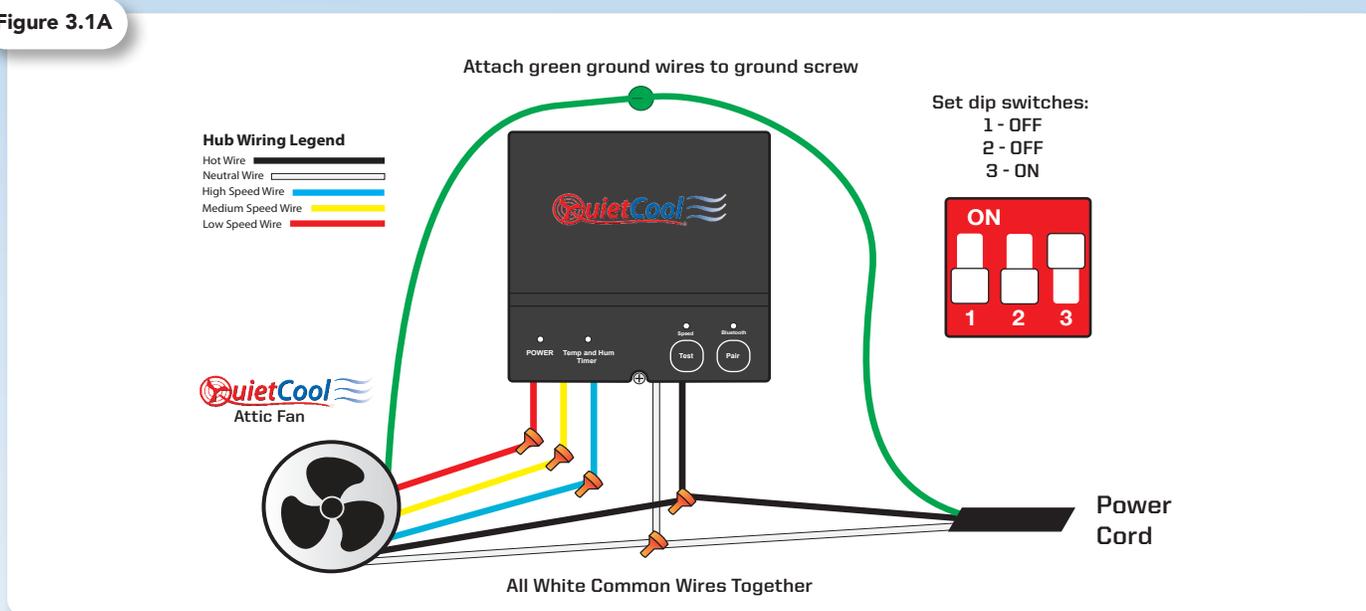
**ⓘ IMPORTANT:** Wiring Diagrams are for examples ONLY. Wiring should be done by a licensed electrician following local building and electrical codes and/or NEC guidelines.

**ⓘ NOTE:** Your fan came with the Smart Control Hub pre-wired to a power cord for testing purposes before installation. If you would like to hard-wire the fan, or it is required by your local building codes, please follow the wiring instructions below.

### 3.1 THREE SPEED WIRING - (AFR SMT ES-2.0)

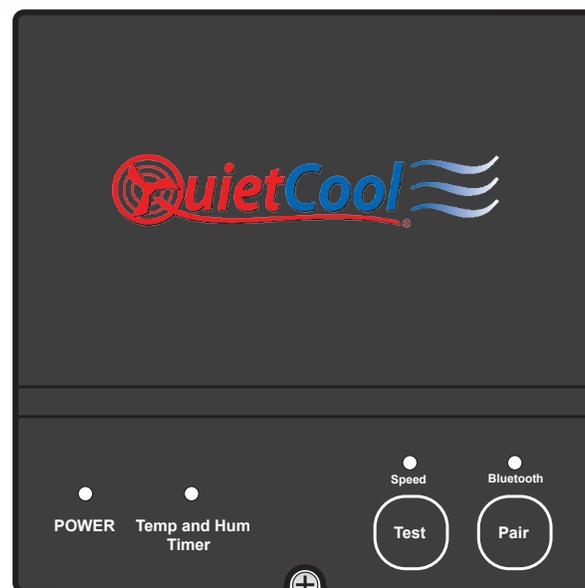
1. Using a wire nut, connect the black wire from the power cord and the black wire from the fan to the black wire from the Hub.
2. Connect the white wire from the power cord and the white wire on the fan to the white wire from the Hub.
3. Connect the red wire from the fan to the red wire on the Hub
4. Connect the yellow wire from the fan to the yellow wire on the Hub
5. Connect the blue wire from the fan to the blue wire on the Hub
6. Ground the green wire from the fan and the green wire from the power cord to the ground screw in the Hub.
7. Set the dip switch positions inside the Hub as shown in Figure 3.1A.
8. Power-on the Hub. The Power LED indicator will be lit.
9. Press the Test button to make sure the fan works. The Test LED indicator will blink three times every two seconds indicating 3-speed and the fan will be on high. Press the Test button again and the fan will switch to medium speed and the LED will blink twice every two seconds. Press the Test button again and the fan will switch to low speed and the LED will blink once every two seconds. Press the Test button again and the fan should shut off and the LED will be off.
10. If the fan doesn't operate as described in step 9, please check the dip switch position/wiring.

