



Safety and Installation Instructions

Model 1700

INSTALLER – PLEASE NOTE!

1. Installation must conform to all applicable codes.
2. A dedicated 15 Amp circuit is required for proper operation of the dehumidifier. If a dedicated circuit is not available, do not install unit.
3. For protection of the compressor, unit must be transported and installed in an upright position. If the unit was shipped or stored on its side, a 24 hour settling period is required before running the unit.

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SAFETY INSTRUCTIONS

WARNING

- This product must be installed by a qualified heating and air conditioning contractor. Failure to do so could result in serious injury from electrical shock or damage to product.
- **120 volts may cause serious injury from electric shock.** Disconnect electrical power before starting installation. Leave power disconnected until installation is completed.
- **Sharp edges may cause serious injury from cuts.** Use care when cutting plenum openings and handling ductwork.
- **Unit weight and dropping may cause personal injury or equipment damage.** Handle with care.

OVERVIEW

The purpose of the Aprilaire Dehumidifier is to keep the humidity in the house at acceptable limits to reduce the unwanted effects of high humidity. The dehumidifier will measure the dewpoint of the house to decide if it needs to run. The dryness set point can be adjusted with the control knob on the inlet side of the unit.

An integrated air cycling feature can be used to turn on the HVAC fan to cycle the air through the house to balance the indoor conditions. This feature is set up during installation based on house size and homeowner preference. An optional ventilation damper can also be installed to bring in outside air during air cycling.

SPECIFICATIONS

Dimensions: 20³/₄"W x 24"L x 20⁷/₈"H (mounting feet fully engaged)
20³/₄"W x 24"L x 22³/₈"H (mounting feet fully extended)

Weight: 93 lbs

Capacity: 90 pints per day @ 60%RH, 80°F
(ANSI/AHAM DH-1-2003 conditions)

Power: 115 VAC, 8 Amps. Unit is equipped with an 8 ft. grounded power cord.

Design Airflow: 275 CFM @ 0.6 in. w.c.

Filter: MERV 8 Filter

Cabinet Insulation: 1" foil faced EPS insulation

Inlet Air Operating Conditions: 40°F to 105°F

Ambient Air Operating Conditions: 40°F to 150°F

LOCATION NOTES

The dehumidifier can be installed in a wide variety of locations (including unconditioned spaces), provided the ambient conditions are between 40°F and 150°F. Note the following requirements for each application:

Attic / Garage

- All duct work must be insulated.
- Unit should be placed in a drain pan with overflow protection to prevent water damage in the event of a drain failure.
- The condensate line should be insulated to prevent condensation on the outside of the condensate line.
- Precautions should be taken to assure that the unit does not operate in conditions below 40°F or above 150°F.

Basement

- Precautions should be taken to assure that the unit does not operate in conditions below 40°F.

Crawl Space

- All duct work must be insulated.
- The condensate line should be insulated to prevent condensation on the outside of the condensate line.
- Precautions should be taken to assure that the unit does not operate in conditions below 40°F.

DUCTING

The Aprilaire Dehumidifier is supplied with two 8" round collars. These are packaged with a condensate trap inside the unit behind the filter access panel. When installing the collar make sure the foam seal uniformly contacts the cabinet and secure with 4 screws (not included). UL approved 8" diameter, insulated flexible duct is recommended for all connections. Rigid metal duct may be used. The duct should be capable of handling at least 2" w.c. of positive and 0.75" w.c. of negative pressure. All joints and seams must be sealed.

Design air flow is 275 CFM @ 0.6" w.c. This is equivalent to 70 ft. of 8" duct on the inlet and outlet side of the dehumidifier. Elbows, turns and the static pressure of the HVAC equipment will affect the airflow through the dehumidifier.

- **For optimal moisture removal, airflow should be at or above 275 CFM.**
- **The total static pressure across the dehumidifier must not exceed 0.8" w.c. Check all pressures with the HVAC fan on.**
- The outlet from the dehumidifier to the HVAC supply duct must be located at least 6" downstream of the cooling coil.
- If connected to HVAC ductwork, the dehumidifier inlet must be located at least 6" upstream of the HVAC system air cleaner. This will prevent any trapped particulates from being drawn into the dehumidifier.
- If UV Germicidal lamps are installed in the HVAC system, use appropriate methods to protect the flexible duct from the UV light.
- If air noise is a problem, install at least 5 feet of acoustical flexible duct on the outlet and inlet of the dehumidifier.

DRAIN LINE

The included condensate trap must be installed to the Model 1700. Use PVC primer and cement to connect the trap to the drain outlet on the Model 1700. The drain outlet is located near the On/Off toggle switch. **Note orientation of trap prior to cementing.** The high side of the trap mates with the Model 1700. The adjustable legs on the Model 1700 must be disengaged approximately 1" to accommodate the trap. Complete the assembly by piping the trap to a drain. The trap must be primed with water prior to start-up.

If the 1700 is installed in an attic or in an area where flooding is a potential problem, it should be installed in a secondary drain pan with a condensate overflow safety switch. See page 12 for condensate overflow safety switch wiring.

