



850 Steam Humidifier Fan Pack 5658 Fan Pack Service Part

Installation & Maintenance Instructions



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READ AND SAVE THESE INSTRUCTIONS

SAFETY CAUTIONS

CAUTION

ATTENTION INSTALLER

Read this manual before installing. This product must be installed by a qualified HVAC contractor and in compliance with local, state, federal, and governing codes. Improper installation can cause property damage, severe personal injury, or death as a result of electric shock, burns, or fire.

Read all cautions and instructions.

Read this manual before performing service or maintenance procedures on any part of the system. Failure to follow all cautions and instructions could produce the hazardous situations described, resulting in property damage, personal injury, or death.

Failure to follow the instructions in this manual can cause moisture to accumulate, which can cause damage to structure and furnishings.

HOT SURFACES AND HOT WATER

This steam humidification system has extremely hot surfaces. Steam pipes, and dispersion chamber can be as hot as 212°F (100°C). Discharged steam is not always visible. Contact with hot surfaces, discharged hot water, or air into which steam has been discharged can cause severe personal injury. To avoid severe burns, follow procedures in this manual when performing service or maintenance procedures on any part of the system.

DISCONNECT ELECTRICAL POWER

Disconnect electrical power before installing supply wiring or performing service or maintenance procedures on any part of the humidification system. Failure to disconnect electrical power could result in fire, electrical shock, and other hazardous conditions. These hazardous conditions could cause property damage, personal injury, or death.

Contact with energized circuits can cause property damage, severe personal injury, or death as a result of electrical shock or fire. Do not remove access panels until electrical power is disconnected.

ELECTRICAL SHOCK HAZARD

If the humidifier starts up responding to a call for humidity during maintenance, severe bodily injury or death from electrical shock could occur. Follow the procedures in this manual before performing service or maintenance procedures on the humidifier system.

SHARP EDGES

Sharp edges may cause serious injury from cuts. Use care when cutting openings and handling housing and grille.

EXCESS HUMIDITY

Do not operate humidifier if 850 fan is not operating. Do not place objects in front of steam discharge. Condensation may cause damage.

Do not adjust humidity set point above recommended level or to recommended level if condensation occurs on inside surface of windows or on other surfaces. Excess condensation can cause damage to structure or furnishings. Excess moisture can also allow the possibility for mold growth to occur.

MATERIALS LIST

MATERIALS FURNISHED

850 Fan Pack
75VA transformer for the Steam Humidifier (included with service part 5658 only, installed in Model 865/866 steam humidifiers)
Model 65 Digital Manual Humidistat (provided with service part 5658 and Model 865)
Power connector for Model 65 Digital Manual Humidistat
2 housing mounting screws
4 grille mounting screws
2 serrated nuts for mounting steam manifold
1 stainless steel 45° elbow

NOT FURNISHED

Steam hose – 6' steam hose provided with the Steam Humidifier
Steam hose clamp – provided with the Steam Humidifier
Wire for humidistat and wire to power the Fan Pack
Model 5558 Modulating Humidistat (for Model 866 only)

OPERATION

On a call for humidity, the Steam Humidifier provides power to the Fan Pack. The Fan Pack blower distributes the steam to the room. When the call for humidity ends and the humidifier stops producing steam, the Fan Pack blower will continue to operate for 2 minutes to distribute the remaining steam before de-activating.

