



# AirCycler™

## STAT & combo-STAT



### **Applications:**

- ✓ Improves comfort by eliminating stagnant air
- ✓ Improves temperature and humidity control
- ✓ Distributes and mixes air
- ✓ Improves filtration system effectiveness
- ✓ Improves ventilation efficiency with air damper control

## **Advanced Features**

### **Ventilation and Whole-House Mixing**

The AirCycler™ improves indoor air quality and comfort by operating a central fan during periods of thermostat inactivity. Should an outside duct be connected to the air handler return duct, the AirCycler™ allows a selectable minimum amount of ventilation. With a motorized outside air damper, the air flow can be limited to a programmable maximum.

### **Thermostat**

A single-stage-heat-pump-compatible thermostat controls normal heating, cooling, and fan operation.

### **Pump Cycling**

For domestic hot water-based heating systems, during non-heating season, the circulating pump operates automatically to avoid any potential microbial contamination of the system.

### **Priority Control (Combo-STAT)**

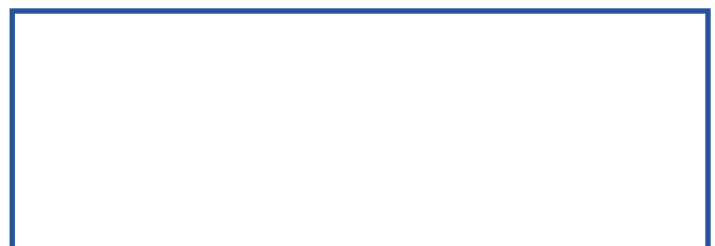
For combination space and domestic hot water heating systems, an external digital temperature sensor gives priority to domestic hot water use during periods of high demand.

### **Pulse Heat**

For domestic hot water based heating systems, periodically activates the hot water pump during winter fan cycling operation, gently warming fresh and recirculated air. (Patent pending)

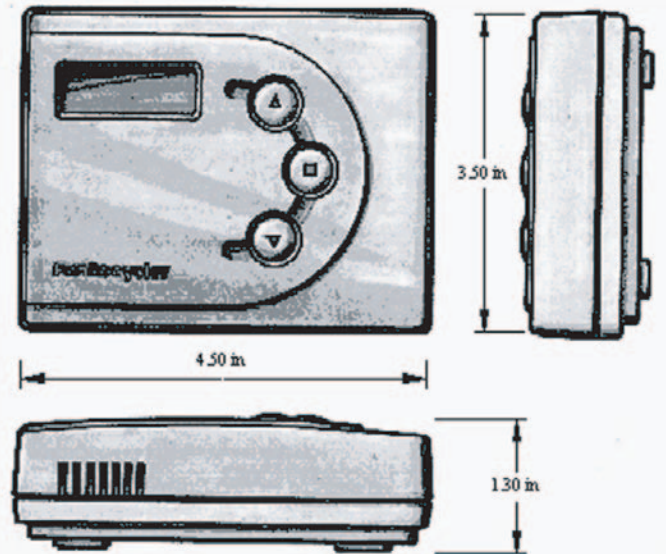
See the extensive application of this system in the U.S. Department of Energy's Building America Program.

[www.eere.energy.gov/buildings/building\\_america/](http://www.eere.energy.gov/buildings/building_america/)



## Specifications

Input Voltage .....	20 to 30 VAC
Current Draw .....	0.07 A
Operating Temperature Range .....	0°C to 50°C
Accuracy .....	±0.5°C
Dead Band .....	Adjustable
Range, Heating .....	10°C (50°F) to 27°C (80°F)
Range, Cooling .....	18°C (65°F) to 30°C (85°F)
Heat Pump .....	Single stage
Material .....	ABS high impact plastic, UL 94V
Color .....	White



## Principles of Operation

### Fan Cycling

The fan cycling control method improves indoor air quality by introducing and distributing ventilation air when the central heating or cooling system is inactive for long periods. Air is drawn through an outside air duct and distributed through the central system. Even without an outside air duct, the *AirCycler*™ can reduce stuffiness and temperature variations by mixing air throughout the house. If the thermostat has not activated the fan for a programmed period of time, the controller turns the fan on for a programmable period.

### Outside Air Damper Cycling

A motorized outside air damper, which is normally closed, can be installed in the outside air duct to limit infiltration when the central fan is off. The damper also limits the intake of ventilation air when the fan is on. The damper opens when the central system fan is energized, but closes if the fan stays on longer than the selected time period. It automatically closes when the fan is de-energized.

### Pump Cycling for Combination Space and Domestic Hot Water Heating Systems

The *AirCycler*™ eliminates stagnation in the water loop by energizing the pump for one minute for every 24 inactive hours.

### Combo STAT's Domestic Hot Water Priority

The *AirCycler*™ ComboSTAT can provide domestic hot water heating priority over space heating in the event that a selectable minimum hot water supply temperature is reached. The control will cause space heating to be temporarily suspended to satisfy the domestic hot water load until the water heater can recover. This control feature will yield an added measure of confidence for the successful application of combination space and domestic hot water heating systems, without requiring excessive over-sizing of the hot water heater, encouraging the construction of energy efficient and low energy homes.



**The Leader in Energy Efficient Ventilation Control**

**Eco-Smart, Inc.**

(888)329-2705

info@eco-smart.com

www.eco-smart.com