![AirScape®]

3400, 4300, 5300

WHOLE HOUSE FANS
INSTALLATION & OPERATION MANUAL

Thank you for purchasing an AirScape® whole house fan. Your fan has been designed to provide your home with natural, quiet, and energy-efficient cooling for many years.

Before installing this fan, inspect it and all of its parts for any damage it may have sustained during shipping. **DO NOT INSTALL DAMAGED EQUIPMENT. If you suspect this fan has been damaged during shipping, contact AirScape technical support by phone at 1.866.448.4187, or email at experts@airscapefans.com.**

Whole house fans are installed within a home's attic, which makes them extremely difficult to access once installed. **TEST THIS FAN AND POWERED AIRLOCK™ OUTSIDE OF THE ATTIC BEFORE INSTALLING THEM.** Connect the fan and Powered AirLock to their controls and to a power supply, and ensure they operate properly by turning the fan on, cycling through its speed settings, and turning the fan off. If any difficulties are encountered, contact AirScape technical support at the numbers listed above.

SAFETY INFORMATION

⚠️ **Some of the principles of this product's safe installation and operation are not immediately obvious. Read the following safety information before continuing further:** ⚠️

- Never operate this fan without a window or door opened.

- This fan is meant for general ventilation. **DO NOT USE THIS FAN TO VENTILATE PARTICLE-LADEN AND/OR EXPLOSIVE MIXTURES OF AIR.**

- Do not use this fan for kitchen ventilation.

- NEVER force open the Powered AirLock's doors as this could severely damage its actuators. **ALWAYS use the yellow clutch releases located on the actuators before attempting to manually open or close the doors.**

- **Before installing or servicing this fan, disconnect it from power to reduce the risk of damaging circuit boards, fire, electrical shock, or injury.**

- Install this fan in accordance with this manual and all local codes and standards.

ELECTRICAL REQUIREMENTS

This fan requires a 120 volt uninterrupted electricity supply. We strongly recommend providing a dedicated circuit for this fan.

This fan has a factory-installed, 10 ft. power cord that origniates at the fan-mounted electrical box. Consider this length when choosing a location for this fan. Depending on the location of existing outlets in the attic, the installation of an additional outlet may be required.

All wiring and connections must be made according to this manual and acceptable wiring standards. All local codes must be followed. Consult an electrician if necessary.

⚠️ HANDLING INSTRUCTIONS ⚠️

This fan's aluminum construction is corrosion-resistant and extremely durable. However, this fan should never be handled using any of the aerodynamc brackets that mount the motor within the assembly. These brackets are highlighted in the illustration below. Always handle this fan by either its external casing or the motor itself. You can also handle this fan by its hanging straps, but be careful as their edges are sharp.
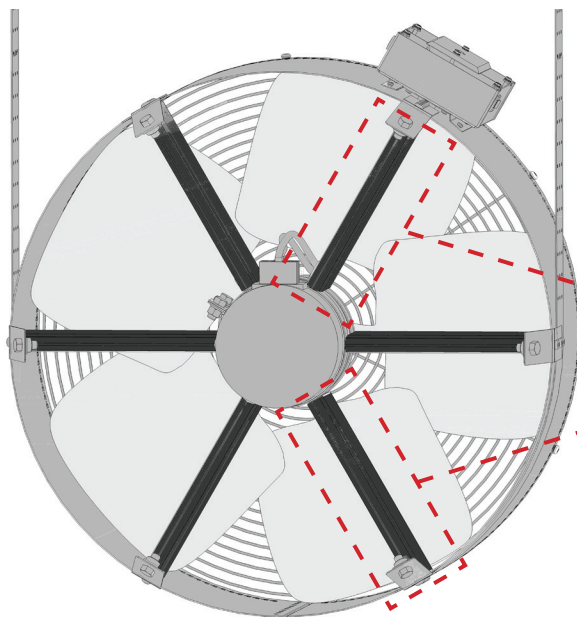
NEVER handle the fan using any of these brackets.

