

## EVAPORATIVE COOLING MODULE INSTALLATION, MAINTENANCE, AND TROUBLESHOOTING

### OPTION AS3, AS4, AS5, OR AS8 FOR MODELS ADF, ADFH, PGBL, RBL, RGLB, RPB, RPBL, AND SSCBL

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#### GENERAL INFORMATION

- The optional evaporative cooling module for packaged indirect-fired system models RGLB, RPBL, SSCBL, PGBL, blower cabinet model RBL, and direct-fired makeup air models ADF/ADFH 700/1200 is factory-assembled but requires field-installation.
- The evaporative cooling module is available in the following options:
  - Option AS3:** includes 6-inch rigid cellulose media
  - Option AS4:** includes 12-inch rigid cellulose media
  - Option AS5:** includes 6-inch rigid glass fiber media
  - Option AS8:** includes 12-inch rigid glass fiber media
- The base parts for supporting the evaporative cooling module and the transition duct for connecting it to the unit are shipped with the module for field-assembly and installation. If optional moisture elimination pads, a drain and fill kit, and/or a water hammer arrestor are to be included in the installation, they also require field-installation.
- All evaporative cooling modules require outside air.

## GENERAL INFORMATION—CONTINUED

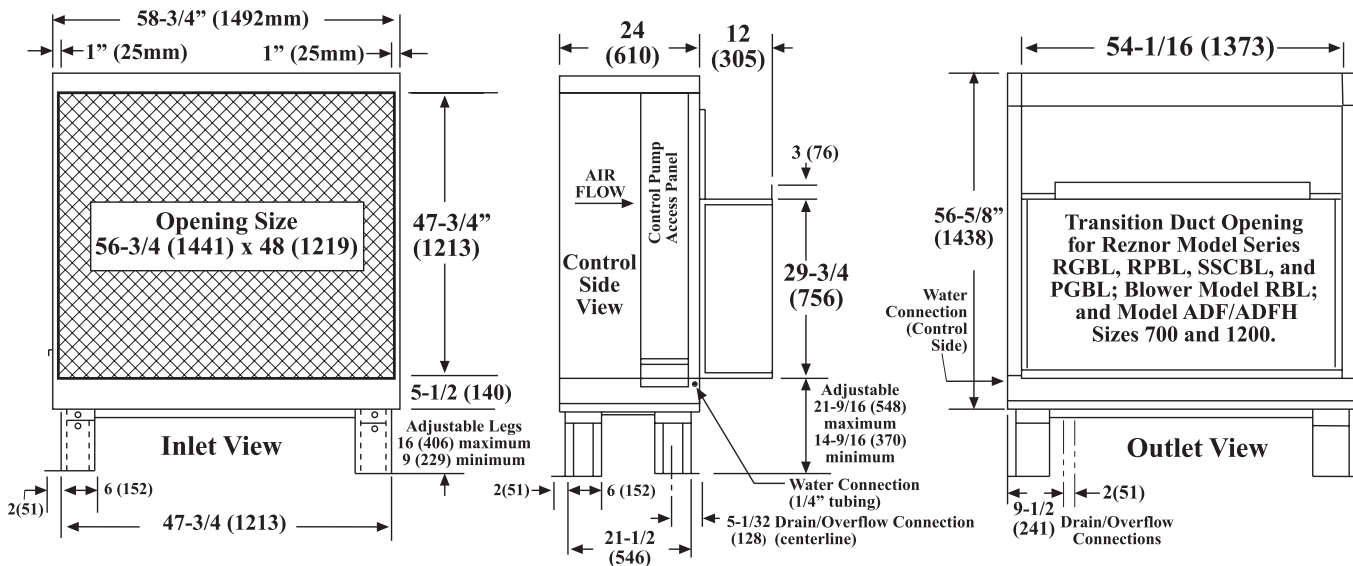
**NOTE: INDOOR INSTALLATIONS: DO NOT suspend the evaporative cooling module—it must be mounted on a platform. If the installation location does not have a suitable platform that allows the module to be installed directly to the cabinet, install the module on a separate platform with a compatible field-fabricated transition duct between the module and the cabinet.**

- Ensure that all components listed in **Table 1** are available before beginning installation. These components are shipped with the evaporative cooling module.

Item No.	Component	PN (Quantity)	Application
1	End rail	107235 (2)	Base assembly
2	Side rail	107227 (2)	
3	Two-piece leg	107236 (4)	
4	Front top cover	107228 (1)	Cooling module
5	Duct top	107229 (1)	Transition duct
6	Duct side	107231 (2)	
7	Duct bottom	107230 (1)	
8	Screw, #10 × 1/2	11813 (AR)	
9	Hex head bolt, 1/4-20	16246 (AR)	
10	Nut, 1/4-20	16050 (AR)	
11	Duct extension	107233 (2)	BL models, unit sizes 500 and 600
12	Duct extension	107234 (2)	BL models, unit sizes 700 and 1050
13	Bleed line fitting, 1-1/4 hose ID × 1/2 NPT*	105945 (1)	Cooling module connections
14	Bushing (Heyco #SR-7W-2)	16835 (2)	

NOTE: AR = as required.  
\*Not used with optional timed metering AquaSaver® system.

### Dimensions



**Figure 1. Dimensions**

### Weights

Option			
AS3	AS4	AS5	AS8
<b>Net Weight (Pounds (kg))*</b>			
379 (172)	431 (195)	420 (191)	514 (233)

\*With wet media and full reservoir.

## INSTALLATION

Install the evaporative cooling module as follows. Item numbers in parentheses refer to [Table 1](#).