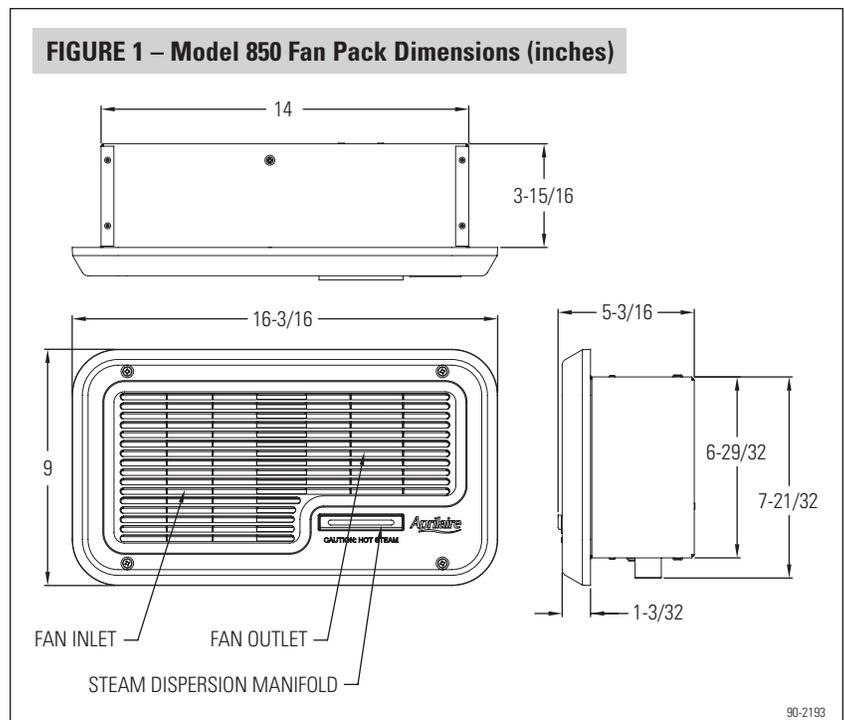
When installing with the Model 800 Steam Humidifier, use the Manual Digital Humidistat included (see **Figure 8**). When installing with the Model 801 Modulating Steam Humidifier, use the Model 5558 Modulating Humidistat (see **Figure 9**).

SPECIFICATIONS & DIMENSIONS

TECHNICAL SPECIFICATIONS

- 24 VAC supplied by the steam humidifier. If purchasing the 5658 fan pack service part ensure the included 75VA transformer is installed in the steam humidifier.
- Stainless steel steam dispersion chamber
- Noise dampening housing liner
- Ultra quiet fan (50 dB)

DIMENSIONS



INSTALLATION INSTRUCTIONS

LOCATION

NOTICE

Fan Pack must be installed over drywall for proper operation.

The Fan Pack must be located near the Steam Humidifier to minimize the length of the steam hose. If the Fan Pack is mounted directly above the humidifier, 16" is required for the steam hose to make the bend. See **Figure 2**.

Six feet of steam hose is provided with the Steam Humidifier. For installations that require longer runs, a combination of the steam hose and insulated copper pipe can be used. See **Figure 3**. When using more than 24" of steam hose or 36" of insulated copper pipe, install a Drain Tee and Trap (#4028) to help control condensate and reduce gurgling. See **Figure 5**.

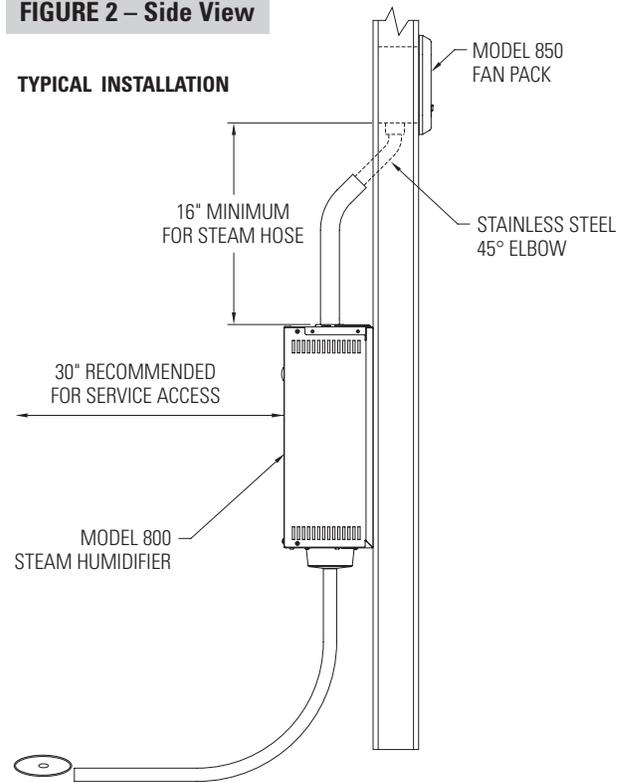
Due to condensation inside the hose or pipe, the output of the Fan Pack depends on the length of the steam hose or pipe connecting it to the Steam Humidifier. See the Steam Humidifier installation manual for maximum steam capacity (gal/day).