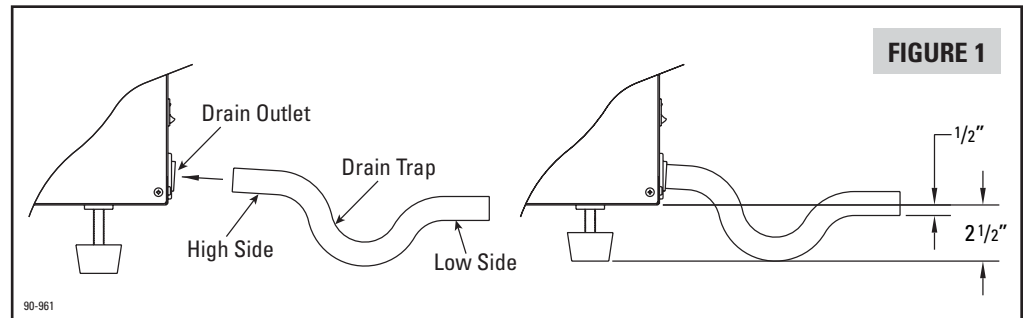


FIGURE 1

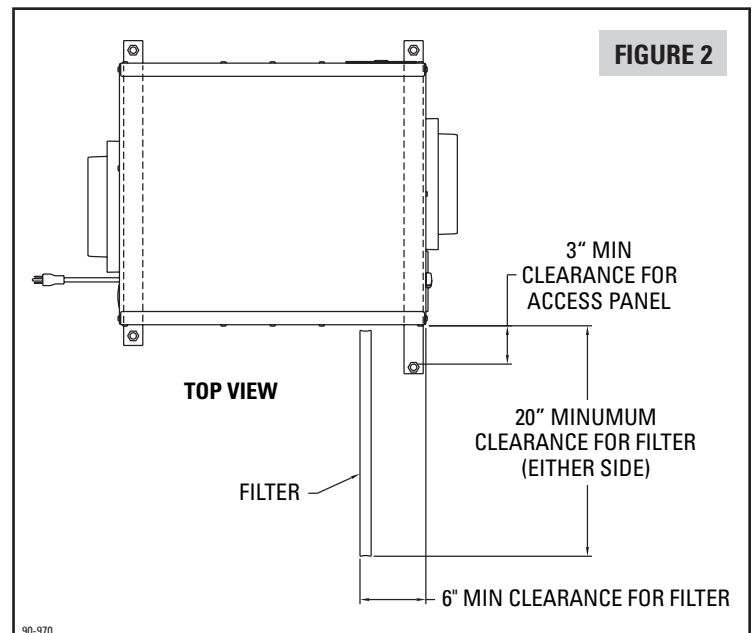


FIGURE 2

HANGING

If hanging the unit, use two unistruts to support the base on the outside edges of the feet locations. There must be at least 20" of clearance in front of one of the filter access doors to allow removal of the filter.

WHOLE HOUSE INSTALLATION AND OPERATION

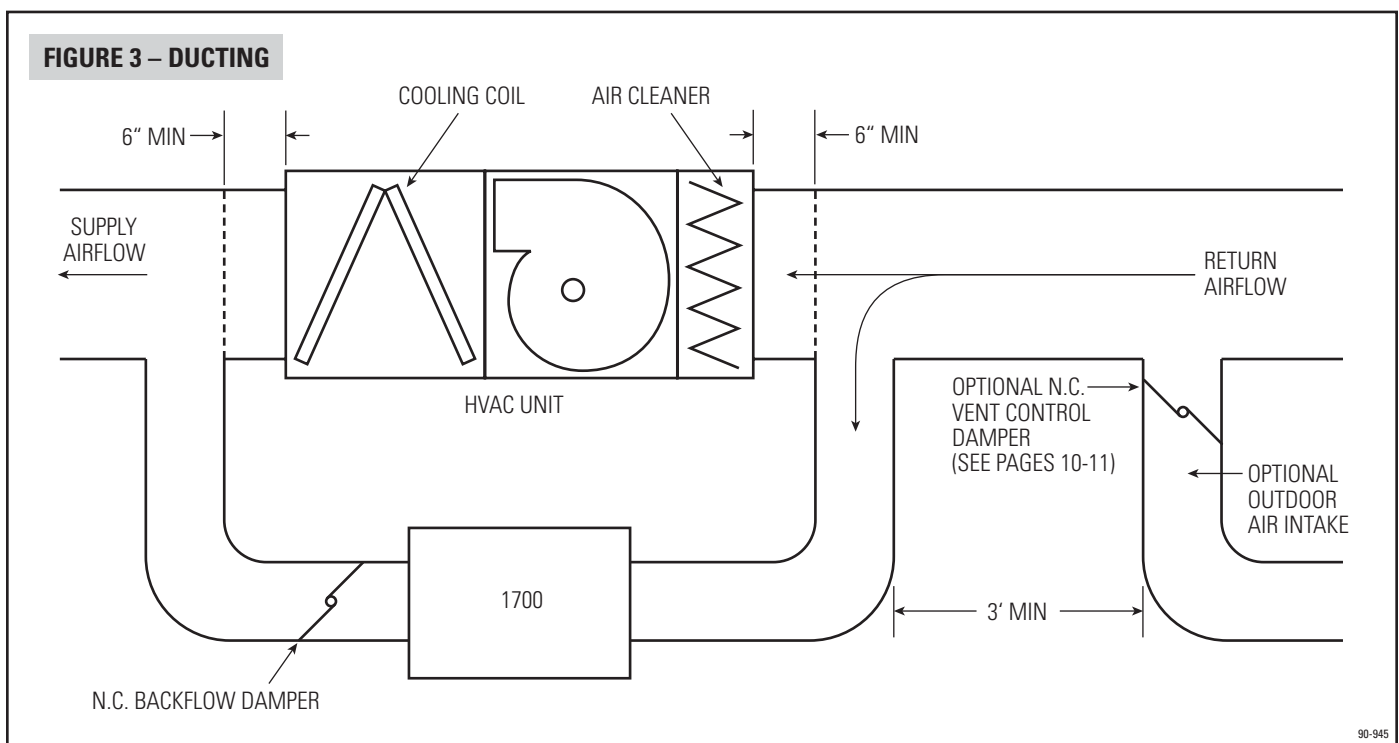
In this configuration the dehumidifier will pull air from the return duct. The air passes through the dehumidifier, where moisture is removed, and then returned to the HVAC system downstream of the cooling coil in the supply plenum. This installation is used when the HVAC unit conditions the area where dehumidification is needed. Connection to the HVAC unit for the primary living space or basement HVAC unit is ideal for this installation.

REQUIRED COMPONENTS

1 – 6508 Normally Closed Power Open Damper
 Duct Work
 24 VAC Transformer (10 VA minimum)
 Thermostat Wire

OPTIONAL COMPONENTS

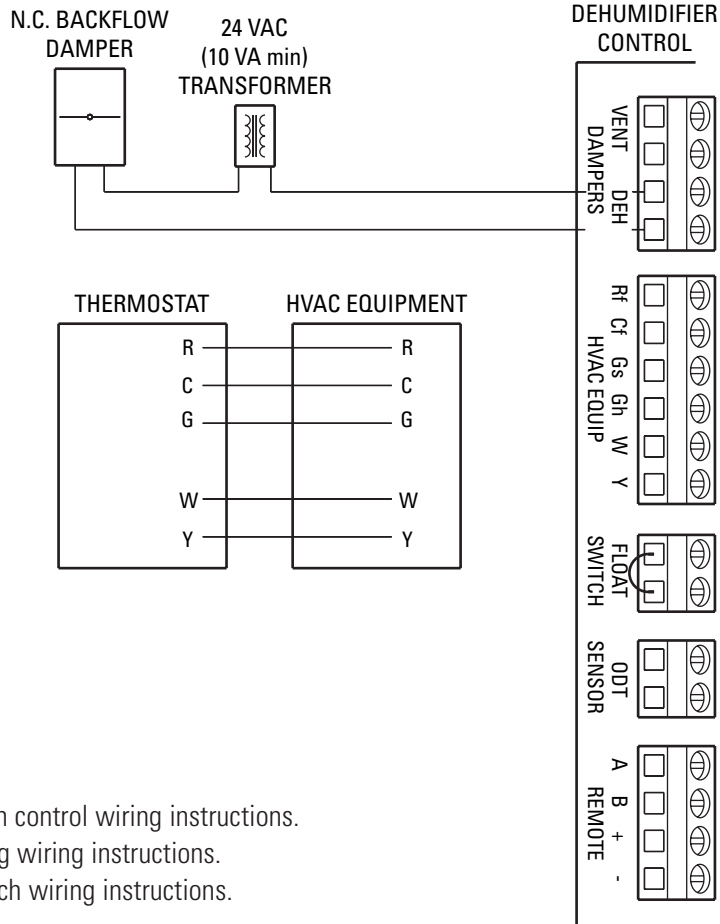
6506 Ventilation Damper
 24 VAC Transformer (10 VA minimum) for Ventilation Damper
 8052 Outdoor Temperature Sensor
 Normally Closed Condensate Overflow Safety Switch



