

AprilAire®

Humidifier

INSTALLATION TEMPLATE

500 Series

Small Bypass
Evaporative Humidifier

⚠ WARNING

- **ATTENTION INSTALLER:** Read this manual before installing. Improper installation or maintenance may cause property damage or injury. It is recommended that installation, service, and maintenance be performed by a trained service technician. This product must be installed in compliance with all local, state, and federal codes.
- **ELECTRIC SHOCK HAZARD:** 120 volts may cause serious injury from electric shock. Disconnect electrical power to the HVAC system and humidifier before starting installation or servicing. Leave power disconnected until installation/service is completed.
- **RISK OF SCALDING.** Water temperature over 125°F can cause severe burns and scald instantly. Shut off the hot water supply before disconnecting or tapping into any hot water supply line.
- Avoid obstructions such as plumbing or electrical wires when cutting into walls.

⚠ CAUTION

- **SHARP EDGES MAY CAUSE INJURY FROM CUTS.** Use care when cutting plenum openings and handling ductwork. Always wear glasses/goggles and gloves when installing the unit.
- Dropping may cause personal injury or equipment damage. Handle with care and follow installation instructions.

NOTICE

FREEZING TEMPERATURES CAN BURST WATER PIPES.

- Do not install the humidifier where freezing may occur. The water line could freeze and crack causing water damage to the home.

CONDENSATION DAMAGE OR MOLD CAN OCCUR.

- Position the return duct mounted humidifier control at least 6" upstream of the humidifier, bypass duct connection, or fresh air intake for accurate humidity sensing.
- Position the wall-mounted humidifier control in areas unaffected by drafts or heat sources for accurate humidity sensing.
- Lower the humidity setting on the humidifier control if there is excess condensation on the inside of any windows in unheated living spaces.

EQUIPMENT DAMAGE MAY OCCUR IF INSTALLATION INSTRUCTIONS ARE NOT FOLLOWED.

- Do not install the 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.
- Use hot water with a temperature no greater than 140°F (60°C).
- Do not install the humidifier on systems with differential pressure greater than 0.4" w.c. between the supply and return plenums.
- When installing the humidifier control on the return duct of a downflow furnace, ensure blower continues to run after a heat call is satisfied to eliminate high temperatures from damaging the humidifier control.
- Periodically check drain line to make sure water flows freely to drain.

SPECIFICATIONS

Humidifier Dimensions:

Width (including solenoid valve): 15-5/8"

Height (including drain spud): 13"

Depth: 10-1/4"

Bypass Duct Opening: 6" diameter

Plenum Opening: 9-1/2"W x 9-1/2"H

Water Feed Rate: 3 gph

Electrical Data: 24 VAC, 60 Hz, 0.5 Amp

Water Panel®: Model 10

FURNISHED ITEMS

- Humidifier with built-in bypass damper
- 24 VAC transformer
- Automatic Digital Humidifier Control and Outdoor Temperature Sensor (Model 500 only)
- Manual Humidifier Control (Model 500M only)
- Humidifier Control Installation Instructions
- Saddle valve
- Humidifier Installation Template

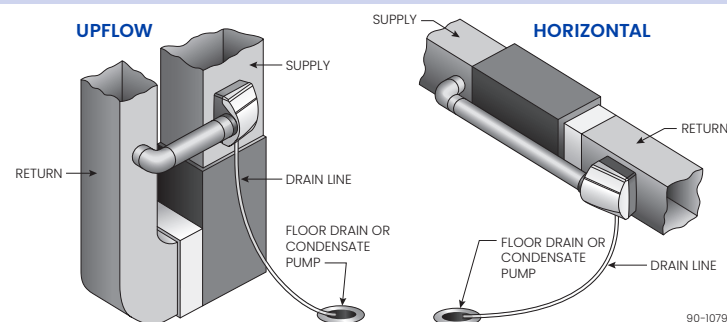
ITEMS NOT FURNISHED

- Mounting screws (sheet metal screws)
- Water supply line (1/4" O.D. copper)
- Drain line (1/2" I.D. hose)
- Low voltage wire (18-22 gauge)
- Bypass ductwork
- Model 50 current sensing relay (if required)

INSTALLATION OPTIONS (LEFT HAND DISCHARGE SHOWN)

AprilAire Model 500 and 500M 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.