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### ⚠ CAUTION ⚠

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- **DO NOT** mount the cooling module directly on soft tar roofs where the legs could sink and tilt the cooling module. Provide a weather-resistant solid wood or metal base under the cooling module support base.
  - **DO NOT** install the cooling module and connecting duct while blowers are in operation.
- 

**NOTE:** Before installation, make preparations for necessary supplies, tools, and manpower.

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#### Pre-Installation Checklist

- Ensure that installation complies with all local, utility, and federal building and safety codes and regulations.
- Check module for shipping damage. If damage is found, document it with transporting agency and immediately contact Distributor.
- If module is being installed indoors (model SSCBL, PGBL, or ADF/ADFH 700/1200), outside makeup air must be provided.
- If optional shipped-separate equipment is required (i.e., drain and fill kit, freeze protection kit, moisture elimination pads, and/or water hammer arrestor), check to ensure that these parts are available for installation.
- Ensure that there is adequate clearance between bottom of reservoir and roof or platform to allow for drain and overflow pipe connections (refer to [Dimensions](#) section).
- Ensure that roof or platform is capable of handling additional load of cooling module with full reservoir (refer to [Weights](#) section).
- Ensure that mounting surface for cooling module is level and free of debris.

#### Assemble Base

Refer to [Figure 2](#).

1. Assemble all four legs:
  - a. Secure each two-piece leg (3) together using four bolts (9) and nuts (10).
  - b. Top flange of assembled legs should be level with bottom of system cabinet. Adjust legs to proper height and securely tighten bolts and nuts. Leg height is adjustable from 9–16 inches (229–406 mm).
  - c. Position four assembled legs approximately 2 feet (610 mm) from air inlet side of cabinet in rectangular pattern corresponding to size of cooling module. Check again to ensure that top of legs are level with bottom of makeup air system cabinet.

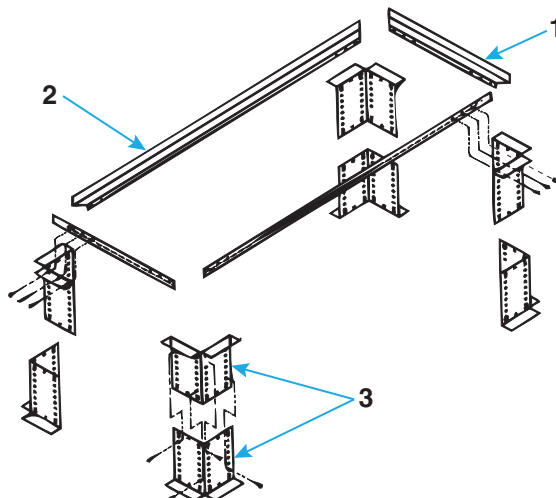


Figure 2. Base Assembly (Refer to [Table 1](#))

## INSTALLATION—CONTINUED

### Assemble Base—Continued

2. Connect base rails to legs:
  - a. Position side rails (2) on **inside** of top flanges on assembled legs (3). Secure rails to top three holes on legs located just below top flange using bolts (9) and nuts (10). Repeat on three remaining legs. Tighten nuts securely.
  - b. Position end rails (1) on **inside** of top flanges on assembled legs (3). Secure rails to top three holes on legs located just below top flange using bolts (9) and nuts (10). Repeat on three remaining legs. Tighten nuts securely.

### Install Evaporative Cooling Module on Base

Refer to [Figure 3](#).

1. Carefully lift cooling module with both ends supported and place it on base assembly. Ensure that module is level and that all base assembly bolts are secure.
2. Install top front cover (4) and secure using 13 screws (8)—three per side and seven across top.

### Assemble Transition Duct

Refer to [Figure 3](#).

1. Secure duct top (5) to duct sides (6) using eight screws (8)—four per side.
2. Secure duct bottom (7) to duct sides (6) using eight screws (8)—four per side.

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**NOTE: If the packaged heating system is a unit size 500, 600, 700, or 1050 BL model, duct extensions (11 or 12) must be installed on the transition duct.**

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3. Secure duct extensions (11 for unit size 500 or 600 or 12 for unit size 700 or 1050) to transition duct assembly using fourteen screws (8).

