

#### SPECIFICATIONS

| Model   | 1870 / 1870W<br>(ducted)                     | 1870F<br>(freestanding) |
|---|--|-------------------------|
| Capacity <sup>(1)</sup>   | 130 ppd                                      |                         |
| Energy Factor <sup>(1)</sup>  | 2.9 L/kW-h                                   |                         |
| <b>Airflow @ varying E.S.P.<br/>(external static pressure - dry coil)</b> |  |                         |
| 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                                      |                         |
| <b>Voltage, phase, frequency</b>  | 120VAC, 1, 60 Hz                             |                         |
| <b>Current draw<sup>(1)</sup></b>   | 8.3 Amps                                     |                         |
| <b>Noise</b>  | 50 dBA ducted                                |                         |
| <b>Dimensions:<br/>(cabinet only)<sup>(2)</sup></b>                       | Width  | 19½"                    |
|   | Height                                       | 18¾"                    |
|   | Length                                       | 30"                     |
| <b>Weight</b>   | 113 lbs                                      | 114 lbs                 |
| <b>Inlet air operating conditions during<br/>-Dehumidification:</b>       |  |                         |
|   | 50°F - 104°F, 40°F<br>dew point min.         |                         |
| <b>-Ventilation:</b>  |  |                         |
|   | 40°F - 140°F, 0% - 99%RH<br>(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.

#### FEATURES

| Model                                 | 1870/1870W<br>(ducted)                     | 1870F<br>(freestanding) |
|---------------------------------------|--|-------------------------|
| <b>Controls<sup>(3)</sup></b>         | Built-in digital control<br>with display   |                         |
| <b>Control<br/>mounting option</b>    | Field interchangeable<br>from top to front | Top only                |
| <b>Cabinet insulation</b>             | ½" EPS                                     |                         |
| <b>Air discharge<br/>orientation</b>  | Top or end                                 | End                     |
| <b>Inlet/Outlet duct<br/>collars</b>  | 10" dia.                                   | N/A                     |
| <b>Backdraft damper<br/>at outlet</b> | Included                                   | N/A                     |
| <b>Filter</b>                         | Washable MERV 8                            |                         |
| <b>Refrigerant</b>                    | R410A                                      |                         |
| <b>Coil corrosion resistance</b>      | E-Coated coil                              |                         |
| <b>8' Power cord<sup>(4)</sup></b>    | 1870 Plug Type/<br>1870W Hard wired        | Plug Type               |
| <b>Discharge air temperature rise</b> | 10°F-30°F                                  |                         |
| <b>Drain connection<sup>(5)</sup></b> | ¾" MNPT Threaded                           |                         |
| <b>Warranty</b>                       | 5 Years                                    |                         |

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



Model 1870F



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.

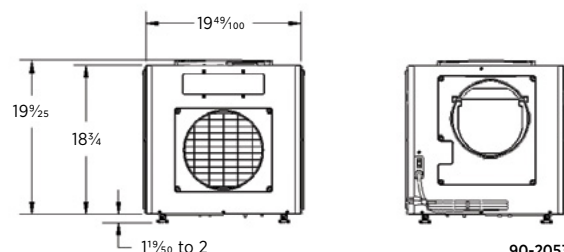
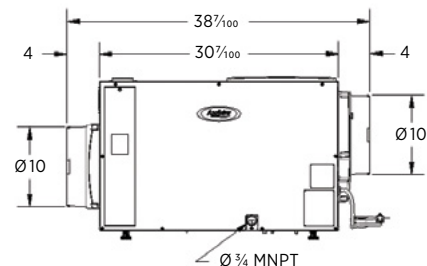
Dehumidification occurs until the set point is reached, then shuts off until periodic sampling determines a need for operation.

#### APPLICATION

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

#### CIRCULATION

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



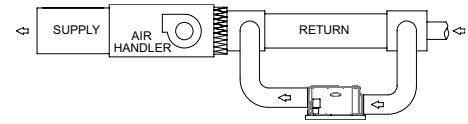
# Installation Options For the Aprilaire 1870 Series Dehumidifiers

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

## APPLICATIONS

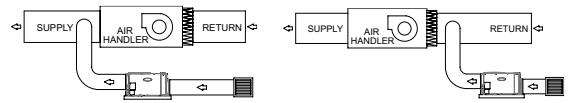
### Main Return to Main Return - RECOMMENDED

- 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.



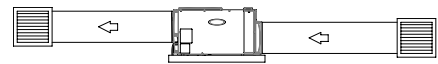
### Dedicated Return to Main Supply or Dedicated Return to A/C Return

- 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.



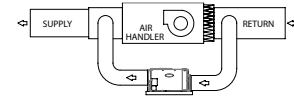
### Inlet and Outlet ducted to dedicated grilles

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



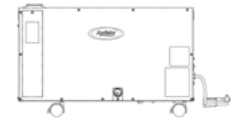
### Main Return to Main Supply

- Air is pulled from the return duct, dehumidified, and returned to the supply plenum
- This application is 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, crawlspaces, 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 crawlspace applications and sealed attics

### MODEL 76 SPECIFICATIONS

| Electrical                | External  | Remote  |
|---------------------------|---|---|
| Input voltage and current | Voltage: 24VAC +/-20%<br>Current: 25mA (nominal),<br>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)<br>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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P.O. Box 1467

Madison, WI 53701-1467

800.334.6011 F: 608.257.4357

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