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WHOLE HOUSE INSTALLATION AND OPERATION (CONTINUED)

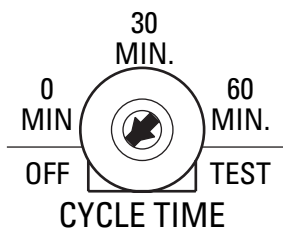
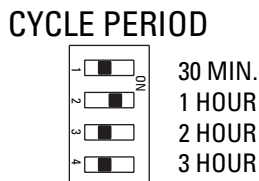
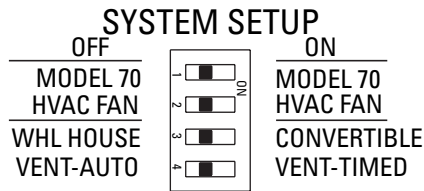
FIGURE 4 – WIRING



See page 10 for ventilation control wiring instructions.
 See page 10 for fan cycling wiring instructions.
 See page 12 for float switch wiring instructions.

90-962

FIGURE 5 – SETTINGS



| Standard | Fan Cycling | Ventilation |
|-----------------|-----------------|-----------------|
| OFF | OFF | OFF |
| See pages 10-11 | See pages 10-11 | See pages 10-11 |
| OFF | OFF | OFF |
| OFF | ON | OFF |

| Standard | Fan Cycling | Ventilation |
|----------|-----------------|-----------------|
| OFF | See pages 10-11 | See pages 10-11 |
| ON | See pages 10-11 | See pages 10-11 |
| OFF | See pages 10-11 | See pages 10-11 |
| OFF | See pages 10-11 | See pages 10-11 |

| Standard | Fan Cycling | Ventilation |
|----------|-----------------|-----------------|
| OFF | See pages 10-11 | See pages 10-11 |

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LOCALIZED INSTALLATION AND OPERATION

In this configuration the dehumidifier will pull air from an area in the home. The air passes through the dehumidifier, where moisture is removed, and then is returned to the area. This installation is used when the HVAC unit conditions an area other than where dehumidification is needed. An unconditioned basement or crawl space application is ideal for this installation.

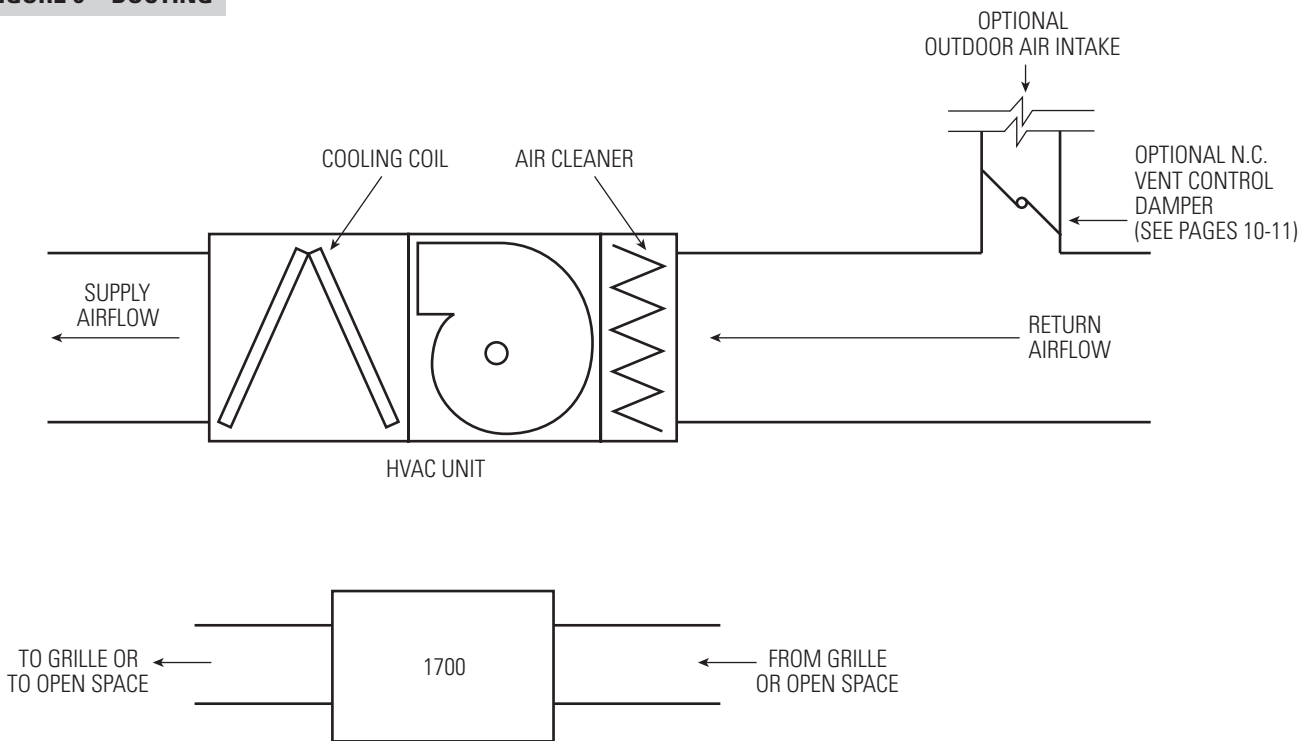
REQUIRED COMPONENTS

None

OPTIONAL COMPONENTS

Duct Work
 24 VAC Transformer (10 VA minimum) for Ventilation Damper
 Thermostat Wire
 6506 Ventilation Damper
 8052 Outdoor Temperature Sensor
 Grilles
 Normally Closed Condensate Overflow Safety Switch