Humidity behaves like a gas and under ideal conditions will expand to fill the space. However, air movement due to drafts or as a result of temperature stratification may cause uneven distribution of humidity within the conditioned space. To ensure even RH distribution, install system in a central location.

To prevent condensation on surfaces and furnishings, install the fan pack so the steam being discharged has enough room to be absorbed into the air before encountering surfaces.

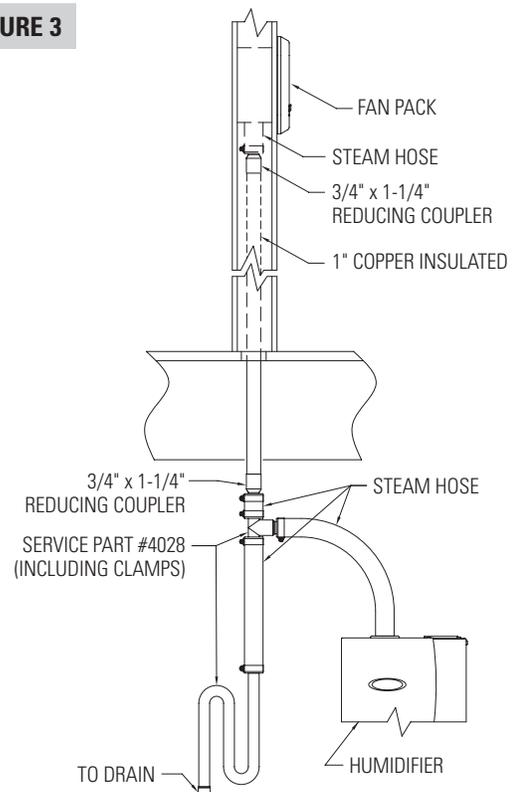
FIGURE 2 – Side View

TYPICAL INSTALLATION



90-2194

FIGURE 3



90-2022

INSTALLATION INSTRUCTIONS (CONTINUED)

LOCATION (CONTINUED)

The following guidelines are for a 240V installation in which the unit discharges into a space with 70°F air temperature and 40% RH.

- Allow 5 feet of unobstructed space directly in front of the grille.
- Allow 2 feet on either side of the grille.
- Allow 1-1/2 feet above the grille.
- Allow 5 feet or more below the grill.