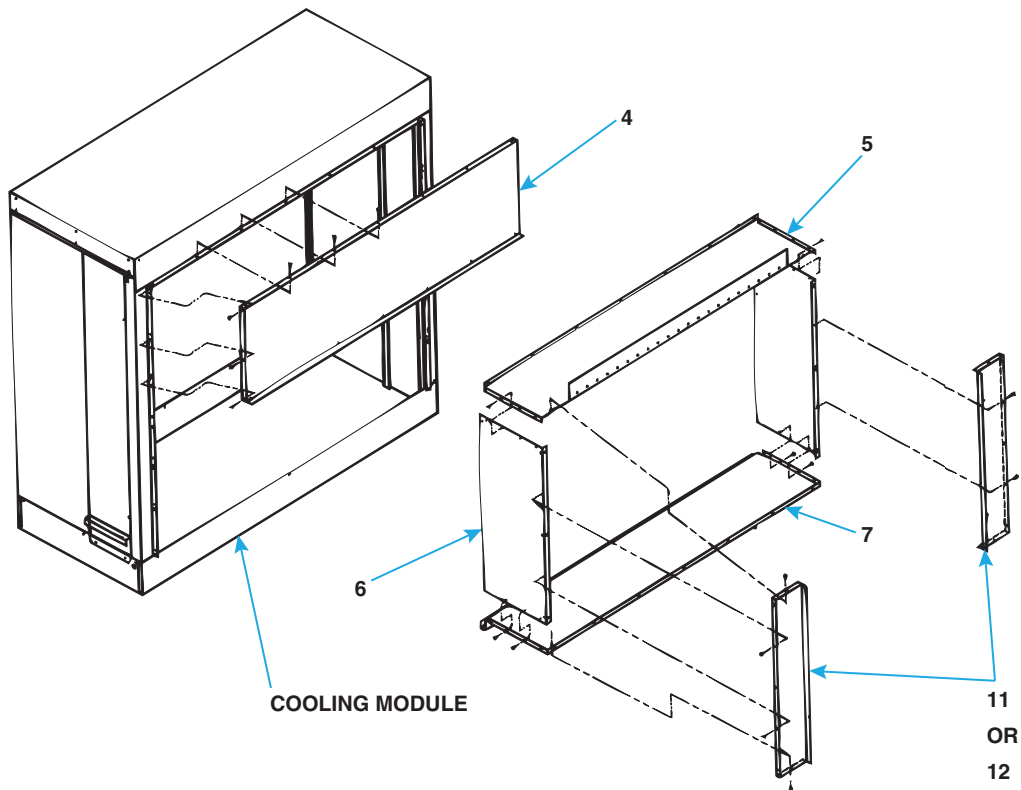


Figure 3. Evaporative Cooling Module and Transition Duct (Refer to [Table 1](#))

## Connect Transition Duct to Blower Cabinet

Refer to [Figure 4](#).

1. Remove and save screws from along top rear lip of blower cabinet panel.
2. Slide transition duct flange underneath blower cabinet top edge and loosely insert two existing screws through top edge, through transition duct flange, and into cabinet end panel.
3. If transition duct has duct extensions (11 or 12), insert duct extension mounting flanges into slots on blower cabinet end panel.

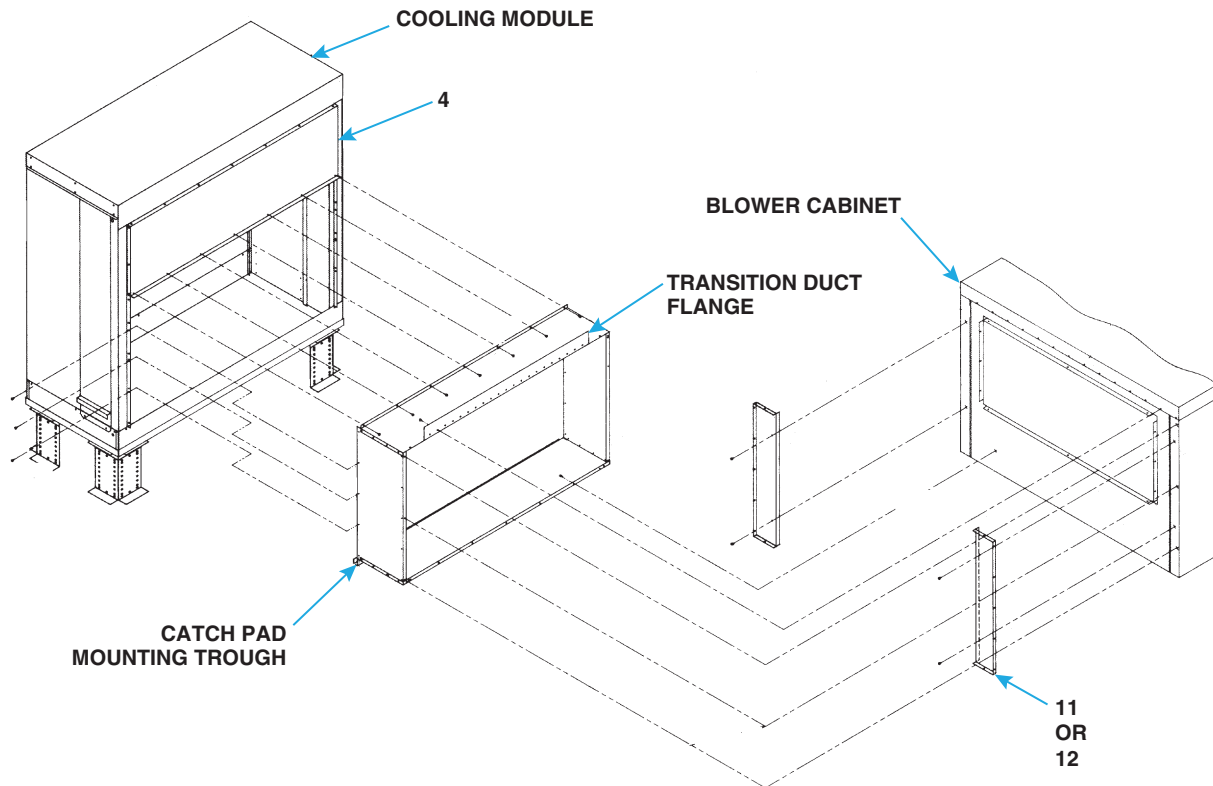


Figure 4. Evaporative Cooling Module, Transition Duct, and Blower Cabinet (Refer to [Table 1](#))

## Connect Transition Duct to Evaporative Cooling Module

Refer to [Figure 4](#).

1. With transition duct connected to blower cabinet, carefully tilt transition duct upwards to clear cooling module reservoir pan and slide cooling module underneath catch pad mounting trough.
2. Squeeze cooling module and transition duct assembly into blower cabinet until tight fit is obtained.
3. Align holes in cooling module corner leg (3) with holes in transition duct sides and secure transition duct sides to cooling module using screws (8)—five per side.
4. Secure transition duct flange to front top cover (4) using seven screws (8).
5. With cooling module and transition duct properly positioned on blower cabinet, tighten two screws that have been loosely inserted. Re-insert and tighten existing screws in remaining holes along top edge of cabinet.