SUPPLIES INCLUDED IN THE BOX

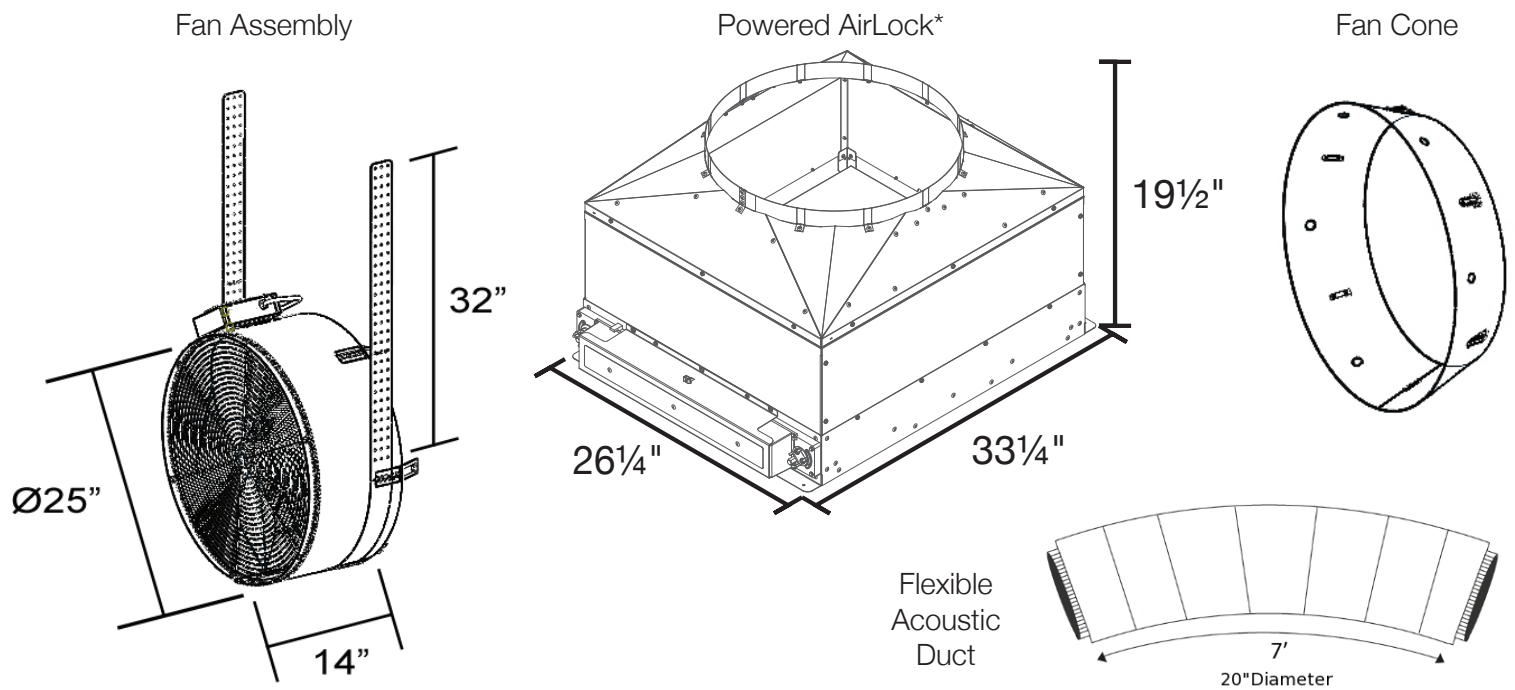Prior to beginning installation, please verify all of the following items were recieved:

- Box 1 of 3: Powered AirLock assembly with assembly kit, including base, sides, transition, square drive bit, 34 assembly screws, and 4 mounting screws; Control package including Digital Touch Controller, mounting bracket, 2 white, flat-head faceplate screws, and 50 ft. red CAT5 cable; White cube-core grille with 8 white wood screws; Installation and Operation Manual, green "Theory of Operation" insert, and blue "Warranty Card."

- Box 2 of 3: Fan.

- Box 3 of 3: 7 ft., 20" diameter flexible acoustic duct; fan cone; 20 ft of aluminum tape; 20 ft. of 1¾" polypropylene webbing; 6 collar screws.

REQUIRED TOOLS & SUPPLIES NOT INCLUDED

In addition to the included items listed above, the following tools and supplies are required to install the fan:

- Lumber matching dimensions of the attic joists (e.g. 2"×6", 2"×8", etc.) and cut to fit according to this manual's INSTALLATION: FRAMING section, as well as any additional supplies needed to frame the fan's rough opening.
- Cordless drill with phillips-head screwdriver and miscellaneous drill bits.
- At least 8 wood screws (1½" min. length) and washers sized to fit.
- Socket wrench with ¼" and 9/16" sockets or standard wrenches in the same sizes.
- Phillips and flat-head manual screwdrivers.
- Drywall Cutter.
- High quality latex caulk.
- If your home's framing is 16" on-center, you will also need a hacksaw or dremel tool to notch the flange of the cube-core grille according to the instructions in the INSTALLATION: FRAMING section.
- OPTIONAL: Foil Duct Tape for sealing Powered Airlock seams.

UNIT PARTS & DIMENSIONS

Fan Assembly

Powered AirLock*

Fan Cone

Ø25"   32"   14"

26¼"   33¼"   19½"

Flexible Acoustic Duct

7'
20"Diameter

*Powered AirLock is shown above as it appears once fully assembled.
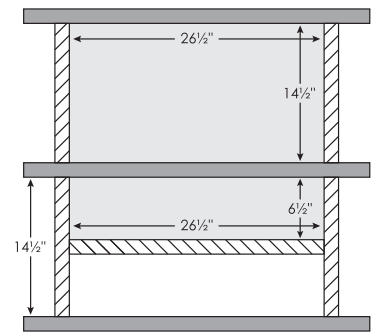
INSTALLATION: FRAMING

Using appropriately sized lumber (e.g. 2" × 6", 2" × 8", etc.) cut to fit, frame in a rough opening from the living space into the attic as shown at right. Cut out the drywall inside of the framing to create the rough opening.

