

PRODUCT SPECIFICATIONS		
Model	1870 / 1870W (ducted)	1870F (freestanding)
Capacity <sup>(1)</sup>	130 ppd	
Energy Factor <sup>(1)</sup>	2.9 L/kW-h	
Airflow @ varying E.S.P. (external static pressure - dry coil)	310 CFM	
0.0" w.c.	310 CFM	310 CFM
0.2" w.c.	267 CFM	
0.4" w.c.	226 CFM	
0.6" w.c.	178 CFM	
Voltage, phase, frequency	120VAC, 1, 60 Hz	
Current draw <sup>(1)</sup>	8.3 Amps	
Noise	50 dBA ducted	59 dBA
Dimensions: (cabinet only) <sup>(2)</sup>	Width	19.5"
	Height	18.75"
	Length	30"
Weight	113 lbs	114 lbs
Inlet air operating conditions Dehumidification:	50°F – 104°F, 40°F dew point min.	
Ventilation:	40°F – 140°F, 0% – 99%RH (non-condensing)	

<sup>(1)</sup> Rated capacity and energy factor test done and current draw measured in accordance with AHAM DH-1 2008 at 80°F/60%RH inlet air at 0.0 ESP.

<sup>(2)</sup> Height does not include adjustable feet. The width excludes the filter doors and length excludes the duct collars.

PRODUCT FEATURES		
Model	1870/1870W (ducted)	1870F (freestanding)
Controls <sup>(3)</sup>	Built-in digital control with display	
Control mounting option	Field interchangeable from top to front	Top only
Cabinet insulation	1/2" EPS	
Air discharge orientation	Top or end	End
Inlet/Outlet duct collars	10" dia.	N/A
Backdraft damper at outlet	Included	N/A
Filter	Washable MERV 8	
Refrigerant	R410A	
Coil corrosion resistance	E-Coated coil	
8' Power cord <sup>(4)</sup>	1870 Plug Type/ 1870W Hard wired	Plug Type
Discharge air temperature rise	10°F-30°F	
Drain connection <sup>(5)</sup>	3/4" PVC adapters	
Warranty	5 Years	

<sup>(3)</sup> Built-in automatic control capable to be set up for dehumidification, humidification, and ventilation or zoning.

<sup>(4)</sup> Model 1870W is a hardwired unit and doesn't ship with a power cord. The Model 1870W has a 4 week lead time.

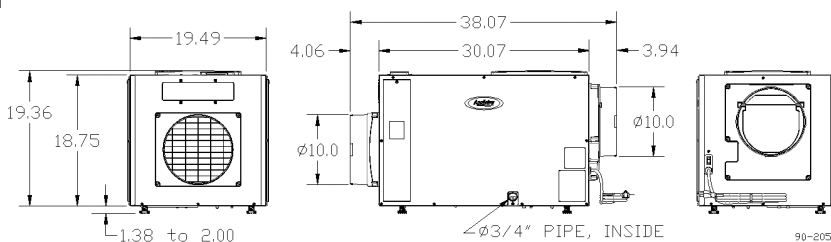
<sup>(5)</sup> Adapters for threaded connection or plastic hose included. 1870F includes 5' of clear drain tubing.



Model 1870F



Model 1870



90-2053

### PRINCIPLE OF OPERATION

The Aprilaire Model 1870 Series is designed to dehumidify the air coming into the unit by passing the incoming air over an evaporator coil to drop the air temperature below the dew point of the air. Moisture is removed from the air and drained out of the unit to a common floor or waste drain. The air is then reheated in the condenser coil and exits the unit.

Dehumidification occurs until the set point is reached, then shuts off until periodic sampling determines a need for operation.

### APPLICATION

The Aprilaire Model 1870 series dehumidifiers are the perfect product for whole-home dehumidification, basements and sealed attics.