**NOTE: It may be easier to connect the transition duct to the blower cabinet with the media pads removed. If optional moisture elimination pads are included, media pads will have to be removed to complete the installation (refer to [Installation/Replacement of Media Pads](#) section).**

6. If there are no duct extensions (11 or 12) on transition duct, reach inside cooling module and secure module to back of blower cabinet end panel using six screws (8). If there are duct extensions, reach inside cooling module and secure duct extensions to back of blower cabinet end panel using four screws (8).
7. Secure bottom of transition duct to blower cabinet end panel using seven screws (8).
8. Ensure that all screws are in place and seal all corners of transition duct assembly using waterproof silicone sealant to prevent moisture from entering cabinet.

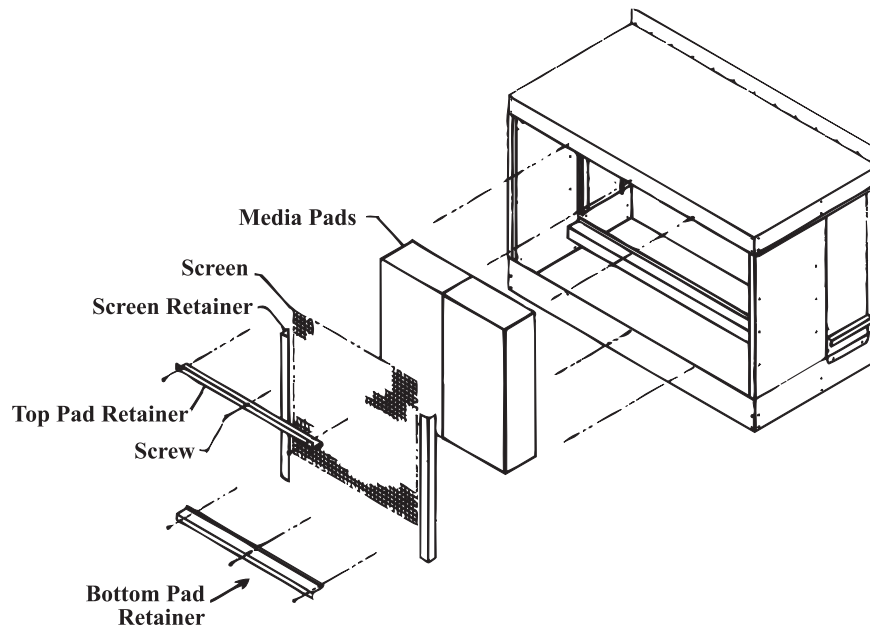
## INSTALLATION—CONTINUED

### Installation/Replacement of Media Pads

**NOTE: Option ASA1 moisture elimination pads are shipped separately for field-installation.**

Install/replace media pads and/or moisture elimination pads as follows:

1. Remove media pads (see [Figure 5](#)):
  - a. Remove three screws that secure top pad retainer and release top pad retainer from cooling module.
  - b. Remove three screws that secure bottom pad retainer and release bottom pad retainer from cooling module.
  - c. Disengage screen retainers from sides of media pads.
  - d. Disengage inlet screen from media pads and remove media pads from cooling module.
  - e. Slide all media pads horizontally away from cooling module until clear of bottom reservoir pan.



**Figure 5. Media Pad Assembly**

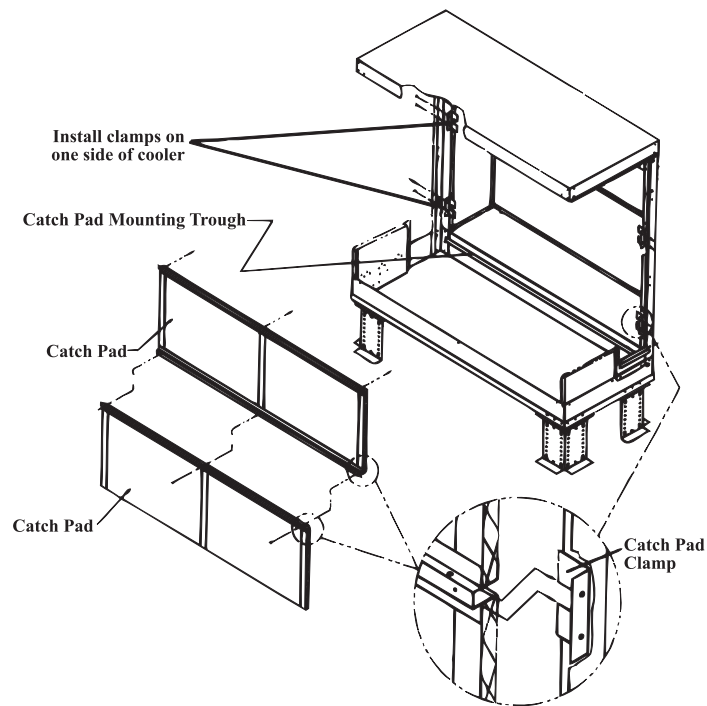
2. Install moisture elimination pads if required (see [Figure 6](#)):
  - a. Install two catch pad clamps to one side of cooling module's front legs and secure clamps through legs into clamp using four screws (8).
  - b. Assemble catch pads together using three screws (8).

**NOTE: The screen part of the catch pad assembly should always be facing the attached air mover.**

- c. Guide catch pad assembly through inlet of cooling module and place bottom of lower pad into catch pad mounting trough (see [Figure 4](#)). Slide catch pad assembly into two slots located in catch pad clamps installed in step 2a.
- d. With pads in place, slide one of two remaining clamps over middle seam where assembled catch pads meet. Slide other clamp over top catch pad frame and secure both clamps to cooling module leg using screws (8).