If your home's framing is 16" on-center, a notch will need to be cut in the Grille in order to accomodate the center joist running accross the opening, as shown below. DO NOT CUT THE CENTER JOIST ITSELF.
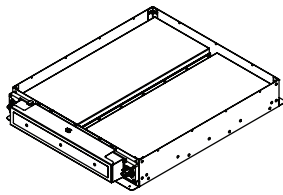
24" On-Center Framing
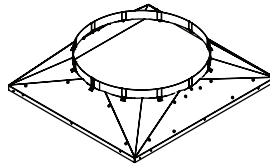

16" On-Center Framing

*USE A DREMEL TOOL OR HACKSAW TO NOTCH GRILLE

GRILLE (SIDE VIEW)
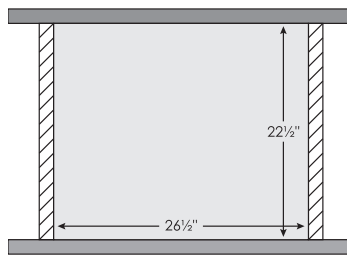
 Existing Framing

 Additional Framing

 Rough Opening

INSTALLATION: POWERED AIRLOCK ASSEMBLY

PARTS

Base (x1)
33¼" × 26¼" × 4¾" (L × W × H)

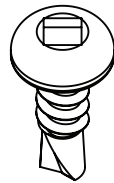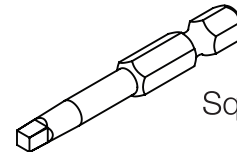**Transition (x1)**
33½" × 26½" × 6½" (L × W × H)
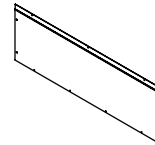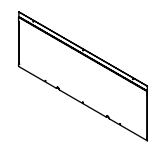
Side (x2)

Side (x2)
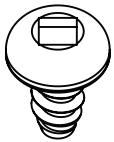
Assembly Screws (x34)

Collar Screws (x6)

Square Drive Bit (x1)
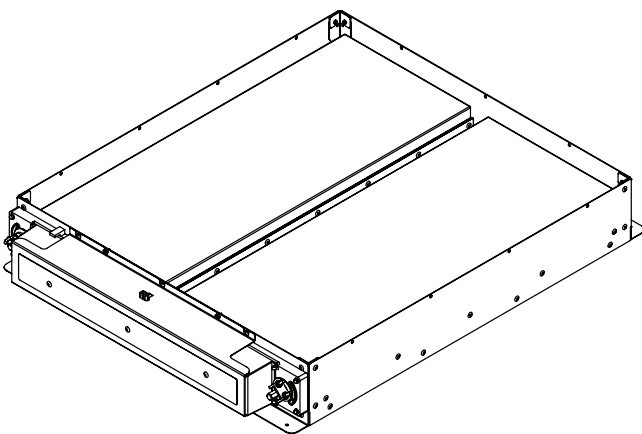
Start by placing the base on a flat surface. Find the square drive bit, it can be used with a cordless drill to assist you in the next steps (hand tools can also be used).

x4
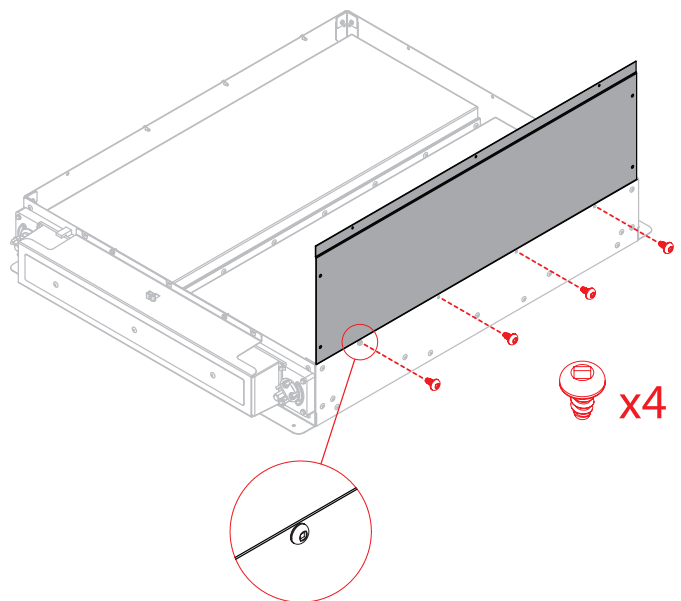
Attach the first of the four sides to the base using 4 assembly screws.

x5
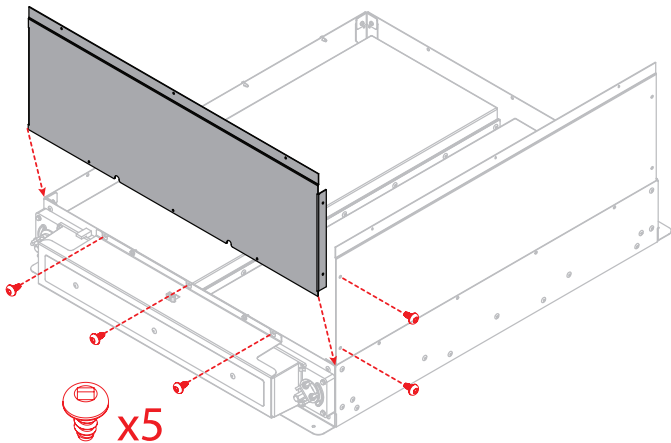
Attach the next side to the base and to the first side using 5 assembly screws.

