



AirCycler® FRV

Installation & User's Guide

VENTILATION MADE BREEZY!™
a breeze to install • a breeze to use

INTRODUCTION

The AirCycler® is a digital programmable furnace fan timer. By operating the furnace fan periodically, the AirCycler® improves indoor air quality and thermal comfort by circulating and filtering indoor air. The AirCycler® enables the furnace fan to operate more consistently and efficiently with programmable ON and OFF times.

BENEFITS

- Mixes and circulates indoor air
- Eliminates stagnant air
- Creates even temperature and humidity levels
- Filters indoor air consistently provides an economical alternative to continuously running the furnace fan

APPLICATIONS

Digital Programmable Furnace Fan timer

The AirCycler® automatically turns on the furnace fan for a set period of time only when it detects the system has been inactive for a set period of time.

VENTILATION

By adding a fresh air source to the return side of the air handler, the existing HVAC system can be used to provide ventilation. The AirCycler® enables this ventilation system to work properly.

The AirCycler® FRV adds an output to operate a motorized outside damper that limits excessive ventilation.

**Motorized Damper sold separately - see AirCycler® VS (ACVS-06) for more information.*

IMPORTANT

If the AirCycler® was installed in your home as a ventilation controller, DO NOT DISABLE IT.

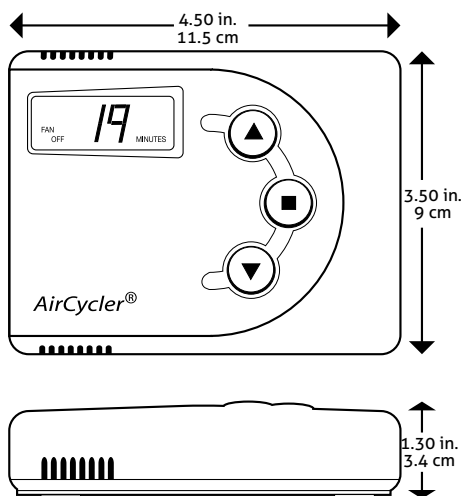


Figure 2

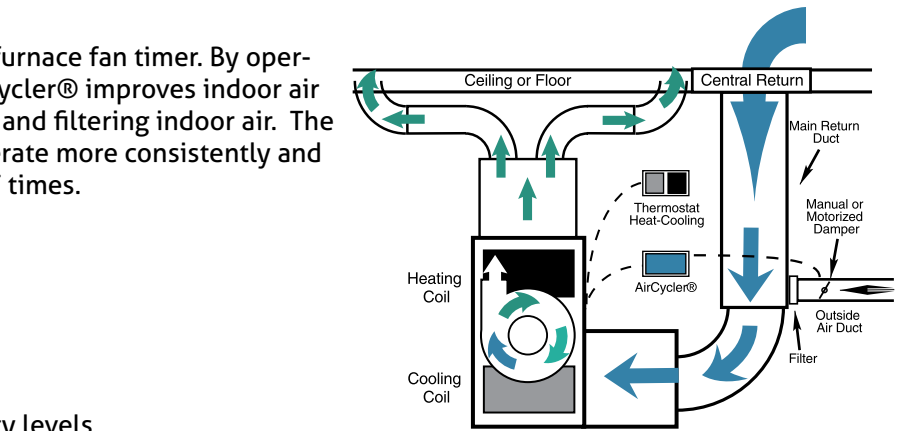


Figure 1

In the past, homes depended on natural leaks for ventilation. Today's energy efficient homes are built so that natural ventilation and leaks are reduced. Inadequate ventilation can raise indoor air pollutants to harmful levels. Indoor air is typically 5- to 10- times more polluted than outside air. Controlled ventilation provides optimal air flow to the home without compromising energy efficiency.

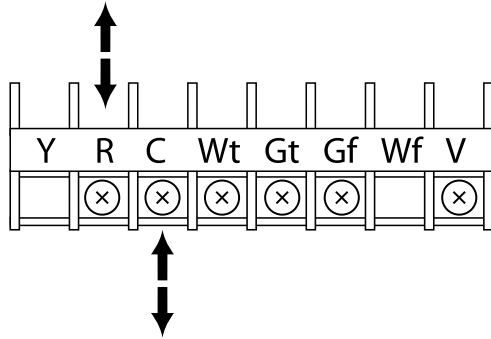
SAFETY CONSIDERATIONS

Read and follow manufacturer's instructions carefully. Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes. Improper wiring or installation may result in personal injury or product and property damage.