Figure 3.1A



### 3.2 SMART CONTROL HUB - LED INDICATORS

- **POWER Indicator**
  - The Power LED indicator will always be lit when the Hub is connected to Power.
    - If this LED is not lit, check the power source.
- **Temp and Hum | Timer Indicator**
  - This LED indicator will light up as shown below:
    - Blinking: Timer Mode Active
    - Solid: Smart Mode Active
- **Test Indicator**
  - The Test LED indicator will light up as shown below when the Test button is pressed:
    - Two Speed Fan: blink three times every 2 seconds on HIGH, blink once every 2 seconds on LOW
    - Three Speed Fan: blink three times every 2 seconds on HIGH, blink twice every 2 seconds on MED, blink once every 2 seconds on LOW
- **Pair Indicator**
  - The Pair LED indicator will blink when making pair operations. Please see **SETTING UP YOUR FAN on page 12** for details on pairing.
  - The indicator will be lit up solid when a device is connected via Bluetooth.
  - The indicator will not be lit when no pairing operations are being made or no device is connected.



## 4. SYSTEM OPERATING INSTRUCTIONS



### 4.1 DOWNLOADING THE QUIETCOOL SMART CONTROL APP

Download the QuietCool Smart Control App onto your iOS or Android device.



Scan the QR code above or visit [QuietCoolSystems.com/smart-control/](https://QuietCoolSystems.com/smart-control/) and click the link to download the app to your device.



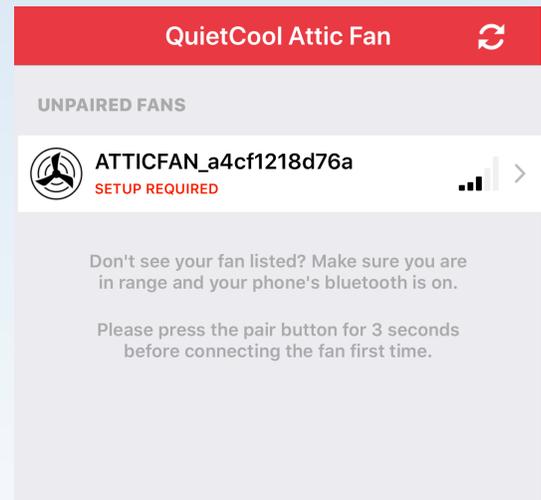
### 4.2 OPERATING THE QUIETCOOL SMART CONTROL APP

#### HOME PAGE

This is the home page of the app and is presented as soon as the app is opened.

If you have not yet paired your phone to your Hub, it will state **SETUP REQUIRED**.

If you have paired your phone to your Hub, it will show a picture of the fan as well as the name of your fan.