x13
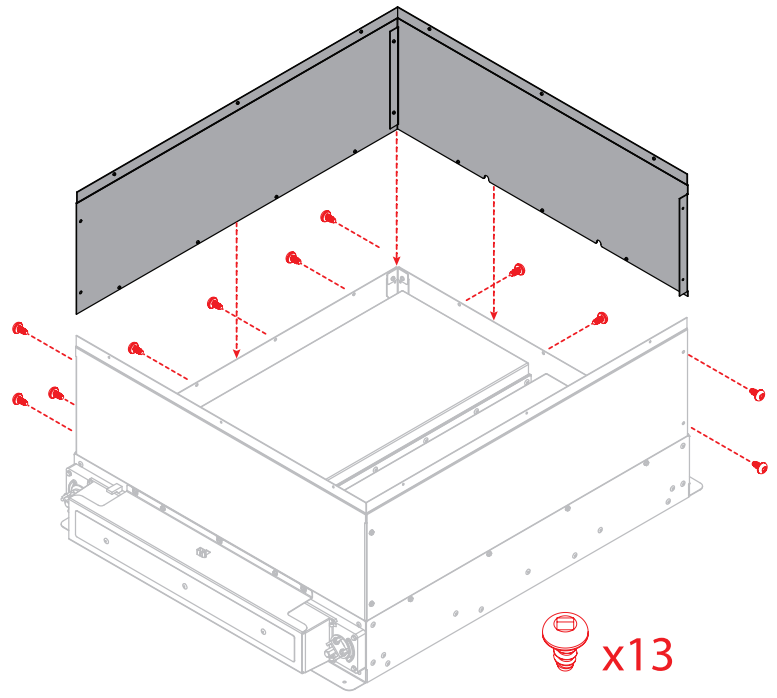
Attach the remaining sides to base and other sides using 13 assembly screws at the base and corners.

x12
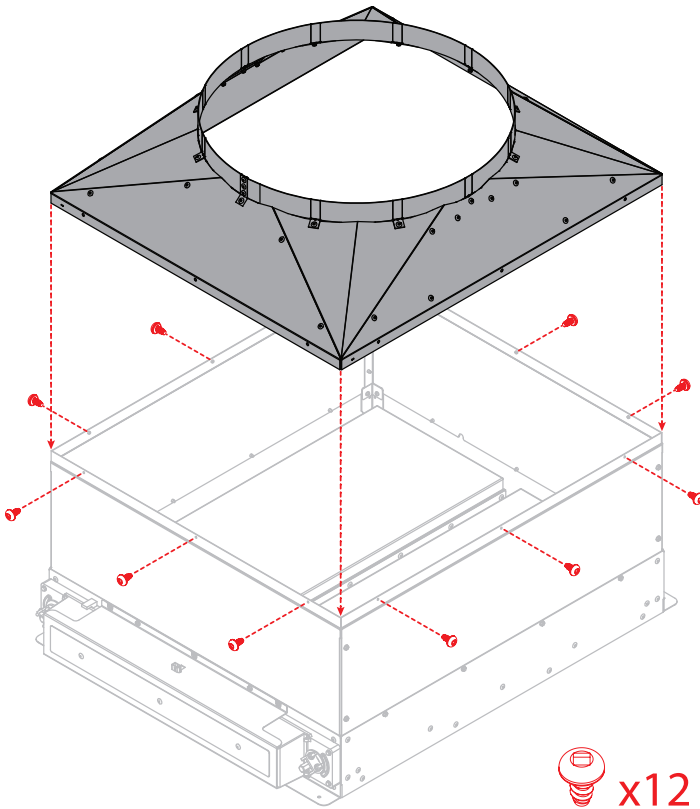
Finish by attaching the transition to the sides using the 12 remaining assembly screws.
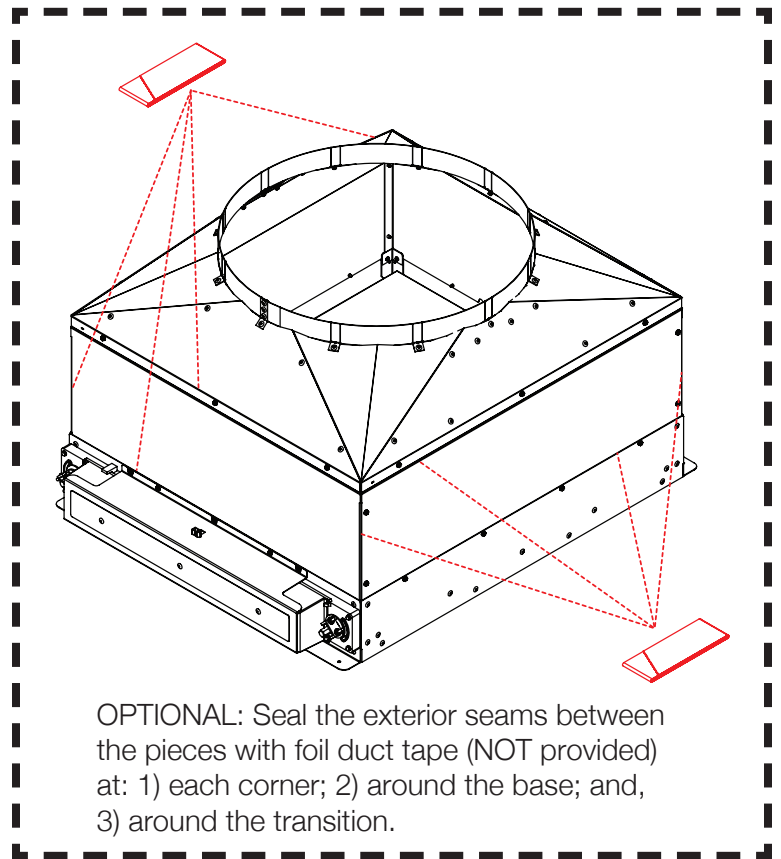
OPTIONAL: Seal the exterior seams between the pieces with foil duct tape (NOT provided) at: 1) each corner; 2) around the base; and, 3) around the transition.