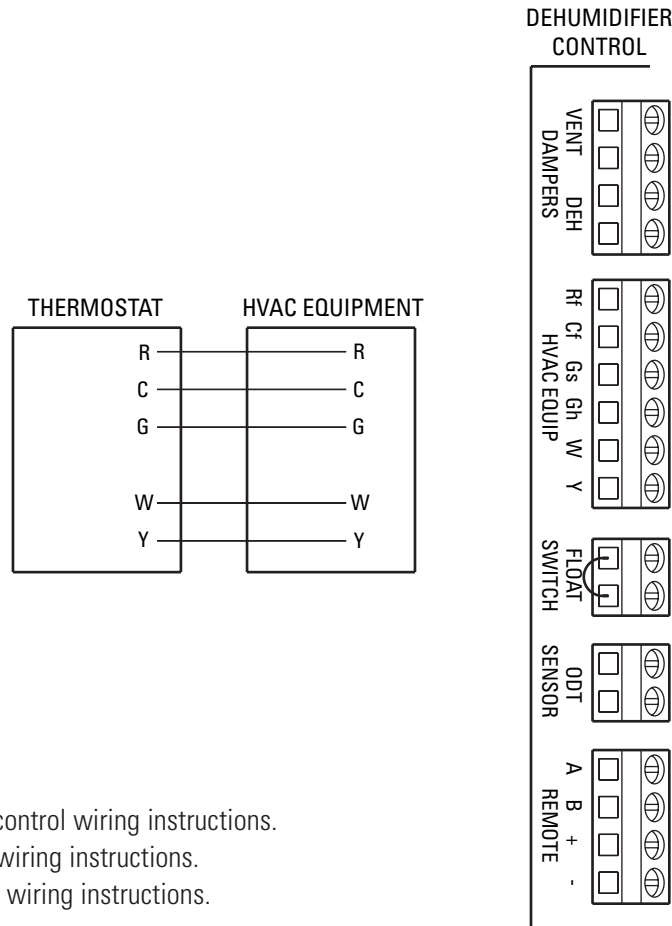
FIGURE 6 – DUCTING



90-946

LOCALIZED INSTALLATION AND OPERATION (CONTINUED)

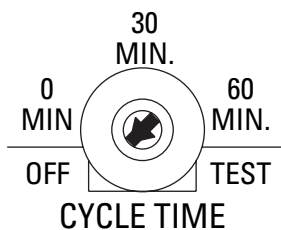
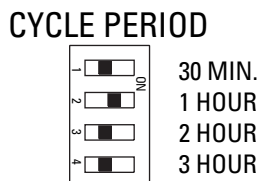
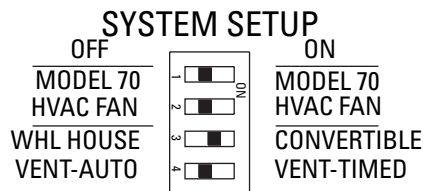
FIGURE 7 – WIRING



See page 10 for ventilation control wiring instructions.
See page 10 for fan cycling wiring instructions.
See page 12 for float switch wiring instructions.

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FIGURE 8 – SETTINGS



| Standard | Fan Cycling | Ventilation |
|-----------------|-----------------|-----------------|
| OFF | OFF | OFF |
| See pages 10-11 | See pages 10-11 | See pages 10-11 |
| ON | ON | ON |
| OFF | ON | OFF |

| Standard | Fan Cycling | Ventilation |
|----------|-----------------|-----------------|
| OFF | See pages 10-11 | See pages 10-11 |
| ON | See pages 10-11 | See pages 10-11 |
| OFF | See pages 10-11 | See pages 10-11 |
| OFF | See pages 10-11 | See pages 10-11 |

| Standard | Fan Cycling | Ventilation |
|----------|-----------------|-----------------|
| OFF | See pages 10-11 | See pages 10-11 |

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WHOLE HOUSE / LOCALIZED CONVERTIBLE INSTALLATION AND OPERATION

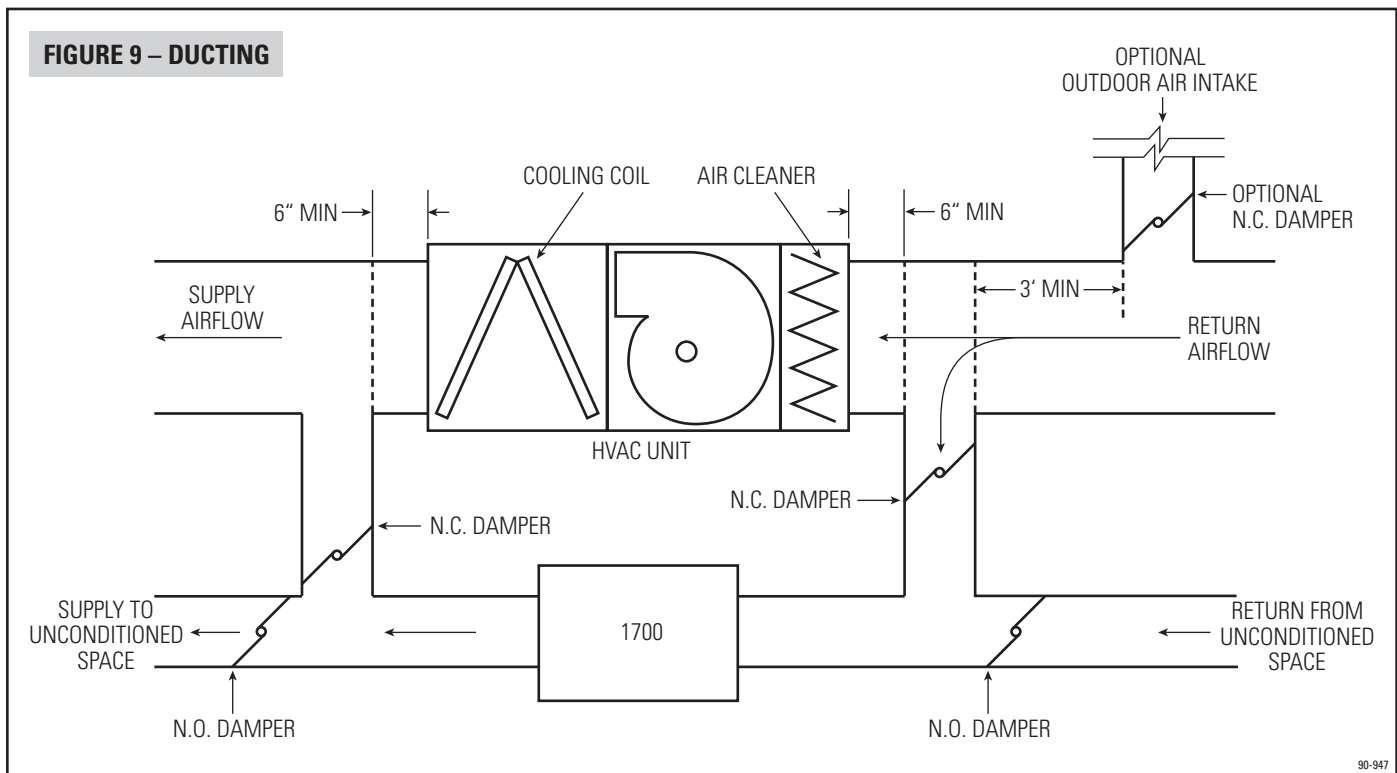
In this configuration the dehumidifier will automatically switch between whole-house dehumidification when the HVAC equipment is on, and localized dehumidification when the equipment is off. This installation is used to dehumidify a whole house and a separate unconditioned space like an unfinished basement, or an area where circulation from that location throughout the entire house is undesirable.