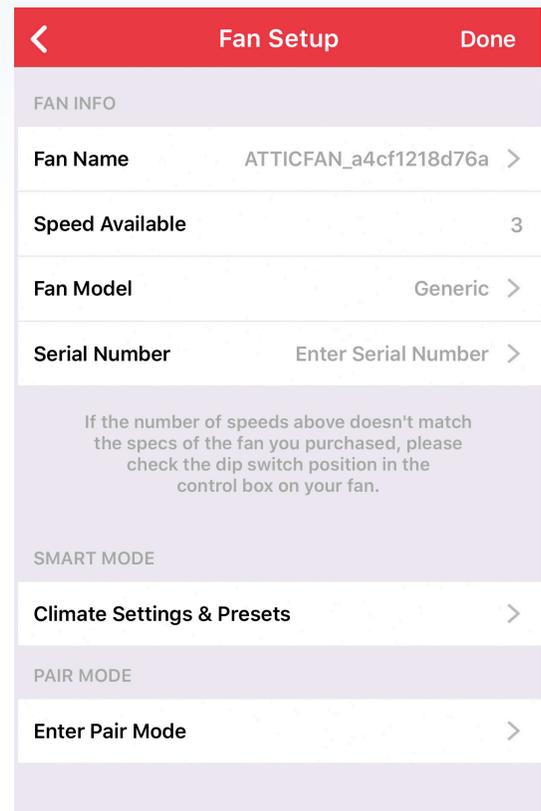


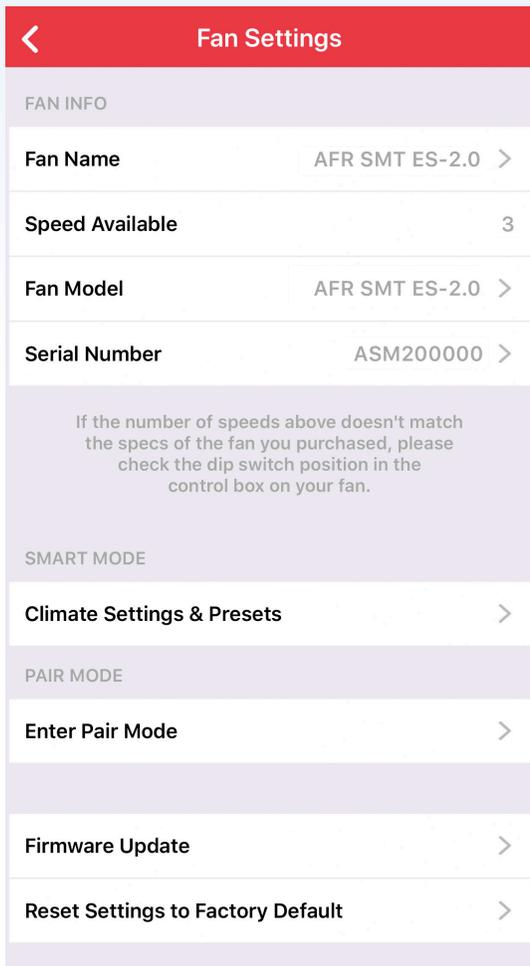
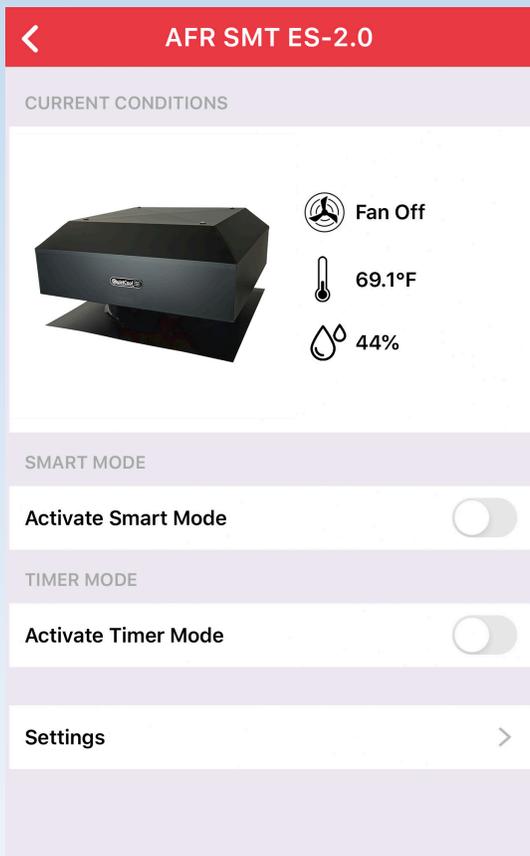
#### FAN SETUP PAGE

This page is used to setup the fan for the first time.

You can quickly change the Fan Name, check if the speeds are set properly, change the Fan Model, enter the Serial Number and adjust the Climate Settings & Presets.

These settings can be accessed again after setup is done by clicking the Settings button on the Fan Control Page.





## FAN CONTROL PAGE

This page is accessed when you tap on your fan from the Home Page.

On this page you can see the current conditions in your attic, activate the different modes of the fan, and get to the Fan Settings page.

## FAN SETTINGS PAGE

This page is used to adjust the settings of the fan.

You can quickly change the Fan Name, check if the speeds are set properly, change the Fan Model, enter the Serial Number and adjust the Climate Settings & Presets.

You can also enter Pair Mode for remote pairing of devices, perform a Firmware Update, as well as reset all settings to factory defaults.

## SETTING UP YOUR FAN

Once your attic fan has power, open up the QuietCool Smart Control app. You will be taken to the Home Page. You should see your attic fan show up in the list of available fans.

A message indicates that setup is required. Press and hold the Pair button on the Hub until the LED indicator begins to blink.

**ⓘ NOTE:** You will need to initiate this Pairing process on each device you want to use to control your attic fan. Once the initial device is paired, you can use the "Enter Pair Mode" function from the app described on page 16. This will prevent you from having to access the Hub physically in the attic in order to perform pairing operations.