DO NOT OVER-TIGHTEN SCREWS

Connect to fan to power using factory-installed power cord (10 ft).

Suspend fan from rafters using hanging strap. Secure hanging strap to rafters using wood screws (1½" minimum length, NOT provided) through the pilot holes on strap; washers recommended between screw heads and straps. USE BOTH SIDES OF STRAP AND KEEP FAN AS LEVEL AS POSSIBLE.

All wiring connections to and from fan are made at fan-mounted electrical box.

Face of fan must remain unobstructed; 24-INCH MINIMUM CLEARANCE REQUIRED. Route all wiring away from face of fan to prevent entanglement.

Use bolts to fasten fan cone to fan and latches to fasten ductwork to fan cone.

Once the fan, fan cone, ductwork, and Powered AirLock have been successfully connected, seal these seams with the provided aluminum tape.

Mounting Screw

x4

Center Powered AirLock over rough opening and mount it to framing using the 4 provided mounting screws through the pilot holes. From below, use a high-quality latex caulk to seal all wood-to-wood and wood-to-metal seams within the rough opening.
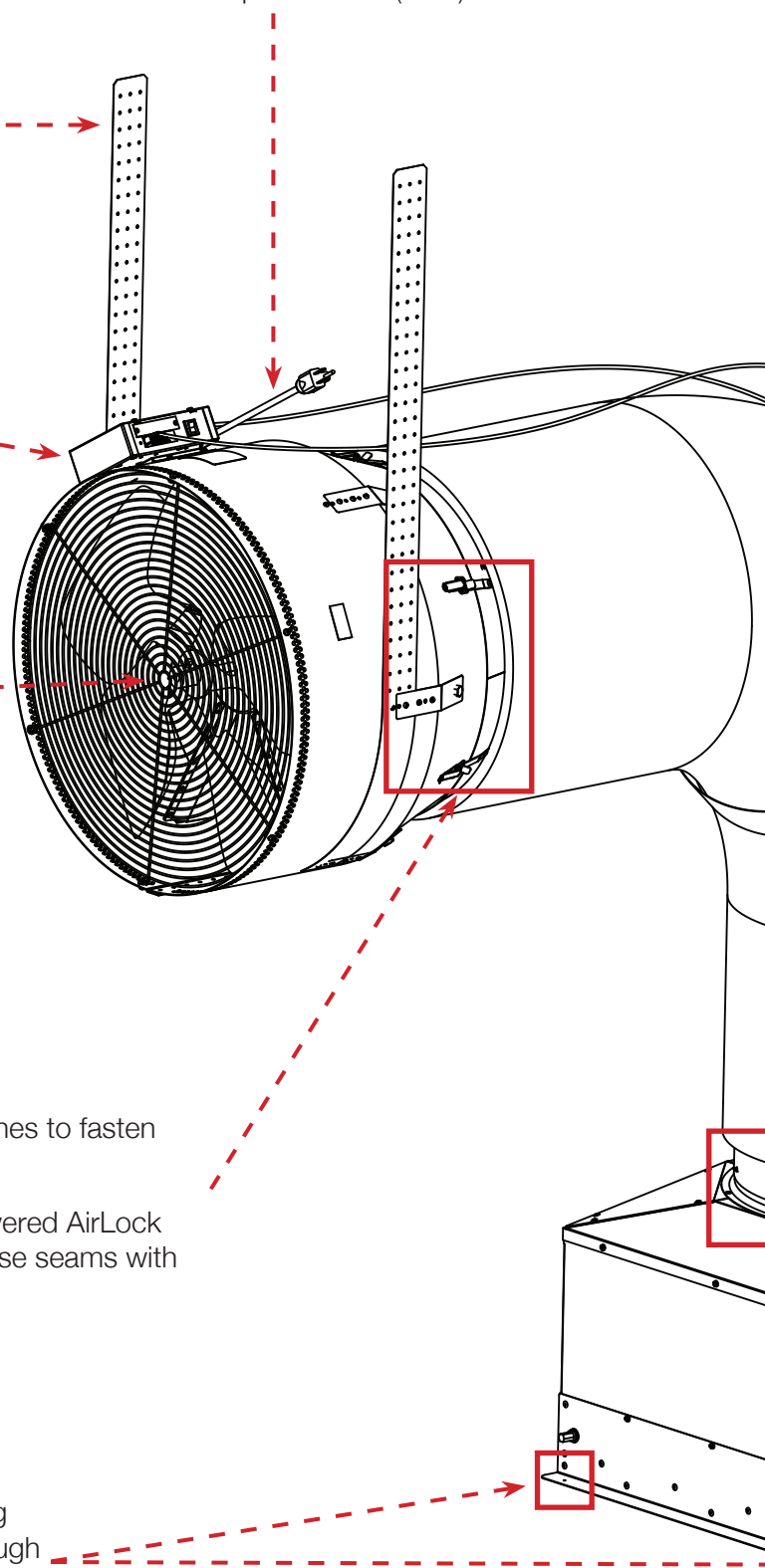
Maintain ductwork's 20" diameter throughout bend, keep the section of duct immediately prior to the fan as straight as possible, and avoid contact with any metal fixture, pipes, or conduits.