REQUIRED COMPONENTS

- 2 – 6508 Normally Closed Power Open Damper
- 2 – 6608 Normally Open Power Closed Damper
- Duct Work
- 24 VAC Transformer (40 VA minimum)
- Thermostat Wire

OPTIONAL COMPONENTS

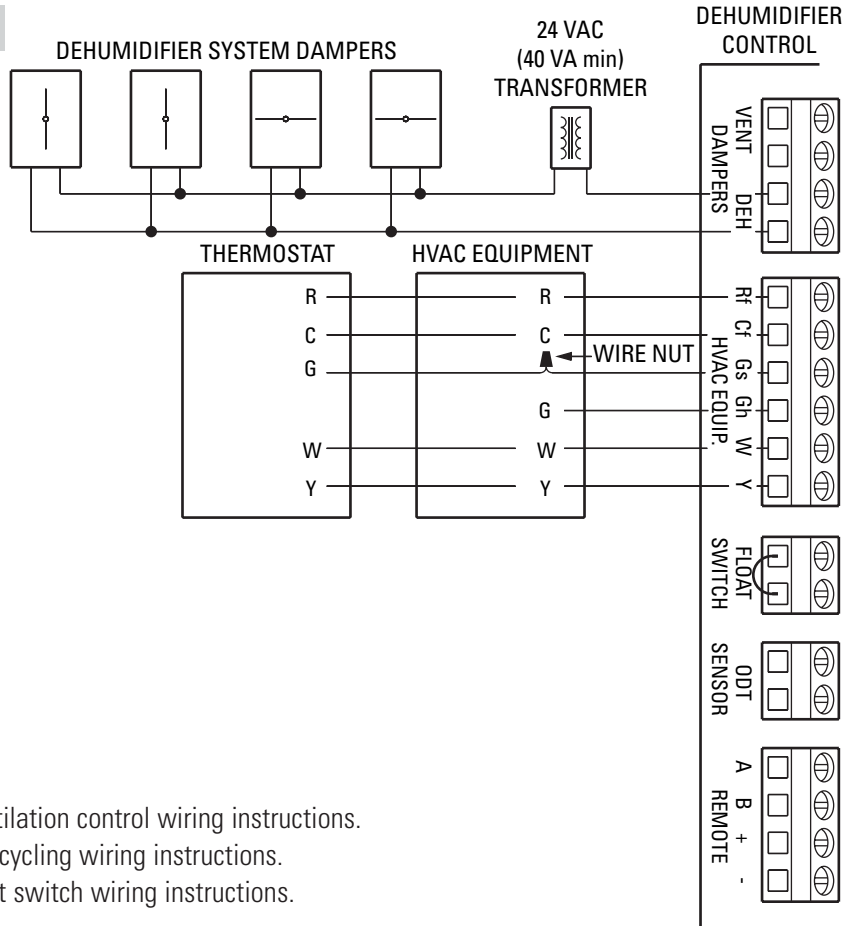
- 6506 Ventilation Damper
- 24 VAC Transformer (10 VA minimum) for Ventilation Damper
- 8052 Outdoor Temperature Sensor
- Normally Closed Condensate Overflow Safety Switch



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WHOLE HOUSE / LOCALIZED CONVERTIBLE INSTALLATION AND OPERATION (CONTINUED)

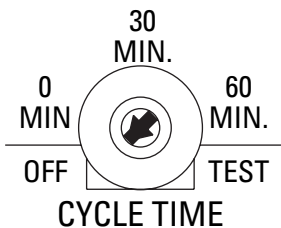
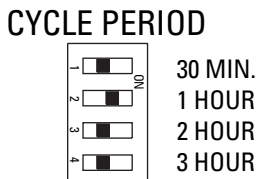
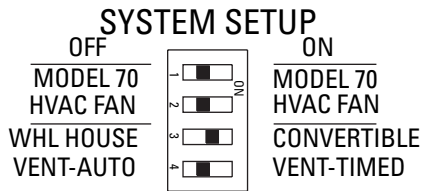
FIGURE 10 – WIRING



See page 10 for ventilation control wiring instructions.
 See page 10 for fan cycling wiring instructions.
 See page 12 for float switch wiring instructions.

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FIGURE 11 – SETTINGS



| Standard | Fan Cycling | Ventilation |
|----------|-------------|-------------|
| OFF | OFF | OFF |
| OFF | OFF | OFF |
| ON | ON | ON |
| OFF | ON | OFF |

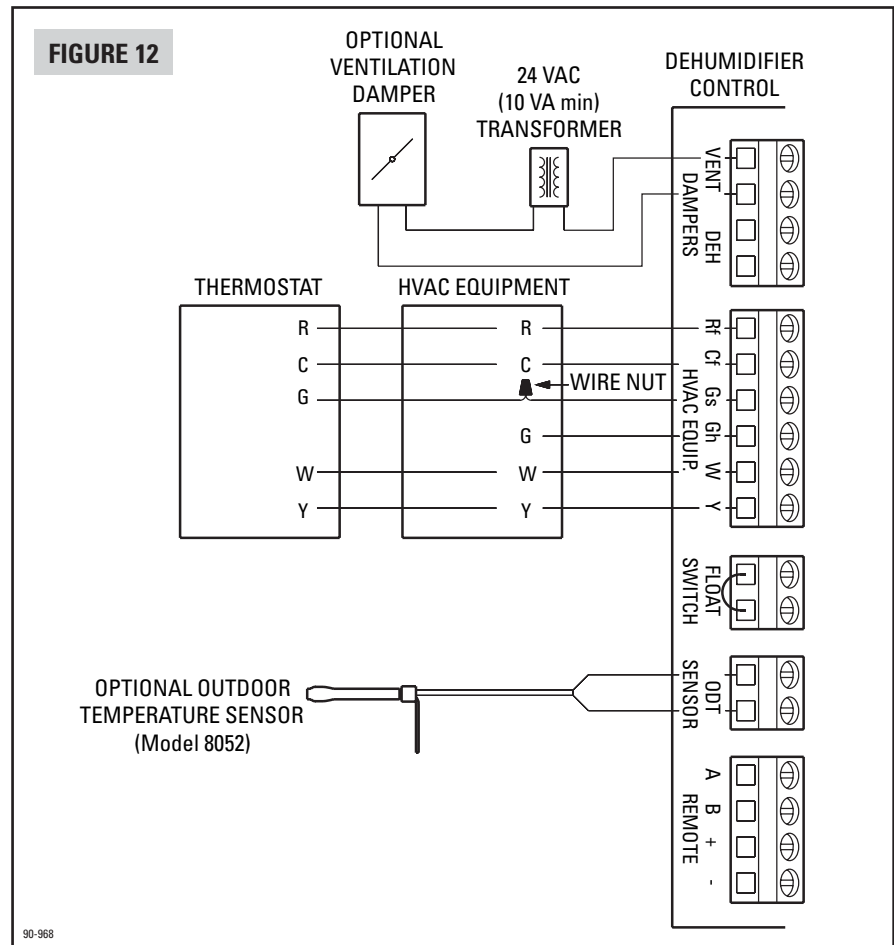
| Standard | Fan Cycling | Ventilation |
|----------|-----------------|-----------------|
| OFF | See pages 10-11 | See pages 10-11 |
| ON | See pages 10-11 | See pages 10-11 |
| OFF | See pages 10-11 | See pages 10-11 |
| OFF | See pages 10-11 | See pages 10-11 |