Tap on the fan to start the setup process. Once you tap on the fan, you will be taken to the Fan Setup page.

On this page, you will be able to change the following settings:

- Fan Name
- Fan Model
- Serial Number

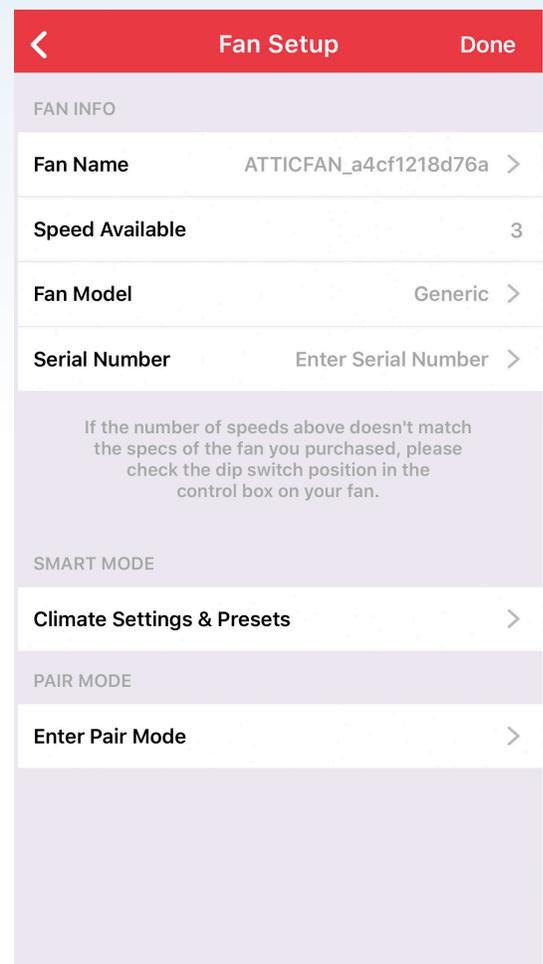
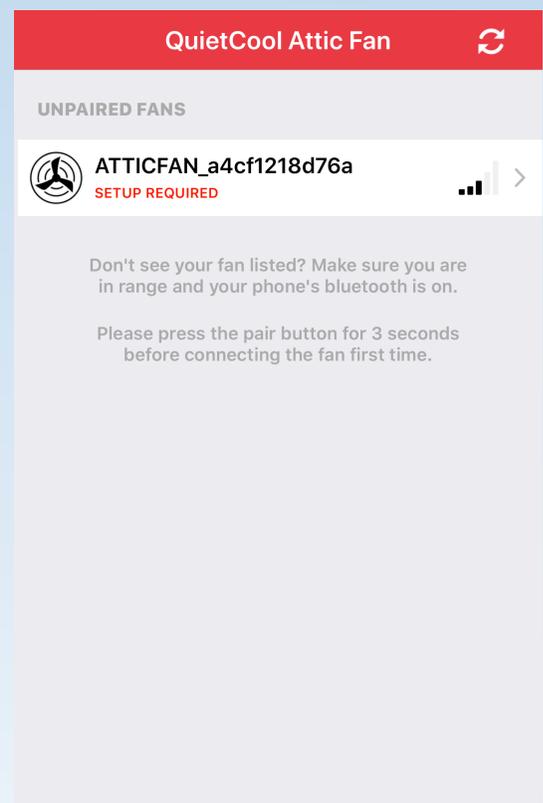
The Speeds Available section will tell you if you have connected the fan and set your dip switch properly.

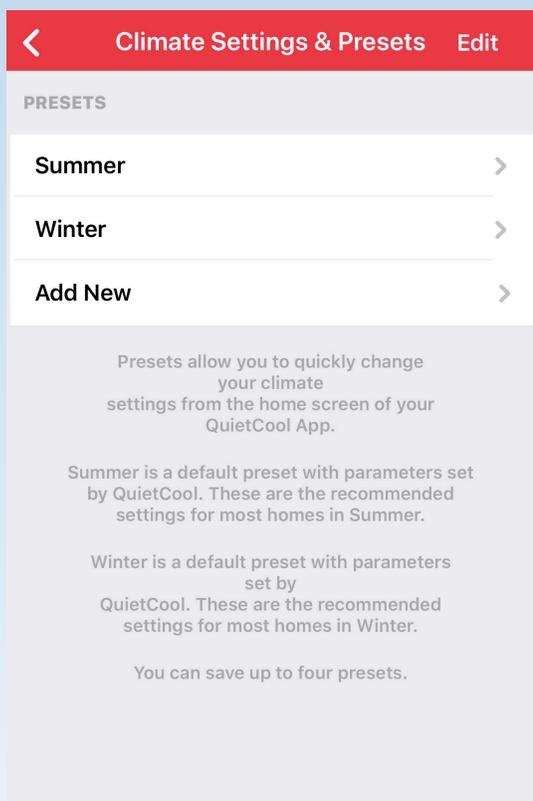
Make sure that this number matches the specification of the fan you purchased.