Support the ductwork under the bend using the provided polypropylene webbing. To fasten the webbing to the attic joists, fold over the end of the webbing and screw at least two 1½" or longer wood screws (NOT provided) through both layers of webbing and into the joists.

Use red CAT5e cable (50 ft) to connect Digital Touch Controller to fan. NOTE: this cable is low voltage, DO NOT run it parallel to to high-voltage wiring; building codes generally require low-voltage cables to be run through shielded conduit.

Use extreme caution when running this cable, as even minor kinks can interrupt the signal between the fan and controller.

We *strongly* recommend using fish tape or a similar tool to assist you with this wiring.

Connect actuators to fan using factory-installed, grey MOLEX cable originating from the fan-mounted electrical box

Controller must be connected to fan for unit to function, even if it is not ultimately installed in a wall.

Once the fan has been hung and the ductwork attached thereto, slide the collared end of the duct over the collar on the Powered AirLock's transition. Use the provided square drive bit and a cordless drill to fasten the two collars together using the 6 provided collar screws.

Once the fan, fan cone, ductwork, and Powered AirLock have been successfully connected, Finish by sealing this seam with provided aluminum tape.
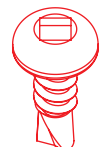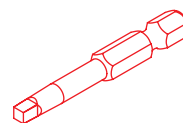
Collar Screw (x6)

⚠ **THIS FAN WILL NOT OPERATE IF NOT CONNECTED TO THE PROVIDED DIGITAL TOUCH CONTROLLER!** If it is not desired to be installed in a wall, the controller can be connected to the fan and kept in the attic with the CAT5 cable kept spooled. **Do not install the Digital Touch Controller in an external, south-facing wall as this may expose its circuitry to excessive heat.** ⚠

The standard control package included with this fan contains 1 wall-mounted Digital Touch Controller; 1 mounting bracket for the controller; and 50 ft. of red CAT5 cable.

All wiring connections to the fan assembly are made at the fan-mounted electrical box. These include: a 10 ft, black, factory-installed power cord; a 9 ft, grey, factory-installed MOLEX cord for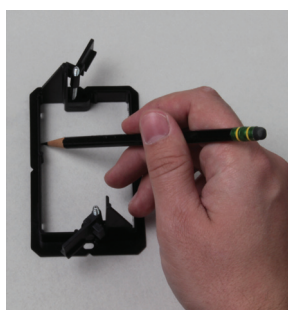 connecting the Powered AirLock's actuators to the fan; and three RJ45 ("ethernet") ports for connecting the fans controls and accessories, labled as follows:
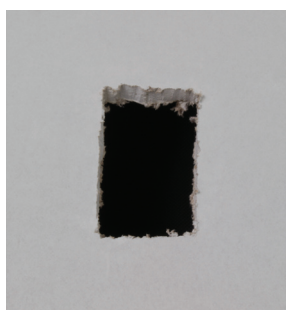

W/S   FAN   RMT

First, locate the desired location for the Digital Touch Controller. Install the mounting bracket according to Figures A–C below.
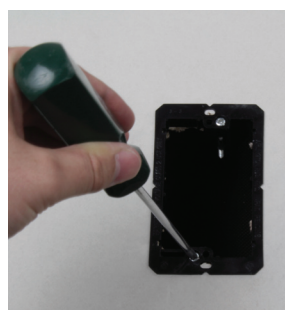
Figure A

Use the mounting bracket as a template to mark the hole location.

Figure B

Cut out the hole.