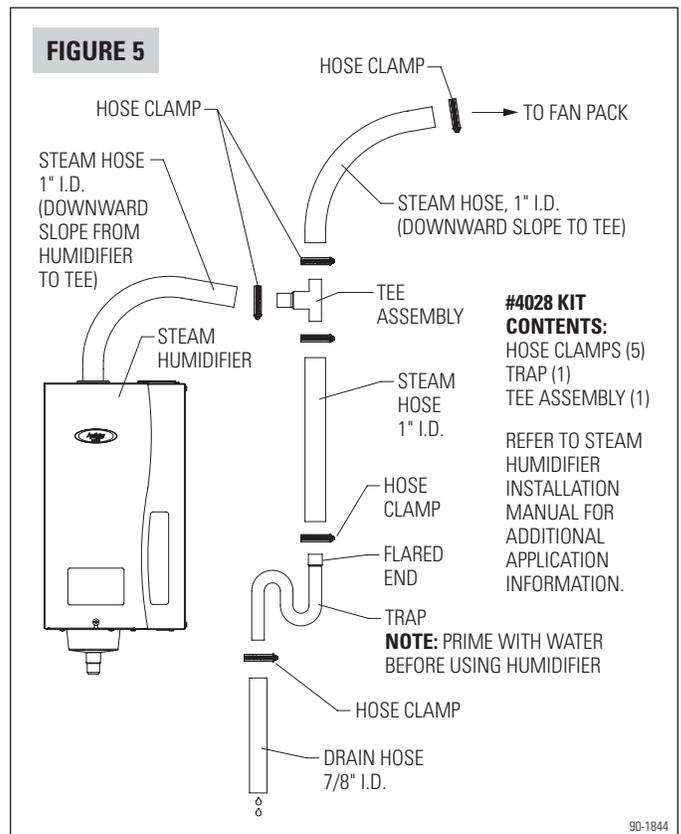
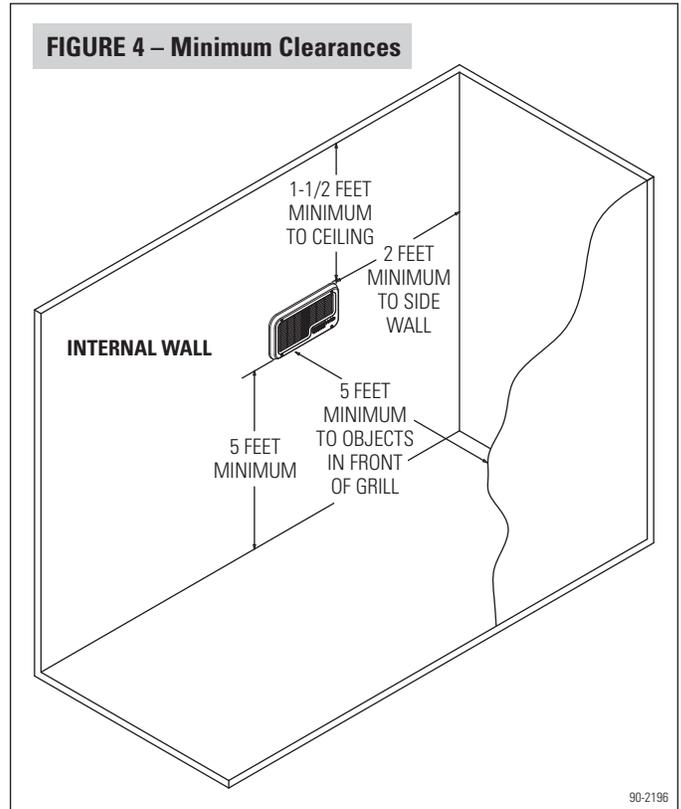
See **Figure 4**.

If the room temperature is less than 70°F, allow an additional 6" to each distance for every two degree drop in temperature.

If the RH set point is higher than 45%, allow an additional foot of space between the grille and any obstruction or surface.

Warmer room air temperature and RH below 35% will reduce the amount of unobstructed space required to absorb discharged steam, but the distances provided are recommended minimums.

NOTE: Condensation running through the steam hose back into the canister may cause a gurgling noise. Install Drain Tee and Trap #4028 as shown in **Figure 5** to divert condensation to drain to eliminate gurgling noise.



INSTALLATION INSTRUCTIONS (CONTINUED)

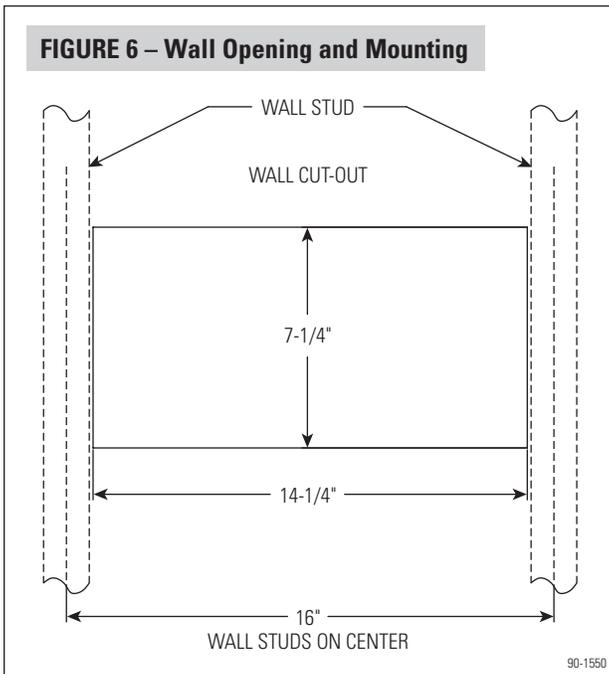
MOUNT HOUSING

The Fan Pack installs between the studs of a standard 16" on-center internal wall. To ensure proper operation, the Fan Pack must be mounted level. Use the four 1-1/2" mounting screws provided to attach the housing to the wall studs. See **Figure 6**.