We are setting up an AFR SMT ES-2.0 which is a 3-speed fan.

The QuietCool Smart Attic Fan Control has an innovative Smart mode that allows the fan to adjust the speed based on the temperature and humidity conditions in your attic. Tap Climate Settings & Presets to adjust these settings.

Within this mode there are two standard presets, Summer and Winter. You can modify these presets and add your own custom presets to allow quick setting changes on the fly.





## TEMPERATURE

- The settings you choose in this section will change what temperature the fan will come on at each set speed.
- Tap on any speed to adjust the temperature for each speed.

## HUMIDITY

- **Turn Fan Off:** This is the humidity percentage that will cause the fan to turn off. For example, the factory setting is set at 90%, meaning the fan will turn off if the humidity in the attic is 90% or higher. Tap this setting if you would like to adjust the percentage. If you do not want this feature, you can select OFF at the top of the list.
- **Turn Fan On:** This is the humidity percentage that will cause the fan to turn on, regardless if the temperature settings are not met. For example, the factory setting is set at 70%, meaning the fan will turn on if the humidity in the attic is higher than 70%, even if the temperature in the attic is below the temperature settings in the app. If you do not want this feature, you can select OFF at the top of the list.
- **Desired Speed:** This is the speed the fan will use if the humidity causes the fan to turn on.

These settings will be saved into the memory of the Hub meaning all settings will sync between any additional devices you pair to the Hub.

Click Done to complete Fan Setup. You can always access these settings again from the Settings option on the Fan Control Page.

## FAN CONTROL PAGE

On the Fan Control page, you will see the current fan status, the current attic temperature, as well as the current attic humidity level.

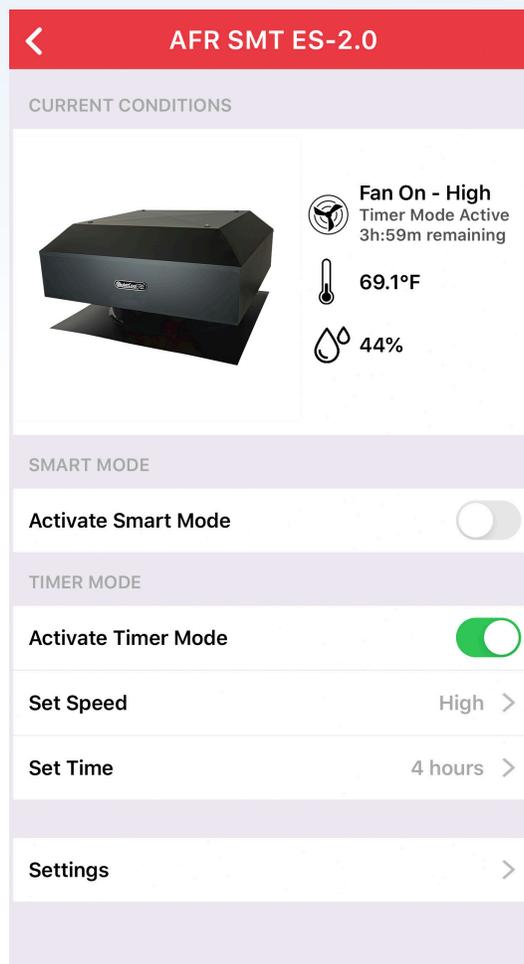
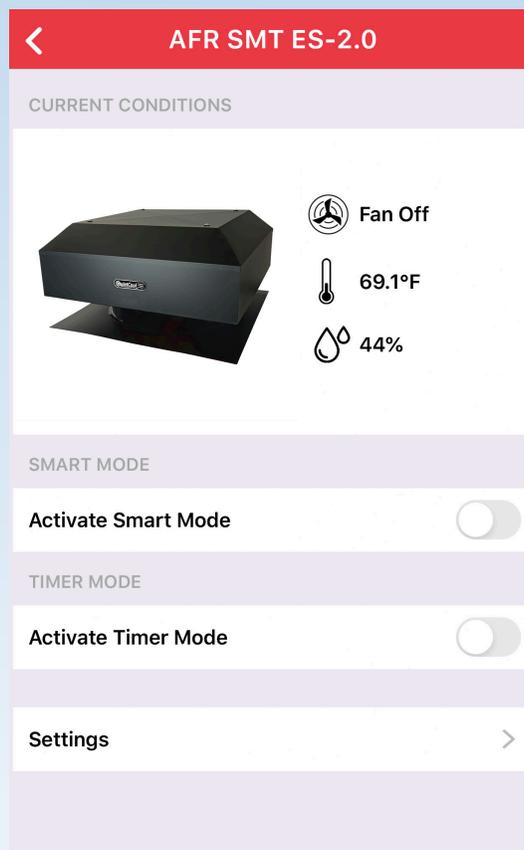
You also have the option to Activate Smart Mode or Activate Timer Mode. You can also go into the Fan Settings page and adjust the settings that you setup in the first step.