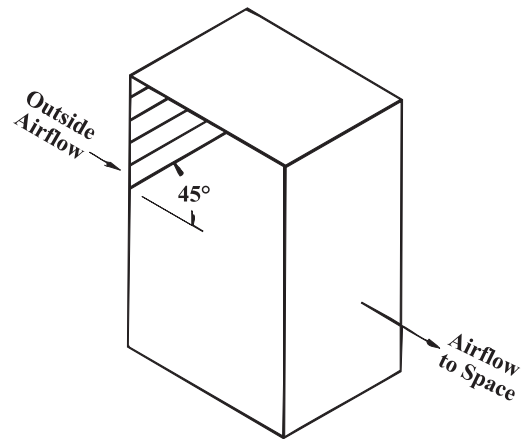
### ⚠ CAUTION ⚠

**IMPORTANT: Cooling media is made up of two different sheets of cooling material, each with its own unique angle. When replacing the cooling media, BE CERTAIN that the 45° angle slopes downward toward the incoming outside air. If the media is not installed properly, water blowoff from the media pads will occur.**



**Figure 6. Elimination Catch Pad Assembly**

3. Reverse procedure in step 1 to replace media pads. Media must be installed in orientation shown in [Figure 7](#).



**Figure 7. Airflow Direction Through Media Pads**

### **Pump/Junction Box Assembly Installation**

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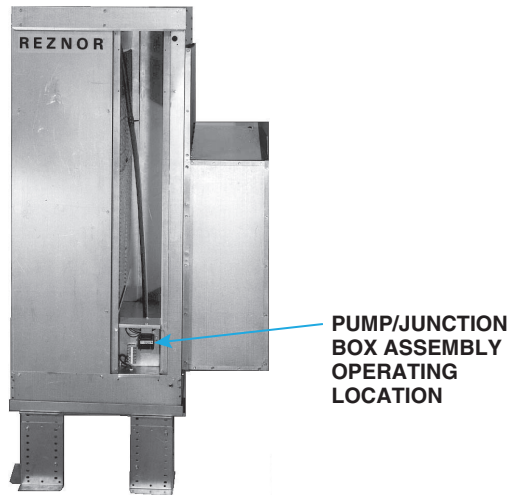
**NOTE: To avoid damage during shipping, the pump/junction box assembly is secured to the top of the side panel.**

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1. Support pump/junction box assembly and remove and save four screws that secure assembly in its shipping location.
2. Install pump/junction box assembly in its operating location (see [Figure 8](#)) and secure using existing screws.

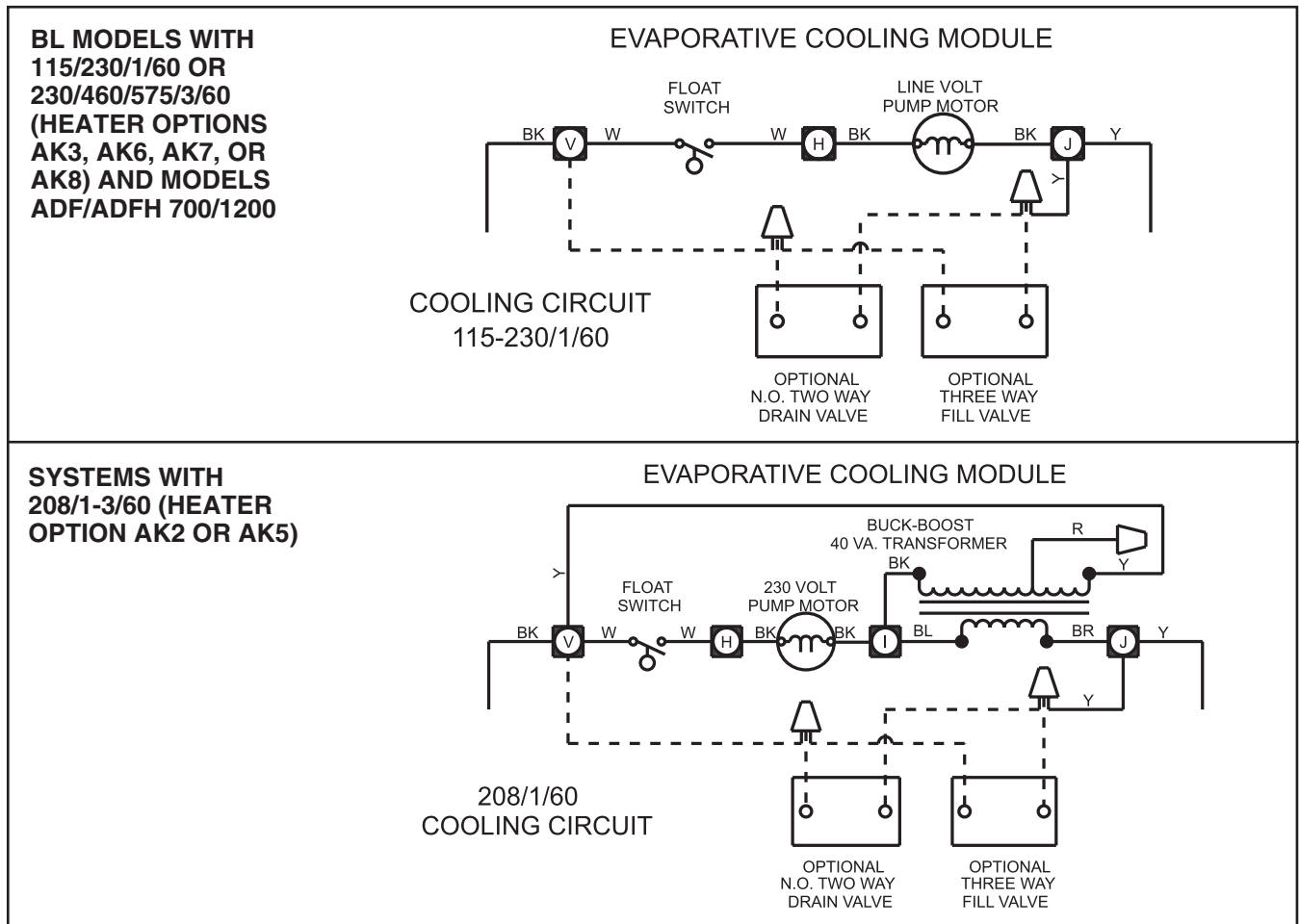
## INSTALLATION—CONTINUED

### Pump/Junction Box Assembly Installation—Continued



**Figure 8. Pump/Junction Box Assembly**

### Electrical Connections



**Figure 9. Evaporative Cooling Module Factory-Installed Wiring**

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## ⚠ WARNING ⚠

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**Disconnect power to the unit.**