INSTALLATION CONSIDERATIONS

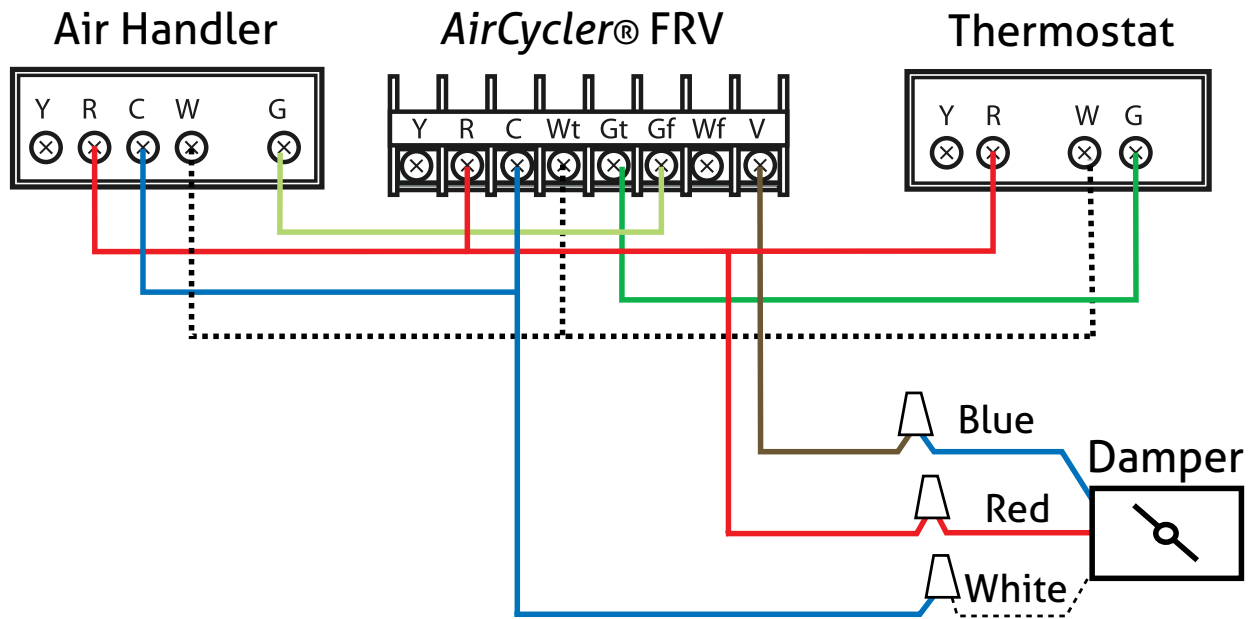
The AirCycler® model does not require batteries. It does require 24 VAC (R and C terminals) to be connected for proper operation. The AirCycler will not operate without these two connections.

The wires (R, C, W & Y) from the air handler to the thermostat can run parallel with the wiring from the AirCycler® to the air handler. The fan wire (G) needs to be interrupted by the AirCycler®. Some thermostats do not require a (C) connection. The AirCycler® requires a (C) for power, which must be wired to the furnace.



KEY	
Y - Cooling	Gf - Fan to Furnace
R - 24 VAC Power	C - Common
W - Heating	V - Vent
Gt - Fan to Thermostat	