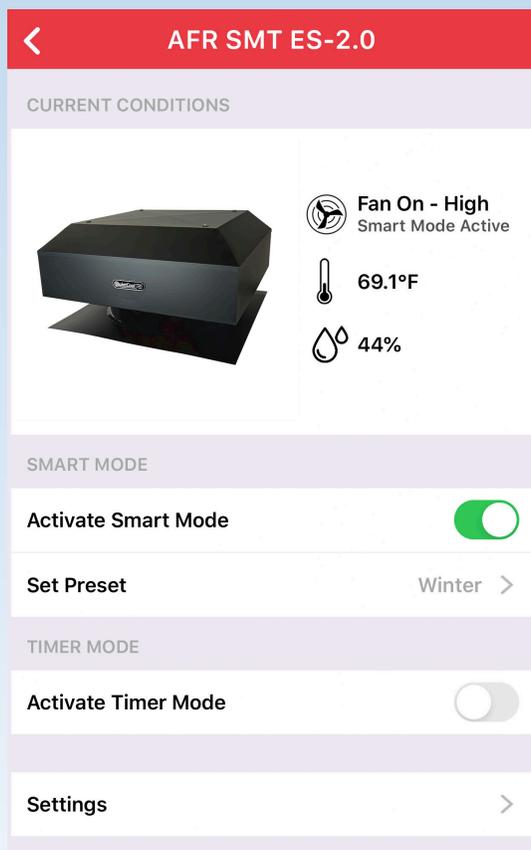
## TIMER MODE

Timer Mode is a simple way to turn your attic fan on for a set amount of time at a set speed.

To activate Timer Mode, simply tap Activate Timer Mode. Once activated, you can select your speed by tapping Set Speed. You can also select your runtime by tapping Set Time.

When Timer Mode is active, you will see your remaining time left on the timer at the top of the screen.





## SMART MODE

Smart Mode will automatically change the speed based on the attic temperature and humidity.

To activate Smart Mode, simply tap Activate Smart Mode.

In Smart Mode, the first parameter that is checked is the Turn Fan Off humidity level. Regardless of the temperature in the attic, if the Humidity level in the attic is above the Turn Fan Off humidity setting, the fan will not turn on, or if it is already running, the fan will shut off.

If the humidity in the attic is below the Turn Fan Off humidity setting, the second parameter that is checked is the Attic Temperature. If the temperature inside the attic is within the set parameters in the app, the fan will turn on at the appropriate speed.

If the temperature in the attic is below any of the temperature parameters, the last parameter that is checked is the Turn Fan On humidity level. If the humidity level in the attic is above the Turn Fan On humidity parameter but below the Turn Fan Off humidity parameter, the fan will turn on at the Desired Speed.