NOTICE

Fan Pack must be installed over drywall for proper operation.

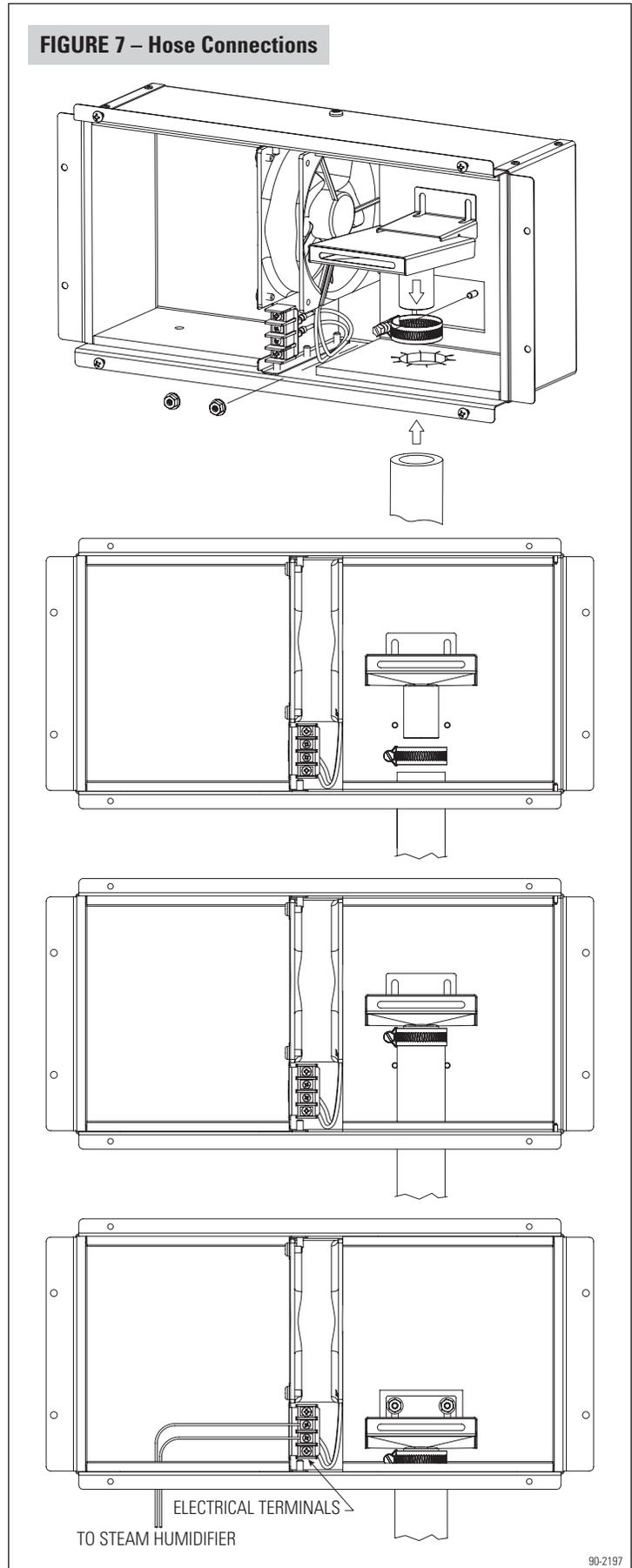
FIGURE 6 – Wall Opening and Mounting



HOSE CONNECTIONS AND STEAM MANIFOLD INSTALLATION

Connect the steam hose (provided with the Steam Humidifier) to the Fan Pack Steam Manifold and use hose clamp (provided with the Steam Humidifier) to secure. Then install the steam manifold into the Fan Pack cabinet by feeding the steam hose back into the wall wall cavity, and secure the manifold with the two serrated nuts (included). See **Figure 7**. A 45° stainless steel elbow is provided for installations with the steam humidifier mounted on the wall behind the fan pack. See **Figure 2**. If more than 6 feet is required, use insulated hard pipe as shown in **Figure 3**. See Steam Humidifier manual for the effect on capacity.