Figure C

Place the mounting bracket and secure its locking tabs by tightening the silver screws

Figure D

Connect the CAT5 cable. Mount the faceplate to the bracket with the provided white faceplate screws

Return to the attic and connect the red CAT5 cable to the RJ45 port on the fan electrical box labled W/S. Run this cable from the electrical box to the location of the controller. NOTE: this is a low-voltage cable, DO NOT RUN IT PARALLEL TO HIGH-VOLTAGE WIRING; building codes generally require low-voltage cable to be run through shielded conduit.

Connect the CAT5 cable to the RJ45 port on the back of the Digital Touch Controller. Mount the controller's faceplate to the mounting bracket with the provided white faceplate screws, as shown above in Figure D.

Next, connect the MOLEX cord from the fan-mounted electical box to the MOLEX cord from the Powered AirLock's actuators. Finish by plugging the power cord into an outlet with uninterrupted 120-volt power.

INSTALLATION: GRILLE

The cube-core grille is installed from within the living space after the fan, duct, and Powered AirLock have been installed in their final location within the attic. From beneath the rough opening, first, use a high-quality latex caulk to seal all wood-to-wood and wood-to-metal seams within the space formed by the Powered AirLock and framing.

Next, mount the grille to the framing using the eight white wood screws provided. We strongly recommend pre-drilling holes in the framing for these screws; be careful to prevent them from stripping.

Before starting this fan for the first time, verify that:

1. All wiring and connections have been made according to this manual and acceptable wiring standards, and that this manual and all local codes and standards have been followed in this fan's installation;

2. No tools or construction debris have been left in, on, or around the fan;

3. The fan's power cord has been plugged into a 120-volt outlet with uninterupted power; and,

4. The area in front of the fan is as unobstructed as possible, with no object closer than 24" to the face of the fan.

When running this fan for the first time, make sure to observe it turning on, running at each of its speed settings, and turning off from both the attic (to observe the fan itself) and the living space (to observe the Powered AirLock's doors).

As shown below, there are four buttons on your fan's control interface:
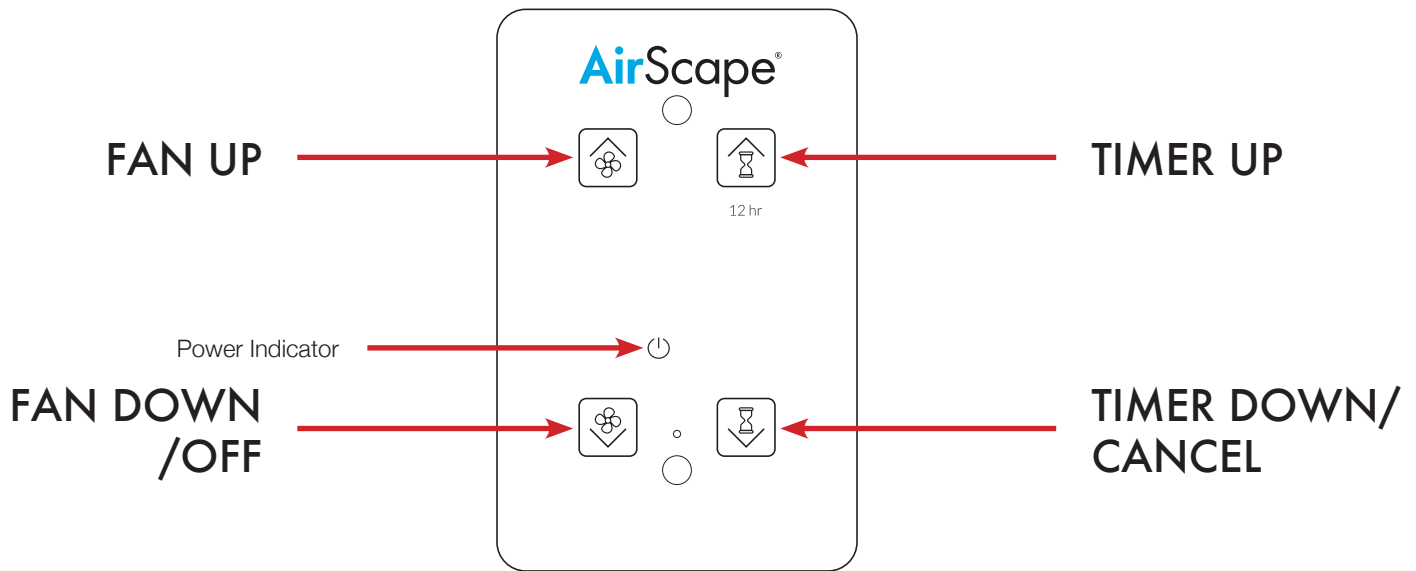
When the Digital Touch Controller is connected to the fan, and the fan to power, a red LED will illuminate beneath the Power Indicator shown above. If the Power Indicator is not illuminated, double-check the connections between the fan and the controller, and between the fan and the power outlet.

Turn on the fan by touching **FAN UP** or **TIMER UP**. The Powered AirLock's doors will open and there will be a 10 second delay before the fan begins to operate. The fan will start at minimum speed. Green LEDs will illuminate to indicate the speed setting. If the fan was turned on by **TIMER UP**, the timer will be set to one hour and blue LEDs will illuminate to indicate the timer setting.