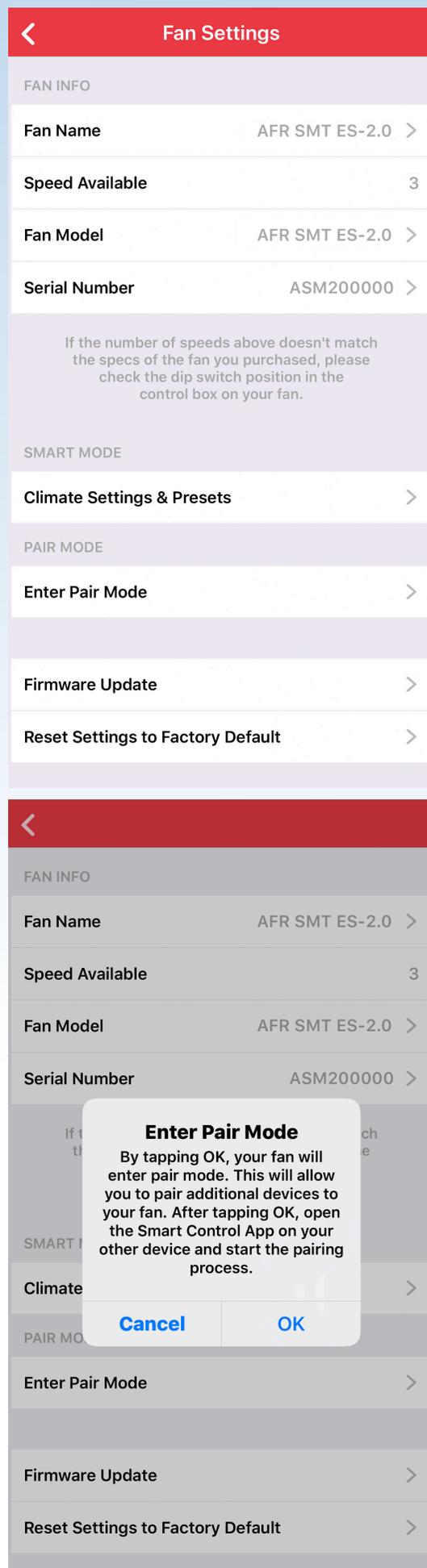
## PAIR MODE

Pair Mode is a feature that was designed to prevent users from having to get into the attic to access the physical Hub in order to pair additional devices.

**NOTE:** In order to use this feature, you must have one device that is already paired to the Fan Hub. If you do not have any devices that are currently paired to the Fan Hub, you will have to press the physical Pair button.

In the Fan Settings page, tap Enter Pair Mode. An alert box will come up on your screen indicating you are about to enter Pair Mode. Tap OK.

Now, on the device you are trying to pair, open up the Smart Control app and tap the fan. You will now be taken to the Fan Setup page and you are now paired.





## FIRMWARE UPDATE

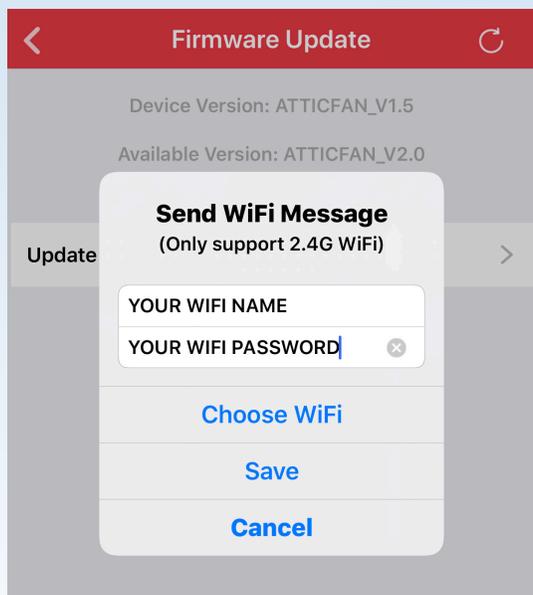
Your attic fan includes a Firmware Update feature in order for us to update your Fan Hub to include bug fixes and additional features in the future.

We recommend checking for a new firmware update a few times per year.

To check for an available firmware update, go into the Fan Settings page and tap Firmware Update.

If there is no update available, an alert will popup indicating there is no available firmware update. At the top of the page you will see your current device version as well as what the available version is.

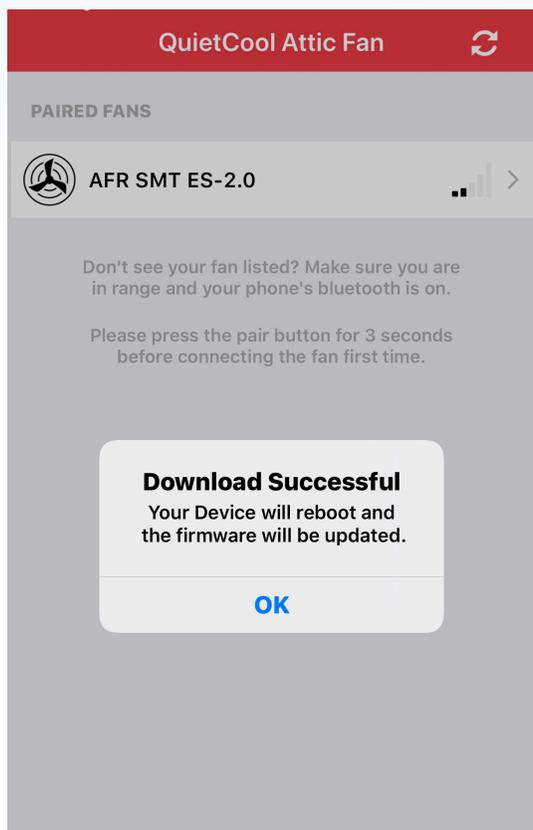
If there is an update available, you will be able to tap the Update button. Once you tap Update, an alert will popup asking you to type in your Wi-Fi details.



You cannot initiate a firmware update while your phone is on cellular so if you are not currently connected to a Wi-Fi network on your phone, tap Choose Wi-Fi. This will take you to your phone settings. Connect to your home Wi-Fi network and go back to the Smart Control app.