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### NOTES:

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- **Line voltage wiring must be field-installed between the blower junction box and the evaporative cooling module junction box. The tubing-encased wires are factory-connected in the cooling module junction box.**
  - **Models ADF/ADFH have optional 115V evaporative cooling module pumps. A transformer is included on the unit.**
  - **The two snap strain relief bushings, which must be used to prevent water from leaking into the cabinet, are shipped in the bottom pan of the cooling module.**
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1. Remove compartment door panels, electrical compartment cover, and service panel in line with hole in cooling module.
2. Drill 7/8-inch hole in cabinet end panel in line with hole in cooling module junction box.
3. Pull tubing-encased wires through hole in blower cabinet. Place one strain relief bushing around tubing and insert bushing into hole.
4. Route wires across cabinet bottom. If there are any filters, run wires through slot in bottom filter rack. If there are inlet dampers, take care to ensure that wires do not interfere with damper controls.
5. Run wires up to electrical compartment, remove plug from one bottom entrance hole, and push tubing-encased wires into electrical compartment. Place other strain relief bushing around tubing and insert bushing into hole in electrical compartment.
6. Connect wires to terminal blocks in accordance with wiring diagram provided with heater. If there is excess tubing and/or wiring, trim before making connections.
7. Before unit is operated, replace all door panels and fasten all latches.

### Piping Connections

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## ⚠ CAUTION ⚠

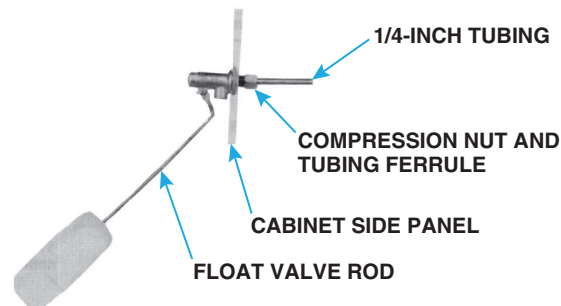
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**On outdoor systems, the water reservoir must be drained and the pump motor must be turned off when the outside temperature falls below 32°F. The pump must never be operated without water in the reservoir.**

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#### *Float Valve Connection*

- In a cooling module with pump and float controls, a float valve (see [Figure 10](#)) maintains the appropriate water level in the reservoir.
- Connect the fresh water supply to the float valve inlet using a field-supplied 1/4-inch diameter tubing with compression nut and tubing ferrule. Place the nut and ferrule over the tubing and insert the tubing into the float valve stem. Tighten the nut securely.



**Figure 10. Float Valve Connection**

## INSTALLATION—CONTINUED

### Piping Connections—Continued

#### Optional Fill and Drain Kit Installation

An optional automatic fill and drain kit will automatically release supply water to the cooling module when a call for cooling is made and will drain all water from the reservoir when the cooling switch is deactivated or a cooling [thermostat](#) is satisfied. Install the optional fill and drain kit as follows:

**NOTE: Follow instructions included in the valve packages for connecting valves to the water line only. The remainder of the installation instructions with the valves do not apply to this type of application.**

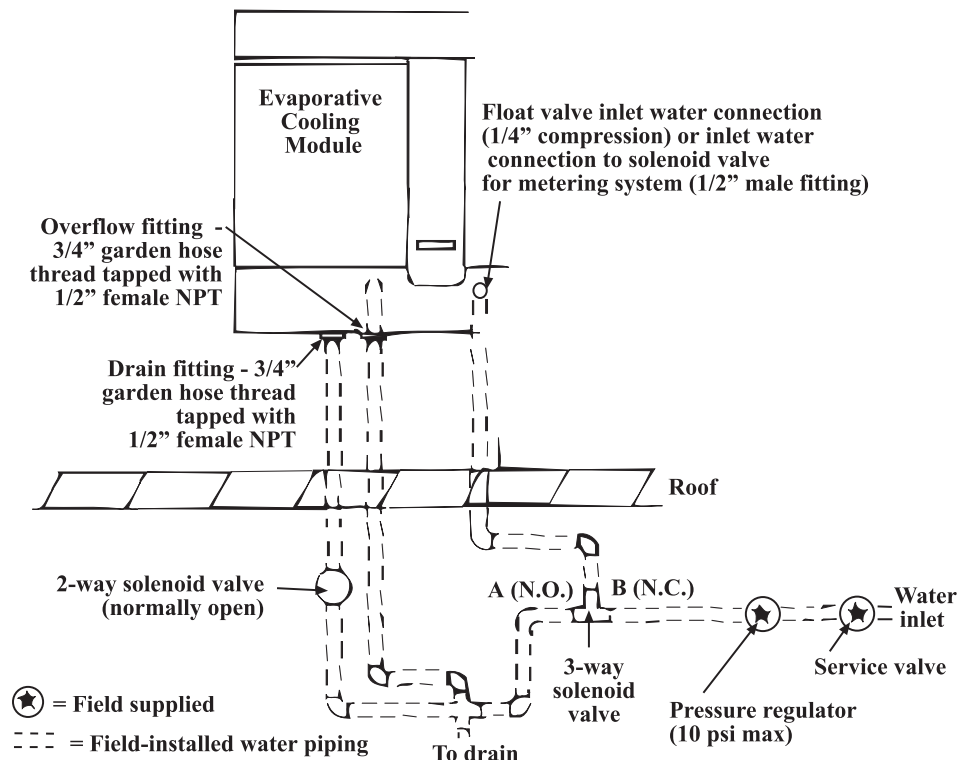
1. Connect water line (see [Figure 11](#)):
  - a. For supply (three-way valve) connections, connect water supply line to B (normally closed), connect water drain line to A (normally open), and connect middle outlet to supply water to cooling module reservoir.
  - b. For drain (two-way valve) connections, connect drain pipe from reservoir to A and connect outlet side to B and connect into drain lines from cooling reservoir and supply valve.
2. Connect wiring (requires black and white 14-gauge wire):