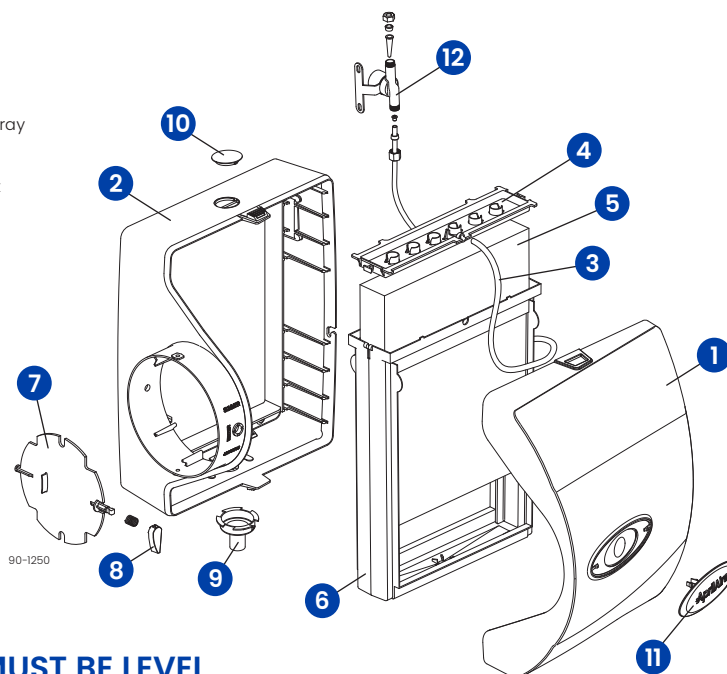
Hot water is recommended (140°F max) for maximum evaporative capacity. It is also required when the Blower Activation Feature is used with an Automatic Digital Humidifier Control or when mounted on a heat pump system. The humidifier functions with cold, hot, softened, or unsoftened water.



90-1079

PARTS LIST

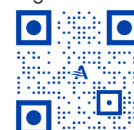
1. Front Cover
2. Base
3. Feed Tube
4. Water Distribution Tray
5. Water Panel
6. Scale Control Insert
7. Bypass Damper
8. Damper Handle
9. Drain Spud
10. Hole Plug
11. Nameplate
12. Solenoid Valve



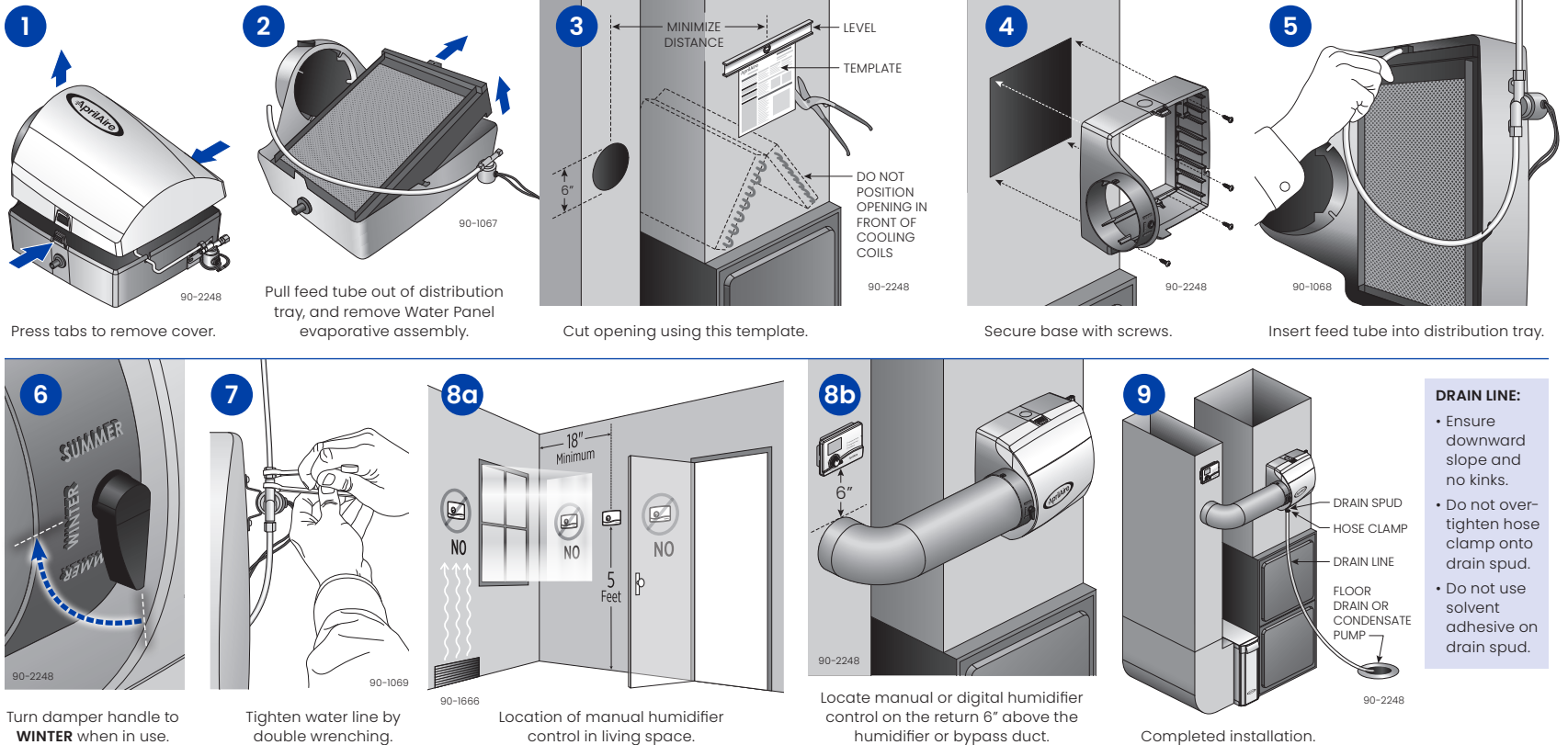
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TEMPLATE MUST BE LEVEL