Once back in the app, your Wi-Fi network name will be pre-filled. Type in your Wi-Fi password and tap Save. The firmware update will now begin.

Once completed, an alert will popup indicating that the download was successful and your Hub will reboot. Your Hub is now updated.



## 4.3 FREQUENTLY ASKED QUESTIONS

### WHAT PROTOCOL DOES THIS CONTROL USE?

This control operates over Bluetooth to connect to your phone. The control uses Wi-Fi for firmware updates.

### WILL MY NEIGHBOR BE ABLE TO CONTROL MY FAN IF THEY HAVE THE SAME SET UP AS ME?

No. In order to connect to your Smart Attic Fan Control Hub, you must first pair your device by using the Pair button on the Hub.

### WHAT IS THE RANGE?

The range restriction between your phone and the attic fan is 50 ft through average household obstructions.

### WHY ARE ALL MY LIGHTS BLINKING ON THE HUB AND NOTHING IS WORKING?

If you're experiencing blinking lights on all LED indicators on the hub then it is an indication that your DIP switches are not selected, or multiple DIP switches are selected. Disconnect power, adjust your DIP switches, and the only light that should be lit is your RED power light.

### HOW DO I CHANGE THE DIP SWITCH TO THE CORRECT SPEED OF MY FAN?

You will need to disconnect power, make your adjustment inside the hub, and then reconnect power.

### CAN YOU CONNECT THE ATTIC FAN SMART CONTROL TO A SMART HOME SYSTEM LIKE ALEXA, GOOGLE HOME, OR APPLE HOMEKIT?

No, in the current configuration the Smart Attic Fan Control cannot connect to a smart home system. Smart home system control is not necessary as the fan runs on it's own and hardly ever needs manual control.

### WHAT HAPPENS IF I GET A NEW PHONE?

If you get a new phone, you will need to pair your new phone to the Hub. This is very easy to do if you still have your old phone, or have another phone in the home that is currently paired to the Hub. If you have another device that is paired to the Hub, follow the instructions on **page 16 for Pair Mode**. If you do not have any other devices in the home that are paired to the Hub, you will need to press the physical Pair button on the Hub.

## 4.4 SAFETY

This control features an innovative fire safety shut-off that will automatically turn the fan off if it detects a temperature above 182°F in your attic. The purpose of this is to shut off in the event of a house fire to prevent the spread of flames.

## ATTIC FAN LIMITED WARRANTY

QC Manufacturing Inc. extends this warranty to the original purchaser of the following QuietCool Specialty Series Fans - AFG SMT ES-3.0, AFG SMT PRO-3.0, AFG SMT PRO-2.0, and AFR SMT ES-2.0 - installed and used in a residence under normal conditions within the United States:

A. Fifteen year coverage applies to the QuietCool motor fan assembly. At our option we will repair or replace any part of the assembly should it fail to operate during the first fifteen years from the date of original purchase.

B. One year coverage for all other components including grilles, housings, controls and accessories furnished by QC Manufacturing, Inc. At our option we will repair or replace any part which fails as a result of defective material or workmanship during the first year from the original date of purchase.

C. This warranty does not cover any of the following:

1. Accidental or consequential damage resulting from the operation of our equipment or any malfunction thereof.
2. Cost of service calls to diagnose the cause of problems or the labor charge to un-install any components.
3. Product failure or damage due to faulty installation, abuse, misuse, unauthorized alteration to factory specs, lack of maintenance, or transportation damage.
4. Shipping or postage for warranty claims.

D. To obtain service under this warranty, first contact the dealer where you purchased the equipment. If you are unable to find or reach your dealer, contact Customer Service at QC Manufacturing, Inc. at the number below.

E. Registration is no longer required for QuietCool fans. If service is required under this warranty, you must retain your proof of purchase.

This warranty is the only warranty extended by QC Manufacturing, Inc. to purchasers or suppliers of our equipment. QC Manufacturing Inc. disclaims all other warranties, express or implied, that arise by operation of the law. Where consumer may have additional warranty rights in accordance with federal and state law, such rights shall supersede those stated herein.

### QC Manufacturing, Inc. Customer Service

26040 Ynez Rd.  
Temecula, CA 92591  
[www.QuietCoolSystems.com](http://www.QuietCoolSystems.com)  
951-325-6340



MAKERS OF THE QUIETCOOL ADVANCED WHOLE HOUSE FAN

## FAN SERIAL NUMBER INFORMATION

[Empty white box for recording fan serial number information]

**RETAIN FOR YOUR RECORDS.**

SERIAL NUMBER IS REQUIRED FOR WARRANTY PURPOSES.