FIGURE 7 – Hose Connections



INSTALLATION INSTRUCTIONS (CONTINUED)

ELECTRICAL WIRING

Disconnect all power to the Steam Humidifier before wiring the Fan Pack. Use standard 24 volt thermostat wire.

Mount the humidistat in the area to be humidified according to installation instructions included with the control. Install the humidistat in the same room or area as the Fan Pack discharge, but at least ten feet away. Wire the Manual Humidistat to the Model 800 using standard 24 volt thermostat wire. See **Figure 8**. Remove the 40VA transformer from the Steam Humidifier and replace with the 75VA transformer supplied with the Fan Pack (necessary for service part 5658 only). If using the Model 65 Digital Manual Humidistat, place the provided wire harness between the control board and the 24VAC output of the transformer. Connect R and C of the humidistat to the red and white wires of the wire harness.

When using the Model 801 Modulating Steam Humidifier with the Modulating Control (#5558), use the wiring diagram in **Figure 9**. **DO NOT USE** the included wire harness.

FIGURE 8 – Wiring Diagram for Manual Humidistat and Fan Pack

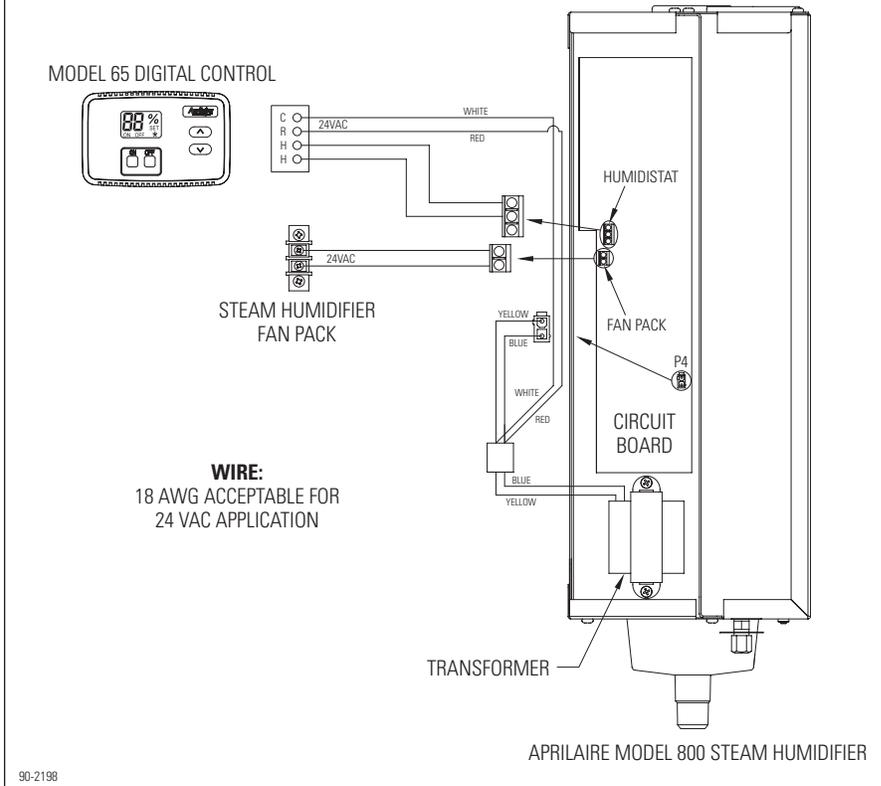
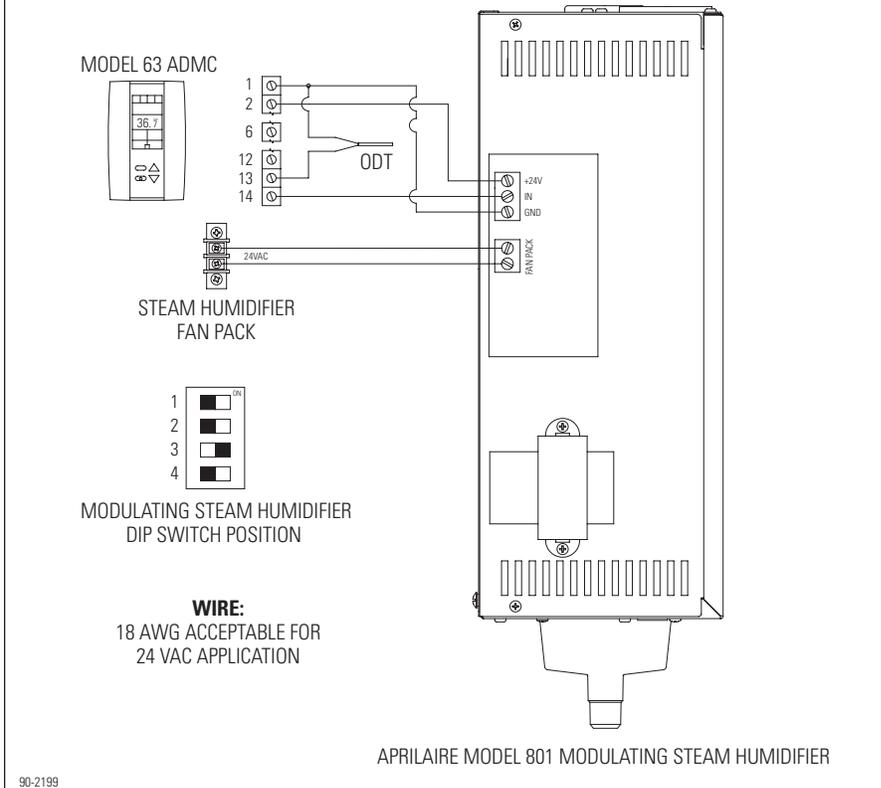