| Standard | Fan Cycling | Ventilation |
|----------|-----------------|-----------------|
| OFF | See pages 10-11 | See pages 10-11 |

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VENTILATION / FAN CYCLING SETTINGS

The Aprilaire Dehumidifier has the option to monitor HVAC heating, cooling and fan calls to assure the HVAC fan has operated a predetermined amount of time each 1/2, 1, 2 or 3 hours. The dehumidifier can also open a normally closed damper in an outdoor air intake to ventilate during this predetermined amount of time. This feature will function even if the dehumidifier is turned off at the dehumidifier or Model 70 Living Space Control. The only way to disable this feature is by turning the Cycle Time setting to OFF or turning power off at the On/Off switch.



First, set the 1/2, 1, 2 or 3 hour period by setting the CYCLE PERIOD dip switches to determine how often the dehumidifier should look to ventilate or cycle the HVAC fan.

Next, use the CYCLE TIME dial to determine how long during every cycle period the HVAC fan should operate. Adjust the dial from OFF to between 1 to 60 minutes. This will give you HVAC fan operation from 1 to 60 minutes every 1/2, 1, 2 or 3 hours. A call for heat, cooling or fan from the HVAC equipment will often satisfy the run time requirement. If not, the dehumidifier will turn on the HVAC fan to assure that the cycle time is met. **For example: If the home requires ventilation of 20 minutes every two hours set the CYCLE PERIOD Dip Switch for 2 hours to ON and rotate the CYCLE TIME to 20 minutes. If the HVAC equipment only has to run for 10 minutes, the dehumidifier will turn on the HVAC fan for 10 minutes at the end of the 2 hours to assure the ventilation / fan cycling time.**

Finally, if using the Ventilation Damper, determine if the ventilation should be restricted based on outdoor temperature. Set the VENT-AUTO / VENT-TIMED dip switch to VENT-AUTO (see **Figure 15**) to prevent opening the ventilation damper if the outdoor air is above 100°F, below 0°F or except with a heat call between 20°F and 0°F. In the VENT-TIMED setting the ventilation damper is activated regardless of outdoor conditions. **Note:** The Outdoor Temperature Sensor (Model 8052) must be installed for this to work.

You can also check the wiring of the dehumidifier to the HVAC equipment. If you rotate the CYCLE TIME dial to TEST, the HVAC fan should come on and the Ventilation Damper (if equipped) should open. **DO NOT leave the CYCLE TIME in TEST.**

FIGURE 13 (shown set to 1 hour)

CYCLE PERIOD

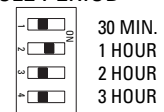


FIGURE 14 (shown set to 30 minutes)

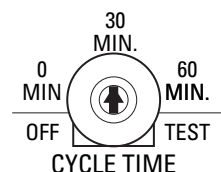
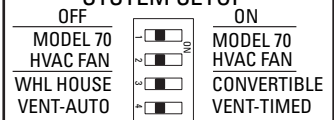


FIGURE 15

SYSTEM SETUP

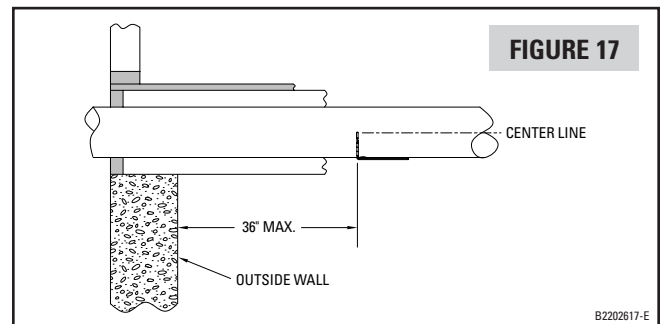
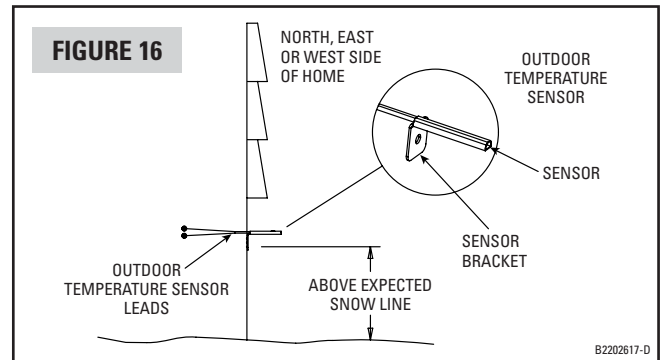


VENTILATION / FAN CYCLING SETTINGS (CONTINUED)

This installed option allows outside air to be combined with the fan cycling feature from the dehumidifier, provided the outside air temperature is in the acceptable range (0-100°F).

Note: The dehumidifier can control the HVAC fan to provide fan cycling, regardless of whether or not an outdoor ventilation duct is installed.

- An Aprilaire® Normally-Closed Damper (Model 6506) should be installed in the outside air intake. It should be wired to the terminals labeled “VENT DAMPER” on the dehumidifier control board. Follow all installation instructions supplied with the damper. Refer to each installation for ducting.
- The Outdoor Temperature Sensor (Model 4278) should be installed outside in a shaded location (**Figure 16**) or in an outside air intake duct, but no more than 3 feet from the outside (**Figure 17**).
- The Outdoor Temperature Sensor is not affected by wire length. However, do not route the wire alongside wires carrying high voltage (115 VAC or greater), as interference may occur.
- Connect the wires from the sensor to the terminals labeled “ODT SENSOR” on the dehumidifier. See **Figure 12** for terminal locations.