### VENTILATION

The Model 1870 and 1870W have the ability to bring in fresh air. Fresh air will dilute stale air and pollutants and will reduce humidity in the winter months. The fresh air is brought in through a 6" round duct and 6" round normally closed damper. The dehumidifier has built in controls to adjust the amount of fresh air that is brought in.

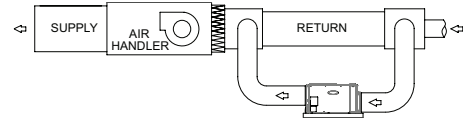
# Installation options for the Aprilaire 1870 Series Dehumidifiers

Shown in horizontal applications, can be installed in vertical applications as well.

## APPLICATIONS

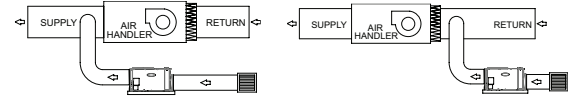
### Main Return to Main Return - RECOMMENDED

- This application can be used when a supply duct is not available
- Air is pulled from the return duct, dehumidified, and returned to the return duct
- Assures that the dehumidified air is mixed with rest of the air in the duct before it re-enters the house
- This application is used in basements, attics, crawl spaces, etc.



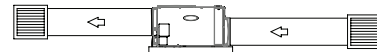
### Dedicated Return to Main Supply or Dedicated Return to A/C Return

- This application can be used when a return or supply duct is not available
- Air is pulled through a dedicated return grille, dehumidified, and returned to the supply plenum or return



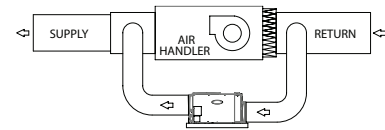
### Inlet and Outlet ducted to dedicated grilles

- For homes without duct work
- Dries a specific area that has a moisture issue (basements, crawlspaces, sealed attics, etc.)
- Dehumidifier can be located in a closet, mechanical room or unfinished area and ducted into a finished room



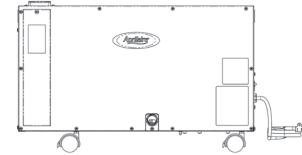
### Main Return to Main Supply

- Air is pulled from the return duct, dehumidified, and returned to the supply plenum
- This application is used in basements, attics, equipment closets, etc.



### Freestanding (Model 1870F)

- Air is pulled into the dehumidifier directly from the space, dehumidified, and returned back to the space
- This application is used in basements, crawlspaces, sealed attics, etc.



## Optional Wall Mount Controls:

### Model 8620 Universal Programmable Thermostat



- On/Off buttons
- Wall mounted living space control
- Displays RH and controls to an RH value
- Remote control for crawlspace applications and sealed attics
- Outdoor temperature sensor included

### Model 76 Wall Mount Dehumidifier Control



- On/Off buttons
- Wall mounted living space control
- Displays RH and controls to an RH value
- Remote control for crawlspace applications and sealed attics

### 8910 Module Universal Programmable Thermostat



- Large touch screen display
- 3H/3C conventional or 4H/2C heat pump
- Two part control — 3 wire design
- Notifies when ventilation is active
- Built in RH sensor
- Outdoor temperature sensor included
- Designed to meet ASHRAE 62.2 ventilation guidelines
- Optional high or low outdoor temperature lockout
- Capable to control humidification, dehumidification, ventilation and air cleaning

### MODEL 76 SPECIFICATIONS

ELECTRICAL	EXTERNAL	REMOTE
Input voltage and current	Voltage: 24VAC +/-20% Current: 25mA (nominal), 50mA (max.) at 24VAC	Voltage: 35VDC (supplied by dehumidifier control board)
Output	Dry contact, normally open	Communication (RS485)

CONTROL	EXTERNAL	REMOTE
Control range	40% - 80% RH	1 (less dry) - 7 (more dry) 65°F - 40°F dew point
Accuracy	+/-5% RH	See dehumidifier specifications
Differential	3% RH	
Low limit	40°F dew point	50°F dry bulb, 40°F dew point minimum
High limit	99°F dry bulb	105°F dry bulb



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