### ⚠ WARNING ⚠

**Risk of electrical shock. Disconnect the power.**

**NOTE: Refer to the wiring diagram provided with the furnace. If the kit is not ordered with the system, connections will not be shown on the diagram. Terminal connections are specific to each system. Contact the factory for terminal connections. Be prepared to provide all model information.**

- a. Run field-supplied black wire from electrical compartment (terminal on wiring diagram) of evaporative cooling module and connect to black wire on three-way and two-way valves.
- b. Run field-supplied white wire from electrical compartment (terminal on wiring diagram) of evaporative cooling module and connect to white wire on three-way and two-way valves.



**Figure 11. Fill and Drain Kit Connections**

### **AquaSaver Timed Metering Control System Connections**

- If the cooling module is equipped with a timed metering system, connect a 1/2-inch water line to the fitting on the side of the cooling module.
- Due to various water pressures and installation conditions, the water supply line may bang abruptly when the solenoid valve in the AquaSaver system closes. This banging can be minimized by installing a water hammer arrestor in the supply line. If installing an optional water hammer arrestor, select an indoor (>32°F) location, either horizontal or vertical, in line with and as close to the solenoid valve as possible. Follow the manufacturer's instructions to install and maintain the water hammer arrestor.
- A freeze protection kit is available for a module with a timed control system. It includes a two-way valve and is shipped separately for field-installation.

### **Shutoff and Drain Connections**

- To allow the water supply to be turned on and off, a manual water shutoff should be installed upstream of the inlet at a convenient non-freezing location. If necessary, install a bleed line between the manual valve and the cooling module inlet to allow drainage of the line between the shutoff valve and the cooling module.
- All cooling modules are equipped with an overflow and drain fitting. The fittings are in the cabinet bottom and come complete with a locknut and a sealing gasket. Check these fittings for tightness before installing the overflow and drain piping. The drain and overflow fitting will accommodate a 3/4-inch garden hose thread and is tapped with a 1/2-inch female pipe thread for iron pipe.

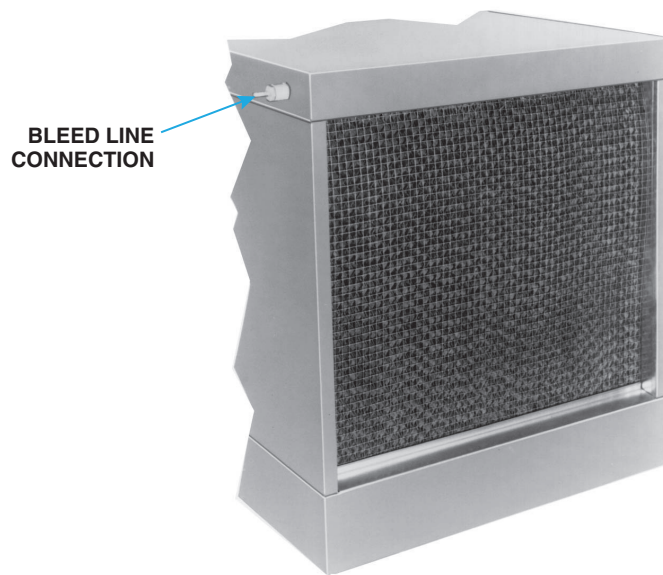
### **Bleed Line Connection**

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**NOTE: Adequate bleed-off is important to maintaining an efficiently-operating evaporative cooling system. Discharging a quantity of water by bleed-off will limit undesirable minerals in the water from being circulated through the cooling module. Mineral buildup occurs because evaporation releases only pure water vapor, which causes the concentration of contaminants in the water to increase as the evaporation process continues. The minerals accumulate on the media, in the water lines, on the pump, and in the reservoir.**

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- Install a bleed line on cooling modules equipped with pump and float controls only—does not apply to modules with AquaSaver timed controls.
- Thread the 1/4 ID × 1/2 NPT nylon bleed line fitting (shipped in the cooling module's bottom pan) into the female adapter on the distribution pipe. The hose barb protrudes from the air inlet side of the module cabinet (see [Figure 12](#)). Connect a 1/4 ID hose to the barb and run to the nearest drain.



**Figure 12. Bleed Line Connection**

## MAINTENANCE

### Filling and Adjusting Water Level in Reservoir

Fill and adjust the reservoir water level on cooling modules equipped with pump and float controls only—does not apply to modules with AquaSaver timed controls.

1. Turn on water supply and check for good flow.
2. When float valve shuts OFF water supply, measure water depth—should be approximately 3 inches.
3. If it is necessary to adjust float valve to obtain proper water level or to free float valve from obstructions, carefully bend float valve rod (see [Figure 10](#)) upward to raise water level or downward to lower water level.
4. While reservoir is full, check for any water leaks. Reservoir was tested, but if any small leaks are present, drain reservoir and apply waterproof silicone sealer around corners and welds.