FIGURE 9 – Wiring Diagram for Modulating Control and Fan Pack

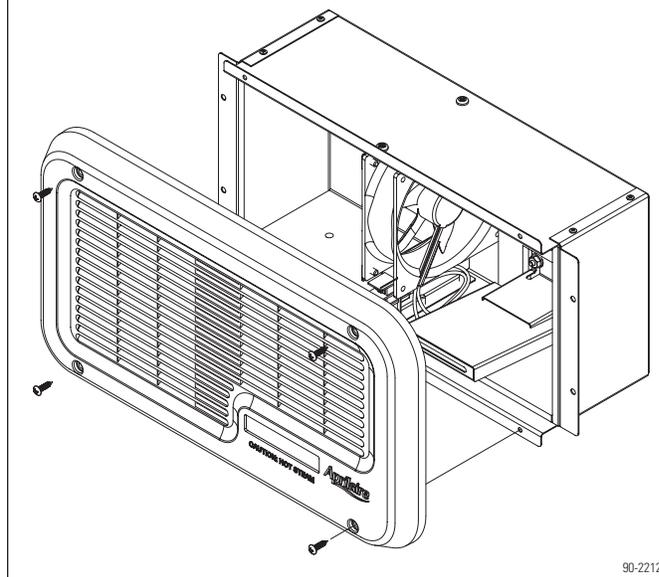


INSTALLATION INSTRUCTIONS (CONTINUED)

GRILLE INSTALLATION

Use the four 5/8" screws to attach the Fan Pack grille to the fan housing and drywall. See **Figure 10**. If painting the grille is desired, see a painting professional for acceptable paint products for high temperature (212°F), high humidity environments and polycarbonate.

FIGURE 10 –Grille Installation



START-UP PROCEDURE

Once the Steam Humidifier and Fan Pack are installed, turn on main power to humidifier and open saddle valve. Turn on the Steam Humidifier and turn humidistat set point up. The Fan Pack blower will turn on. Once canister fills and water boils, steam will flow from the manifold and the fan will distribute it to the room. Set humidistat to desired RH.

CAUTION

The front of the Fan Pack will be hot. Steam may not always be visible.
Do not touch the front of the Fan Pack or place hand in front of the manifold.

Verify that there are no leaks at steam hose connections.