VENTILATION GUIDELINES

TABLE 1 – Air Cycling Time Setting (min./hr.)

| House Size (square feet) | Bedrooms | | | |
|-----------------------------|----------|----|----|----|
| | 2 | 3 | 4 | 5 |
| 1000-1500 | 20 | 25 | 30 | 35 |
| 1501-2000 | 25 | 30 | 30 | 35 |
| 2001-2500 | 25 | 30 | 35 | 40 |
| 2501-3000 | 30 | 35 | 40 | 40 |
| 3001-3500 | 30 | 35 | 40 | 45 |

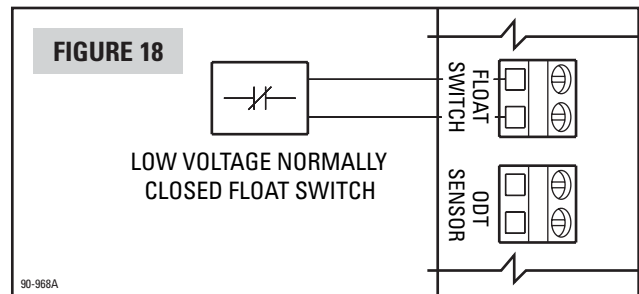
1. Based on ASHRAE 62.2 ventilation requirement.
2. Based on outside air duct of 6” dia., 20’ long flex duct, 0.15” w.c. static pressure at outdoor air duct.
3. Based on ‘Cycle Period’ being in the default (1 hour) position.
4. A longer outside air duct and/or lower static pressure will require a longer Ventilation Time.

As an example, for a 2,500 square foot home with 3 bedrooms, set the cycle time to 30 minutes of ventilation per one-hour cycle.

A longer outdoor air intake duct or lower return static pressure will increase the ventilation time required. Additionally, local codes may affect the setting.

FLOAT SWITCH

If the Model 1700 is installed in an attic, the unit should be placed in a drain pan with a normally closed condensate overflow safety switch (also known as a float switch). The float switch should be wired to the float switch terminals on the dehumidifier control board. See **Figure 18**. Remove the jumper at the float switch terminals. The compressor is disabled when the float switch is open. The Model 1700 will continue to ventilate when the float switch is open.



DIP SWITCH DEFINITIONS

MODEL 70 – OFF/ON (SYSTEM SETUP SWITCH #1):

Determines use of internal RH and temperature sensor or use of the RH and temperature sensor on the Living Space Control (Model 70).

MODEL 70-OFF. Uses inlet RH and temperature sensor.

MODEL 70-ON. Uses Living Space Control (Model 70) RH and Temperature Sensor.

Default is **MODEL 70-OFF**.

HVAC FAN – OFF/ON (SYSTEM SETUP SWITCH #2):

Determines if the HVAC fan activates during a call for dehumidification.

HVAC FAN-OFF position. The dehumidifier will not activate the HVAC fan during a call for dehumidification; it will however activate the HVAC fan for air cycling and ventilation.

HVAC FAN-ON position. The dehumidifier will activate the HVAC fan during a call for dehumidification as well as for air cycling and ventilation.

Default is **HVAC FAN-OFF**.

WHL HOUSE / CONVERTIBLE (SYSTEM SETUP SWITCH #3):

Determines when the dampers are powered open or closed.

CONVERTIBLE position. The damper (DEH) terminals are actuated when the HVAC equipment is making a call for heat, cool or fan and the dehumidifier is making an internal blower call for air sampling or dehumidification.

WHL HOUSE position. The damper (DEH) terminals are actuated any time the dehumidifier is making an internal blower call for air sampling or dehumidification.

The default position is **WHL HOUSE**.

VENT-AUTO / VENT-TIMED (SYSTEM SETUP SWITCH #4):

Determines if ventilation is restricted based on outdoor temperature

VENT-AUTO position. The dehumidifier will measure the outdoor temperature (through sensor, part # 8052) to determine if the ventilation damper will open. If the outside temperature is above 100°F or below 0°F the dehumidifier will not actuate the ventilation damper terminals (VENT DAMPER). If the outside temperature is between 0°F - 20°F, the dehumidifier will only actuate the ventilation damper terminals (VENT DAMPER) when the HVAC system is making a call for heat. The dehumidifier will energize the HVAC fan whether or not the ventilation damper opens.

VENT-TIMED position. The dehumidifier will actuate the ventilation damper terminals (VENT DAMPER) regardless of the outdoor temperature.

The default position is **VENT-AUTO**.

SYSTEM CHECKOUT

1. Check the wiring to the HVAC equipment.
2. Rotate the main control knob clockwise to the "TEST" position.
3. If all is set up properly, the dehumidifier blower will turn on. The compressor will turn on after the dehumidifier blower has run for 30 seconds. After 1 minute the dehumidifier blower and compressor will shut off ("TEST" mode only).
4. If the dehumidifier blower does not activate in TEST mode, refer to the Troubleshooting Guide.
5. For ventilation (optional) test, be sure that 24 VAC is applied in series with the Aprilaire® Normally-Closed Damper (Model 6506) and connected to the "VENT DAMPER" terminals on the dehumidifier control.
6. Rotate the "CYCLE TIME" potentiometer clockwise to the "TEST" position.
7. If all is set up properly, the HVAC blower will turn on and the ventilation damper will open. Both should be audible to the installer. The HVAC blower will remain on and the ventilation damper will remain open for 1 minute or until the dial is turned from the "TEST" position, whichever happens first.
8. If the optional ventilation damper or HVAC blower does not activate in TEST mode, refer to the Troubleshooting Guide.

TROUBLESHOOTING GUIDE

| SYMPTOM | TROUBLESHOOTING PROCEDURE / POSSIBLE REASON |
|--|--|
| Dehumidifier is producing hot air. | <ul style="list-style-type: none">• Reheat of outgoing air will cause a temperature increase across the dehumidifier.• Unit will possibly run continuously initially. After unit has "dried" home, dehumidifier will cycle, reducing load. |
| Dehumidifier Blower is running, but no airflow. | <ul style="list-style-type: none">• Normally Open Damper was used instead of Normally Closed Damper in backflow.• Total HVAC system static is higher than 0.8" w.c. |
| Dehumidifier not adequately dehumidifying. | <ul style="list-style-type: none">• Unit will need time to "dry" materials in home before effectively changing RH.• Too little airflow through dehumidifier.• Total HVAC system static is higher than 0.8" w.c.• Compressor is not turning on.• System undercharged. |
| Dehumidifier is not draining properly. | <ul style="list-style-type: none">• Check condensate trap to be sure it is clear.• Check drain line for continuous slope. |
| HVAC fan does not turn on when cycle time dial is in "TEST" mode. | <ul style="list-style-type: none">• Make sure there is power to the HVAC equipment.• Check the wiring diagram for the R, C, W, Y, GH, and GS at the HVAC equipment, thermostat, and the dehumidifier.• Make sure the sensor is connected to the Outdoor Temperature Sensor terminals or the System Setup block is set to "TIMED" mode.• Check the voltage across the R and C terminals at the dehumidifier. Voltage should be 18 VAC minimum - 30 VAC maximum.• In "TEST" Mode, the HVAC fan will activate for 1 minute, DO NOT LEAVE IN TEST MODE AS DEHUMIDIFIER WILL NOT OPERATE. |
| The dehumidifier damper does not open in "TEST" Mode. | <ul style="list-style-type: none">• Follow all of the system checkout procedures.• Check the wiring diagram for the damper and 24 VAC transformers. |
| Fan cycling operates continuously after the dial is taken off "TEST" mode. | <ul style="list-style-type: none">• If the HVAC equipment is making a Heat or Cool call, or the fan is in Continuous Operation, fan cycling will remain on until the requirement set by the cycle period dip switch and knob is met.• If the interval is set at 1 HOUR and the cycle time is set at 60 minutes, fan cycling will be on continuously. Change the setting to a lower amount if this is not desired. |