WIRING DIAGRAM



INSTALLATION INSTRUCTIONS

1.0 CONTROLLER LOCATION

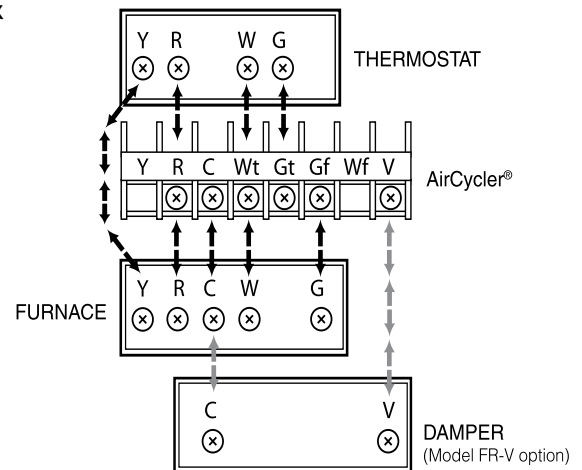
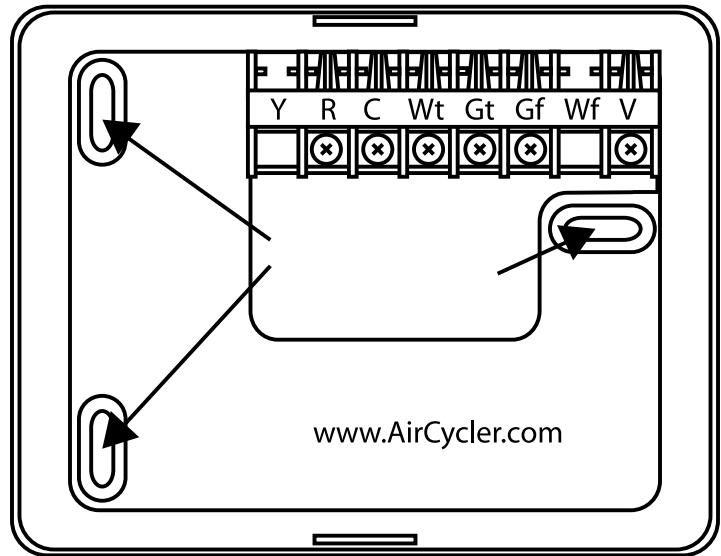
The AirCycler® can be installed anywhere in your home. It can be installed near a thermostat or out of view on/near the air handler unit. The wiring configuration is flexible.

Warning: Before installing the AirCycler®, turn off all power to the furnace. There may be more than one power to disconnect. Electrical shock can cause injury or death.

2.0 INSTALLING THE AIRCYCLER®

1. Remove the AirCycler® cover from wall plate (mounting base) to expose mounting holes. (Figure 3)
2. Route wires through large hole in the mounting base. Mount base against wall and mark wall through 3 mounting holes.
3. Drill 3 - 3/16-in. pilot holes in wall where marked.
4. Secure mounting base to wall with 3 screws (provided), making sure all wires extend through hole in mounting base.
5. Adjust length and routing of each wire to reach proper terminal and connector block on mounting base with 1/4 in. of extra wire. Strip only 1/4 in. of insulation from each wire to prevent adjacent wires from shorting together when connected.
6. Connect wires to proper terminals of the connector block. (Figure 3) Both (R) and (C) must be connected for proper operation.
7. Improper wiring or installation may damage the controller. Check to make sure wiring is correct before proceeding with installation or turning on the unit.
8. Push any excess wire into wall and against mounting base.
9. Snap cover onto base, making sure pins align with sockets in connector.
10. Once powered on, the AirCycler® will automatically enter into operating mode.

Figure 3



3.0 CONFIGURATION

The three keys on the exterior of the AirCycler® are used to configure the AirCycler®. (Figure 5)

The AirCycler® FRV has four settings.

Factory default settings: FAN OFF - 20 minutes; FAN ON - 10 minutes; VENT ON - 10 minutes; VENT OFF - 20 minutes

3.1 CONFIGURE FAN ON TIME

Press the Mode Key once to enter the Menu Mode. FAN ON will flash on the display.

1. Use the Increase or Decrease Keys to change the FAN ON time from 1 - 199 minutes or to select unlimited ON time (UN). UN allows the fan to operate continuously.

3.2 CONFIGURE FAN OFF TIME

1. Press the Mode Key again to set the FAN OFF time. FAN OFF will flash on the display.
2. Use the Increase or Decrease Keys to change the FAN OFF time or to select unlimited OFF time (UN). This will turn off the AirCycler®. This will also keep the AirCycler® off even after power is lost.*

*The AirCycler® retains settings even after power is lost.

NOTE: In humid climates, the FAN OFF time should be at least 6 minutes. This allows moisture on the AC coil to dry preventing condensation in cold supply ducts.

