# Aprilaire<sup>®</sup> Model 400 Series Humidifier Template

# **ATTENTION INSTALLER**

Read this installation template before installing humidifier. Warranty is void unless humidifier is installed by qualified heating and air conditioning contractor due to possible misapplication of product. This product must be installed in compliance with all local, state, and federal codes. Proper humidification and humidity control require that the home be constructed with local codes and good building practices.

# **WARNING**

**ELECTRICAL SHOCK HAZARD.** Disconnect power to the furnace before installing humidifier.

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**SHARP EDGES.** Use care when cutting and handling ductwork.

**HOT WATER CAN SCALD.** Shut off hot water supply before tapping into hot water supply.

#### NOTICE

#### FREEZING TEMPERATURES CAN BURST WATER PIPES.

• Do not install humidifier where freezing may occur.

#### CONDENSATION DAMAGE OR MOLD CAN OCCUR.

- Locate return duct mounted humidifier control at least 6" upstream of humidifier, bypass duct connection, or fresh air intake for accurate humidity sensing.
- Locate wall mount humidifier control in areas unaffected by drafts or heat sources for accurate humidity sensing.
- Reduce the setting on the humidifier control if condensation forms on windows or in unheated spaces.

#### EQUIPMENT DAMAGE MAY OCCUR.

- Do not install humidifier or bypass connection on the furnace jacket.
- Do not connect the transformer to the blower motor wiring.
- Do not install the humidifier or bypass connection on a plenum face at the blanked end of the cooling coil.
- If water pressure exceeds 125 psi, reduce water pressure with devices allowed by local codes.
- Do not use water with temperature greater than 140°F.
- Do not install humidifier on systems with differential pressure greater than 0.4 w.g. between the supply and return plenums.
- When installing the humidifier control on the return duct of a downflow furnace, ensure the blower continues to run after a heat call is satisfied.

#### SPECIFICATIONS

#### Humidifier Dimensions:

Width (including solenoid valve): 15-3/8' Height (including drain spud): 15-3/4" Depth: 10-1/4"

### Bypass Duct Opening: 6" diameter

Plenum Opening: 10"W x 12-3/4"H Water Feed Rate: 3 gph

Electrical Data: 24 VAC, 60 Hz, 0.5 Amp Water Panel<sup>®</sup>: Model 45

#### **FURNISHED ITEMS**

- Humidifier with built-in bypass damper
- 24 VAC transformer
- Automatic Digital Humidifier Control and Outdoor Temperature Sensor (Model 400 only)
- Manual Humidifier Control (Model 400M only)Humidifier Control Installation Instructions
- Saddle valve
- Humidifier Installation Template

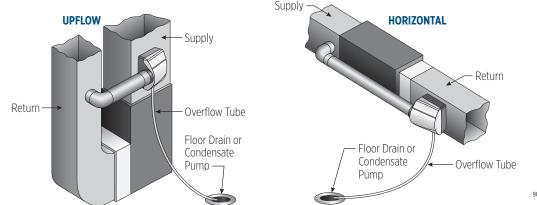
#### **ITEMS NOT FURNISHED**

- Mounting screws (sheet metal screws)
- Water supply line (1/4" O.D. copper)
- Drain line (1/2" I.D. hose)
- Low voltage wire
- Bypass ductwork
- Model 50 current sensing relay (if required)

#### **INSTALLATION OPTIONS (LEFT HAND DISCHARGE SHOWN)**

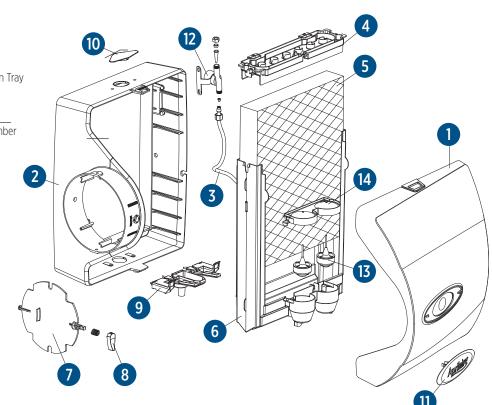
Aprilaire® Model 400 and 400M can be installed on either the supply plenum or cold air return of a forced air handling system with right hand or left hand bypass duct connections. The humidifier dimensions and serviceability must be considered when selecting the best location for the humidifier.

The humidifier functions with cold, hot, softened, or unsoftened water.



# PARTS LIST

- 1. Front Cover
- 2. Base
- 3. Feed Tube
- 4. Water Distribution Tray
- 5. Water Panel®
- 6. Scale Control Insert/Float Charnber
- 7. Integral Damper
- 8. Damper Handle
- 9. Water Level
- Sensor Assembly
- 10. Hole Plug
- 11. Nameplate
- 12. Solenoid Valve
- Float
  Float Cover



# **TEMPLATE MUST BE LEVEL**

90-1079

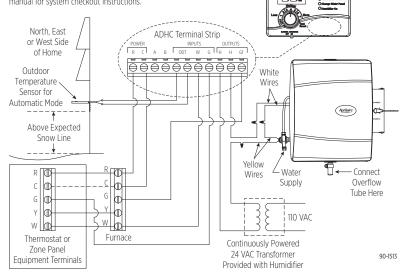
#### **INSTALLATION INSTRUCTIONS** 1 2 3 Minimize Level Distance Press tabs to Authorite Template remove cover. Do not position 6 opening in front of cooling coils. Pull feed tube out of 90-1165 distribution tray, and remove 90-2248 90-2248 Water Panel® evaporative assembly. Cut opening using this template. SUMMER 6 4 5 7 90-1069 90-2248 90-1068 90-2248 Turn damper handle to WINTER when in use. Secure base with screws. Insert feed tube into distribution tray. Tighten water line by double wrenching. **8**a 8b 9 Drain Line: Ensure Completed 18" downward Minimum Installation P slope and no kinks. Drain Spud • Do not over-0 e 9 Hose Clamp tighten hose NO NO NO clamp onto Overflow Tube drain spud. 5 Feet þ • Do not use Floor Drain or

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Location of manual humidifier control in living space.

### MODEL 400 DIGITAL HUMIDIFIER CONTROL WIRING

**NOTE:** Control will display software revision level i.e. rl, when the one minute test cycle has completed. Refer to the control installation manual for system checkout instructions.



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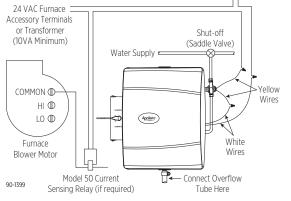
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Locate manual or digital humidifier control on the

return 6" above the humidifier or bypass duct.

# MODEL 400M MANUAL CONTROL WIRING

**IMPORTANT:** Use 120 VAC power source other than furnace motor circuit. However, the transformer can be powered off the hot 120 VAC line before it enters the furnace. **Do not wire transformer into furnace blower circuit.** 



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**IMPORTANT:** When Model 50 current sensing relay is used, wire Model 50 current sensing relay into 24 VAC humidifier control circuit only! **Do not install in transformer primary circuit.** 

# **TEMPLATE MUST BE LEVEL**

# INSTALLATION CHECKLIST

solvent

adhesive on

drain spud.

Condensate

90-2248

Pump

- Saddle valve is fully open.
- All plumbing connections are watertight.
- Humidifier functions properly.
- Bypass damper is in proper position.
- Owner's manual has been given to homeowner.