TROUBLESHOOTING GUIDE (CONTINUED)

SYMPTOM

The ventilation damper does not open when the HVAC fan is active.

TROUBLESHOOTING PROCEDURE / POSSIBLE REASON

- The damper will not open if the cycle time within the current period has already been met. For instance if the cycle time is set to 5 minutes and the control has already ventilated for 5 minutes in that interval, the damper will remain closed.
- If using the Outdoor Temperature Sensor, check that it is installed in the Outdoor Air Intake a maximum of 3 feet from the outside, or on the North, East or West side of the house. (Not in direct sunlight.)
- If the outdoor temperature is below 0°F or above 100°F, the damper will remain closed.
- Verify that the Outdoor Temperature Sensor is reporting an accurate resistance. Remove the Outdoor Temperature Sensor leads from ODT Sensor terminals and check the resistance. Compare the reading with the resistance shown in **Table 2**.

| Outdoor Temperature | Resistance |
|---------------------|--------------|
| -30°F | 229,500 OHMS |
| -20°F | 162,500 OHMS |
| -10°F | 116,500 OHMS |
| 0°F | 84,500 OHMS |
| 10°F | 62,000 OHMS |
| 20°F | 46,000 OHMS |
| 30°F | 34,500 OHMS |
| 40°F | 26,000 OHMS |
| 50°F | 20,000 OHMS |
| 60°F | 15,500 OHMS |
| 70°F | 12,000 OHMS |
| 80°F | 9,500 OHMS |
| 90°F | 7,500 OHMS |
| 100°F | 6,000 OHMS |

The fan turns on unexpectedly.

- The control will turn on the fan as needed to meet the air cycling requirements determined by the cycle time and cycle period settings.

The dehumidifier does not run.

- Follow all of the system checkout procedures.
- Check that the power switch on the dehumidifier is on.
- Check that the circuit breaker is not tripped. The dehumidifier requires a minimum of 8 amps. The dehumidifier should be placed on its own dedicated 15 amp circuit.

The compressor never runs.

- If a float switch is not installed, confirm that the jumper is installed at the float switch terminals on the control board.
- If a float switch is installed, confirm that the float switch is not open.

DEHUMIDIFIER SEQUENCE OF OPERATION

IF THE DEHUMIDIFIER IS NOT WIRED TO THE HVAC EQUIPMENT, THE DEHUMIDIFIER WILL SAMPLE AT THE END OF THE CYCLE PERIOD.

With 3 minutes left in the Cycle Period, the dehumidifier will turn on the dehumidifier blower for 2 minutes. During this time the temperature and relative humidity are measured and the dewpoint is calculated. If the dewpoint is higher than the setting at the Control Knob then the dehumidifier compressor will turn on and the dehumidifier will run until it reaches set point.

After reaching the set point, the dehumidifier will not sample again until the end of the next Sample Period.

For example, if the Sample Period is set for 1 hour, the dehumidifier will sample at the end of the hour. Once the dehumidifier reaches set point and shuts off, the dehumidifier will not sample again until the end of the next hour.

IF THE DEHUMIDIFIER IS WIRED INTO THE HVAC EQUIPMENT, THE DEHUMIDIFIER WILL SAMPLE THE FIRST TIME THE HVAC EQUIPMENT RUNS IN THE CYCLE PERIOD OR AT THE END OF THE CYCLE PERIOD IF THE HVAC EQUIPMENT DOES NOT RUN.

For example, if the Cycle Period is set to 1 hour and the air conditioner starts 15 minutes into that hour, the dehumidifier will sample when the air conditioner starts. Once the dehumidifier begins dehumidifying, it will run until set point is reached. If the dehumidifier samples and determines that dehumidification is not needed, it will not sample again until the next Cycle Period.

DAMPER SEQUENCE OF OPERATION

In the Whole House Convertible to Localized installation 4 motorized dampers are used to control the air flow through the dehumidifier. The dampers are energized when the HVAC equipment is running. This means that when the HVAC equipment is running, the dampers are in the Whole-House position. When the HVAC equipment is not running, the dampers are in the local position.

VENTILATION OR FAN CYCLING SEQUENCE OF OPERATION

If the dehumidifier is providing outdoor air ventilation or fan cycling, it is monitoring the HVAC equipment to provide the amount of HVAC fan run time that has been set by the Cycle Time during the Cycle Period.

If an outdoor air damper has not been installed then the dehumidifier is providing fan cycling. The dehumidifier will monitor the HVAC system and if the system has not run for the specified Cycle Time within the Cycle Period, the dehumidifier will energize the HVAC fan through the G terminal to provide the desired amount of fan run time.

For example, if the Cycle Time is set for 10 minutes and the Cycle Period is set for 1 hour then the dehumidifier will provide 10 minutes of fan cycling or outdoor air ventilation. If the HVAC system runs for 5 minutes during this hour then the dehumidifier will energize the fan for an additional 5 minutes.

If an outdoor air damper has been installed, then the Model 1700 is providing outdoor air ventilation. The 1700 will open the outdoor air damper whenever the HVAC system is running, up to the amount of time specified by the Cycle Time. The dehumidifier will energize the HVAC fan and open the outdoor air damper to provide the desired ventilation time if the HVAC system has not run for the specified Cycle Time.

If an Outdoor Temperature Sensor has been installed, then the dehumidifier will use the outdoor temperature to determine if the outdoor air damper is to be opened. If the outdoor temperature is above 100°F the damper will not open. If the temperature is between 20°F and 0°F the damper will only open with a heat call. If the outdoor temperature is below 0°F, the damper will not open. If the Outdoor Temperature Sensor is not installed then the temperature is not considered in opening the damper.