The Fan Pack will operate on a call for humidity and the production of steam by the Steam Humidifier. When the call for humidity is de-activated, the Fan Pack blower will continue to operate for 2 minutes to distribute the remaining steam in the steam hose.

MAINTENANCE

After replacing the Model 80 Steam Humidifier Canister:

- Ensure fan is operating during a call for humidification.
- Check drain, steam and condensate hoses for kinks, blockages, leaks or cracks. Replace if necessary.
- Ensure steam outlet of the fan pack is not blocked.

TROUBLESHOOTING GUIDE

If a problem arises with the Aprilaire Fan Pack, please review the following troubleshooting guide for possible causes and solutions. If the problem persists, call Aprilaire Tech Support toll-free at 1-800-334-6011. Please be prepared to describe the exact nature of the problem.

Problem	Possible cause	Action
Water dripping from Fan Pack	Tubing connection	Check all connections.
	Fan not operating	See "Fan does not operate".
	Steam outlets blocked	Clean steam dispersion manifold outlet.
	Foaming in canister or steam hose	Rinse components with clean water.
	Air drafts in the space	Do not install near supply ducts or ceiling fans.
Fan does not operate	Wiring	Check wiring.
	Steam Humidifier power	Check that Steam Humidifier is powered and on.
	No humidity call	Adjust humidistat setting. Check location of humidistat.
	Circuit board output	Confirm 24 VAC output from Steam Humidifier FAN PACK terminals during a call for humidity. Confirm that the Steam Humidifier contains a 75 VA transformer.
	Motor failure	Replace fan motor.
Noise	Fan noise	Check for obstructions or damage to fan.
	Gurgling	Add a drip tee and trap (PN 4028) to the steam line as close to the Steam Humidifier as possible to divert condensation to drain. See Figure 5 .

SERVICE PARTS

Part No.	Description
65	Digital Manual Humidistat
4028	Tee & Trap
5662	Grille
4999	Fan
5558	Modulating Humidistat

LIMITED WARRANTY

Your Research Products Corporation Aprilaire® fan pack is expressly warranted for five (5) years from date of installation to be free from defects in materials or workmanship.

Research Products Corporation's exclusive obligation under this warranty shall be to supply, without charge, a replacement for any part of the fan pack which is found to be defective within such five (5) year period and which is returned not later than thirty (30) days after said five (5) year period by you to either your original supplier or to Research Products Corporation, Madison, Wisconsin 53701, together with the model number and installation date of the fan pack.

THIS WARRANTY SHALL NOT OBLIGATE RESEARCH PRODUCTS CORPORATION FOR ANY LABOR COSTS AND SHALL NOT APPLY TO DEFECTS IN WORKMANSHIP OR MATERIALS FURNISHED BY YOUR INSTALLER AS CONTRASTED TO DEFECTS IN THE FAN PACK ITSELF.

IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE AFORESAID FIVE YEAR PERIOD. RESEARCH PRODUCTS CORPORATION'S LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OTHER THAN DAMAGES FOR PERSONAL INJURIES, RESULTING FROM ANY BREACH OF THE AFORESAID IMPLIED WARRANTIES OR THE ABOVE LIMITED WARRANTY IS EXPRESSLY EXCLUDED. THIS LIMITED WARRANTY IS VOID IF DEFECT(S) RESULT FROM FAILURE TO HAVE THIS UNIT INSTALLED BY A QUALIFIED HEATING AND AIR CONDITIONING CONTRACTOR. IF THE LIMITED WARRANTY IS VOID DUE TO FAILURE TO USE A QUALIFIED CONTRACTOR, ALL DISCLAIMERS OF IMPLIED WARRANTIES SHALL BE EFFECTIVE UPON INSTALLATION.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above exclusion or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

WARRANTY REGISTRATION

Visit us online at www.aprilaire.com to register your Aprilaire product.

If you do not have online access, please mail a postcard with your name, address, phone number, model number of product purchased and date of installation to:

Research Products Corporation, P.O. BOX 1467, Madison, WI 53701

Your Warranty Registration information will not be sold or shared outside of this company.

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10011634 B2206931C 10.18

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