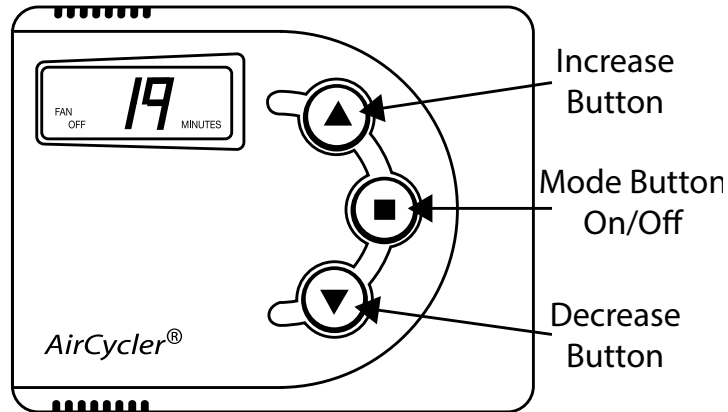


Figure 5

3.3 CONFIGURE VENT ON TIME

1. Press the Mode Key. VENT ON will flash.
2. Use the Increase or Decrease Keys to change the VENT ON time.

3.4 CONFIGURE VENT OFF TIME

1. Press the Mode Key. VENT OFF will flash.
2. Use the Increase or Decrease Keys to change the VENT OFF time.

3.5 SAVE SETTINGS

After configuring the AirCycler®, press the Mode Key again to save settings and to enter into Operating Mode.

4.0 OPERATING MODE

If the thermostat activates heating, cooling, or constant fan operation, the numeric display will read ON. Otherwise, the display will read FAN OFF and will indicate the time remaining until the fan is activated again. Once activated, the display will read FAN ON and the time remaining for FAN ON time.

The model FR-V has additional settings for outside air damper cycling. When the fan turns on, the damper will open and the display will read VENT ON and indicate the time remaining until the damper closes. Once the VENT ON time has expired, the damper will close and the display will read VENT OFF and indicate the time remaining until the damper opens again. This cycle continues for as long as the fan is running. The vent will be closed any time the fan is not running and VENT ON and VENT OFF times will be reset to programmed values.

4.1 POWERING OFF

Warning: It is not recommended to turn off the AirCycler® if the unit is used as a ventilation controller. The AirCycler® can be turned off during extended vacation periods or when the windows are open. It is very important to turn the AirCycler® back on after those periods.

1. In normal Operating Mode: Press and hold the Mode Key for six seconds to turn off the AirCycler®. All thermostat functions will continue to operate normally.
2. To turn the AirCycler® back on, press the Mode Key.

4.2 TESTING

The Test Mode will display fan activity in seconds rather than minutes. To activate Test Mode, follow these steps:

1. Press the Mode Key once and then press it again and hold for six seconds. The display will indicate TEST.
2. Exit Test Mode and return to Operating Mode by turning the AirCycler® off.
3. Hold the Mode Key for six seconds, and then press Mode again to turn on the AirCycler®.

NOTE: As a safeguard, the AirCycler® will automatically exit Test mode after ten minutes.

5.0 TROUBLESHOOTING

Problem: Blank Display on the AirCycler®

Solution Check:

1. Confirm that the furnace has power.
2. Verify that the thermostat is operational.
3. Check that furnace will call for heat from the thermostat.
4. Ensure that fan operates with a fan-only signal from the thermostat
5. Confirm the furnace is providing a 24 VAC signal to the AirCycler®.
6. Verify that wiring conforms to wiring diagram.
7. Make sure top is firmly seated in the base.

Problem: AirCycler® FR-V turns furnace fan on and off, but the motorized damper does not cycle.

Solution Check:

1. Confirm that the AirCycler® is providing a 24 VAC signal to the motorized damper.
2. Verify that 24 VAC motorized damper is operational by powering directly with a 24 VAC signal.
3. Check continuity in the wiring between the damper and the AirCycler®.

Problem: A/C turns on during fan cycling calls

Solution Check:

1. Verify that wiring conforms to wiring diagram.
2. Ensure that the G wire is properly connected.
3. The G wire needs to be interrupted by the AirCycler®.

Do not run the G wire parallel.

Technical Support:

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