Product Info &
Digital Manual

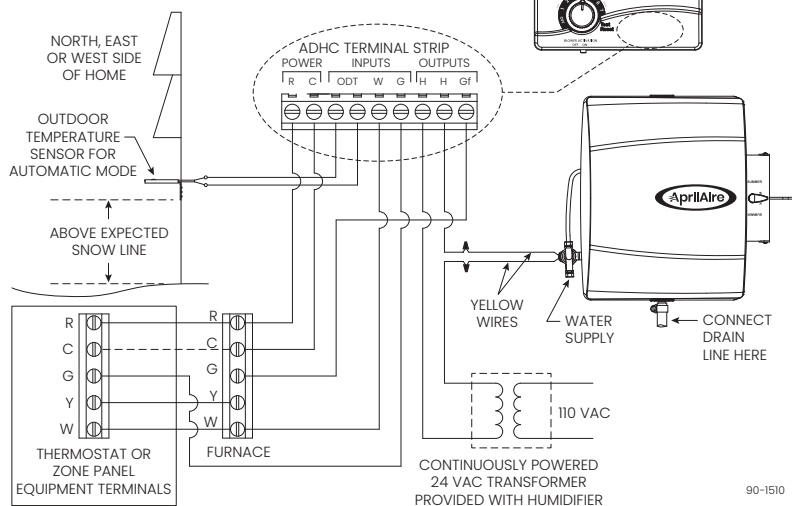


INSTALLATION INSTRUCTIONS



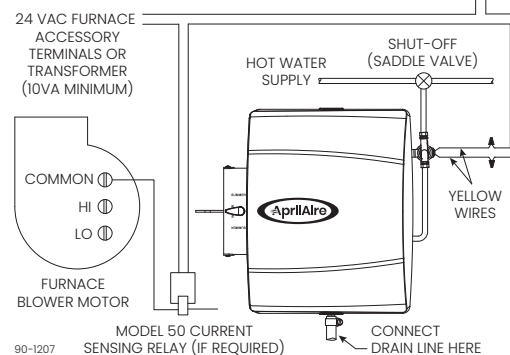
MODEL 500 DIGITAL HUMIDIFIER CONTROL WIRING

NOTE: Control will display software revision level, e.g., r3, when the one minute test cycle has completed. Refer to the control installation manual for system checkout instructions.



MODEL 500M MANUAL CONTROL WIRING

IMPORTANT: Use 120 VAC power source other than furnace blower 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.**



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.**

INSTALLATION CHECKLIST

- ☐ 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.