Press or hold **FAN UP** to increase the speed incrementally until reaching the desired or maximum speed. Press or hold **TIMER UP** to increase the time on the timer in one hour increments until the desired time, or the maximum time of 12 hours, is achieved.

If the fan is already operating at minimum speed, touch **FAN DOWN/OFF** to turn off the fan; any time remaing on the timer will be canceled. If the fan is at any higher speed, press or hold **FAN DOWN/OFF** to incrementally decrease the speed until reaching the desired speed or turning the fan off.

Press or hold **TIMER DOWN/CANCEL** to reduce the time on the timer in one hour increments until the desired time is achieved or the timer is canceled. If the timer is canceled, the fan will remain on at its current speed. If the timer expires, the fan will turn off.

Whenever the fan is turned off, the Powered AirLock's doors will close tightly within about 60 seconds.

MAINTENANCE, TROUBLESHOOTING, TECHNICAL SUPPORT

There is no routine maintenance required for this fan other than making sure the fan and Powered AirLock remain clear of dust or debris, and that the area in front of the fan remains as unobstructed as possible, with no object closer than 24" to the face of the fan.

A resettable circuit breaker is located on the fan-mounted electrical box to protect circuit boards from power surges. In the case of a power surge, this breaker can be reset by simply pushing the button back in.

If problems are encountered, please take a few moments to run through the troubleshooting procedures described on the blue Warranty Card. If these suggestions do not work, contact AirScape technical support at 1.866.448.4187 or by email at experts@airscapefans.com for further assistance.

WIRELESS REMOTE (NOT INCLUDED)

A wireless remote is an available accessory for this fan. It is not included as part of this fan's standard control package. The yellow manual included with the remote provides specific instructions for this accessory's installation and operartion. Briefly, the steps for installing the remote are as follows:

- Remove the top cover of the remote receiver. Plug the provided blue CAT5 cable into the remote receiver and into the blue **RMT** port on the fan-mounted electrical box.

- Press and release the black button (labled "LEARN") on the receiver's circuit board to begin the merge sequence; the transmission LED on the receiver will illuminate.

- Press and release any button on the wireless transmitter while the transmission LED on the reciever is illuminated. Unplug the CAT5 cable from the receiver, replace its cover, and then replug the CAT5 cable into the reciever.

2ND GENERATION CONTROLS UPGRADE (NOT INCLUDED)

AirScape's "2nd Generation Control Package" is an available accessory for this fan. It is not included as part of this fan's standard controls. The 2nd Gen. Controls include a webserver that allows you to operate your fan from any smartphone, tablet, or computer with access to your home's local area network ("LAN"). They are also necessary to use AirScape's Temperature Sensor Package ("TSP") and SafeSpeed™ Pressure Interlock accessories.

The manual included with the 2nd Generation Controls provides specific instructions for there installation and operation. If purchased, the 2nd Gen. Controls are connected using the green **FAN** RJ45 port on the fan-mounted electrical box.

SPECIFICATIONS*

Speed Setting:	1	2	3	4	5	6	7	8	9	10
5300										
Airflow (CFM):	1367	2229	2849	3319	3873	4176	4649	4937	5231	5350
Power (watts):	34	85	152	233	330	435	560	690	807	825
Efficiency (watts/CFM):	40.2	26.2	18.7	14.2	11.7	9.6	8.3	7.2	6.5	6.5
Noise (dBA):	36	39	41	47	51	52	55	57	60	61
4300										
Airflow (CFM):	765	1568	2105	2544	2918	3267	3567	3847	4099	4324
Power (watts):	18	43	75	117	167	224	288	360	438	515
Efficiency (watts/CFM):	42.5	36.5	28.1	21.7	17.5	14.6	12.4	10.7	9.4	8.4
Noise (dBA):	36	37	40	43	46	49	51	53	55	56
3400										
Airflow (CFM):	723	1352	1775	2082	2415	2671	2896	3105	3282	3440
Power (watts):	17	33	55	80	110	142	179	217	259	298
Efficiency (watts/CFM):	42.5	41.0	32.3	26.0	22.0	18.8	16.2	14.3	12.7	11.5
Noise (dBA):	36	37	39	40	42	47	48	49	50	52

Rough Opening Dimensions:	22.5" x 26.5"
Grille Outer Dimensions:	24.5" x 28.5"
Grille Build:	Cube Core, Aluminum, White Powder Coat
Powered AirLock Dimensions:	33¼" x 26¼" x 19½" (L x W x H)
Duct Length:	7 ft.
Duct Diameter:	20"
Electrical:	120VAC, 60 Hz, 15 amps
Insulation:	R-49
Controls:	Low Voltage; Hardwired Wall Switch, Optional Wireless Remote
Installation:	Installs easily on 24" or 16" O/C framing
Warranty:	3 years

Actual performance will vary from installation to installation. Due to our continual product improvement efforts, performance ratings and specifications are subject to change without notice.

INSTALLATION NOTES