Dehumidifier

Model 1870 Series | Specification Sheet

SPECIFICATIONS			
Model		**1870 / 1870W (ducted)**	**1870F (freestanding)**
Capacity[1]		130 ppd	
Energy Factor[1]		2.9 L/kW-h	
Airflow @ varying E.S.P. (external static pressure - dry coil)			
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[1]		8.3 Amps	
Noise		50 dBA ducted	
Dimensions: (cabinet only)[2]	Width	19½″	19½″
	Height	18¾″	18¾″ cabinet 21″ (w/ casters)
	Length	30″	30″
Weight		113 lbs.	114 lbs.
Inlet air operating conditions during -Dehumidification:		50°F–104°F, 40°F dew point min.	
-Ventilation:		40°F–140°F, 0%–99% RH (non-condensing)	

[1]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. [2]Height does not include adjustable feet. The width excludes the filter doors and length excludes the duct collars.

FEATURES		
Model	**1870/1870W (ducted)**	**1870F (freestanding)**
Control[3]	Built-in digital control with display	
Control mounting option	Field interchangeable from top to front	Top only
Cabinet insulation	½″ 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 type	Corrosion resistant aluminum	
8′ Power cord[4]	1870 Plug Type/ 1870W Hard wired	Plug Type
Discharge air temperature rise	10°F–30°F	
Drain connection[5]	¾″ MNPT Threaded	
Warranty	5 Years	

[3]Built-in automatic control capable to be set up for dehumidification and ventilation or zoning. [4]Model 1870W is a hardwired unit and doesn't ship with a power cord. [5]Threaded barbed fitting included. 1870F includes 5′ of clear drain tubing.



Model 1870F

ENERGY STAR

Model 1870

PRINCIPLE OF OPERATION

The Aprilaire Model 1870 Dehumidifier 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.

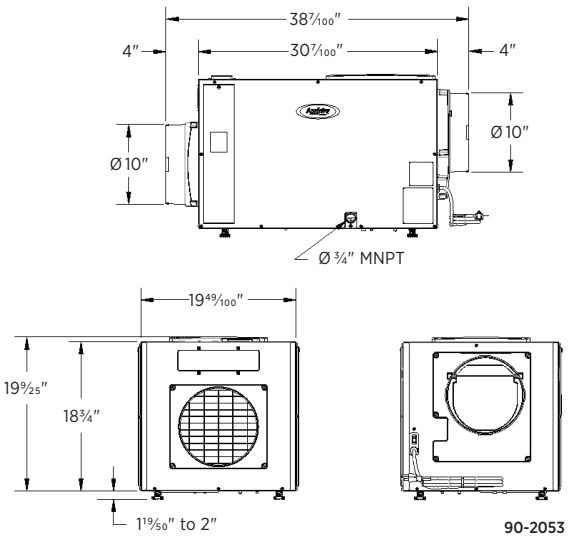
Dehumidification occurs until the set point is reached, then shuts off until periodic sampling determines a need for operation.

APPLICATION

The Aprilaire Model 1870 is perfect for a wide range of applications including whole-home dehumidification and control of moisture in basements and crawl spaces.

CIRCULATION

The Model 1870 can also be programmed to circulate the air within a crawl space. Circulating the air evens out relative humidity levels and temperature in the space, eliminating variations in the environment.



90-2053

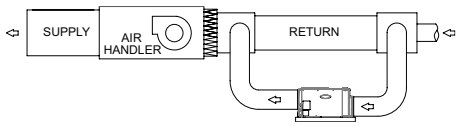
Installation Options For the Aprilaire 1870 Series Dehumidifiers

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

APPLICATIONS

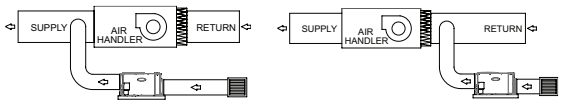
Main Return to Main Return - RECOMMENDED

- 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 for whole-home dehumidification.



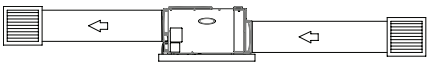
Dedicated Return to Main Supply or Dedicated Return to A/C Return

- 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.
- This application is for whole-home dehumidification.



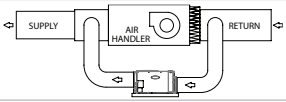
Inlet and Outlet ducted to dedicated grilles

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



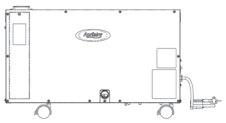
Main Return to Main Supply

- Air is pulled from the return duct, dehumidified, and returned to the supply plenum.
- This application is for whole-home dehumidification.



Freestanding (Model 1870F)

- Air is pulled into the dehumidifier directly from the space, dehumidified, and returned back to the space.
- Dries a specific area that has a moisture issue (basements, crawl spaces, sealed attics, etc.).
- It can be used for whole-home dehumidification.



Optional Wall-Mount Controls



Model 8620/8620W with IAQ Control

- Universal 2H/2C or 4H/2C HP
- Event-Based™ Air Cleaning
- Humidity or Ventilation
- Wi-Fi touch screen (8620W)



Model 8910/8910W with IAQ Control

- Universal 3H/3C or 4H/2C HP
- Event-Based™ Air Cleaning
- Humidity and Ventilation
- 2 Part–3-Wire design
- Wi-Fi touch screen (8910W)



Model 8920W with IAQ Control

- Universal 3H/3C or 4H/2C HP
- Event-Based™ Air Cleaning
- Humidity and Ventilation
- 2 Part–3-Wire design
- Full color Wi-Fi touch screen



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 crawl space applications and sealed attics

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 min.
High limit	99°F dry bulb	105°F dry bulb

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