### Adjusting Water Flow

#### ⚠ DANGER ⚠

**Adjust the ball valve only when power is disconnected from the unit. Failure to do so can cause electrical shock, personal injury, or death.**

#### ⚠ CAUTION ⚠

**Do not flood the media pads with extreme quantities of water for long periods as this will cause premature breakdown of the media. An even flow from top to bottom of the media with the least amount of water is all that is required to assure maximum efficiency and media life span. More water does not provide more evaporation or more cooling. Proper water flow over the evaporative cooling media is critical to extend the life and maintain the efficiency of the pads.**

#### *Adjust Water Flow with Float and Pump Control System*

1. Adjust ball valve (see [Figure 13](#)) located in water line from pump to sprinkler pipe inlet to allow water flow to completely dampen media pads from top to bottom.
2. Operate unit and observe water flow. After 15 minutes with blower in operation, water should have completely dampened pads but should not be flowing off entering side of media.
3. If water is flowing off entering side of media, turn system off, disconnect power, and adjust ball valve to reduce entering water flow.



**Figure 13. Ball Valve**

## Adjust Water Flow with AquaSaver Timed Metering Control System

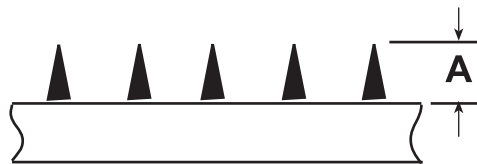
**NOTE: Water flow and pad wetting time should be adjusted at maximum airflow and wet bulb depression to ensure complete wetting of the media at the extreme operating conditions.**

In addition to adjusting water flow, the timing of the water ON/OFF cycle can be adjusted. Adjustments are correct when:

- Water rises from holes in sprinkler pipe consistently along entire pipe length
- Media pads wet evenly after few ON cycles (no dry spots or dry streaks)
- Slight amount of excess water collects at drain at completion of ON cycle

1. Adjust AquaSaver water flow:

- Adjust ball valve (see [Figure 13](#)) to allow water flow to rise above distribution (sprinkler) pipe shown in [Figure 14](#).
- Adjust rise from distribution (sprinkler) pipe in accordance with [Table 3](#).



**Figure 14. Distribution (Sprinkler) Pipe**

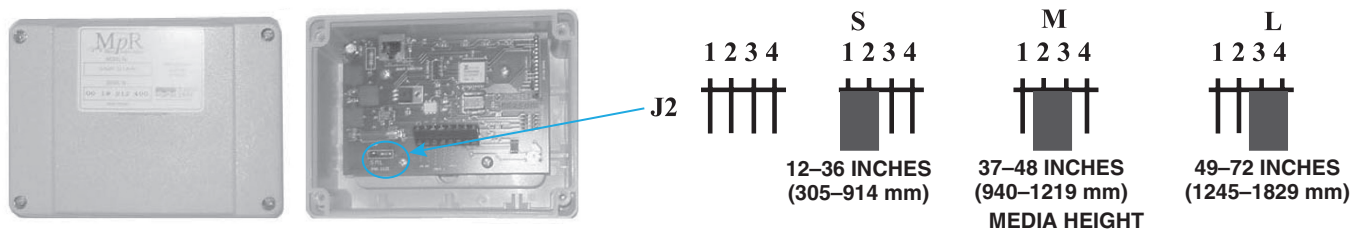
Table 3. Water Rise from Distribution (Sprinkler) Pipe	
Pad Height	Dimension A*
Inches (mm)	
24 (610 mm)	1/8–1/2 (3–13 mm)
48 (1219 mm)	1/4–1/2 (6–13 mm)

\*See [Figure 14](#).

2. Adjust AquaSaver timer (see [Figure 15](#)):

**NOTE: At any given temperature, the media pads should completely wet from top to bottom during the ON cycle. The AquaSaver microprocessor has three preset timing settings based on media size. The appropriate setting is selected by changing the position of the suitcase jumper at J2 on the microprocessor. On units manufactured *before* 2003 the AquaSaver timed cycle was controlled by a mechanical timer. Turn the adjustment screw clockwise to increase the ON time or counter-clockwise to decrease the ON time. One complete turn will adjust the cycle by 12 to 14 seconds.**

- Remove cover to check setting.
- If jumper is at correct location, replace cover. If jumper needs to be adjusted, move it to correct setting—setting will go into effect when power is restored.
- Check ON timing—media pads should be wet from top to bottom during ON cycle.
- If preset timing is not suitable for application, follow instructions provided with microprocessor to change calibration of ON and/or OFF cycle.



**Figure 15. AquaSaver Microprocessor**

3. Check reservoir for any water leaks. Reservoir was tested, but if any small leaks are present, drain reservoir and apply waterproof silicone sealer around corners and welds.

## MAINTENANCE—CONTINUED

### Media Maintenance

- Over time, excessive amounts of mineral deposits will begin to build up on the media. Annually, scale and dirt should be washed off the entering surface of the media.
- Remove the pad retainers and screen. Clean the media using a garden hose, mild soap, and a soft bristled brush.
- When the media becomes too clogged with mineral deposits and dirt that it cannot be cleaned, the pads should be replaced (refer to [Installation/Replacement of Media Pads](#) section). The average pad life is approximately three cooling seasons. Select the correct replacement part numbers (refer to [Table 4](#)) and order replacement media pads through your Distributor.

<b>Table 4. Evaporative Cooling Module Media Pads</b>			
Size (Inches)	Cellulose	Glass Fiber	Quantity
	PN		
48 × 12 × 6	<a href="#">107190</a>	<a href="#">107199</a>	4
48 × 12 × 12	<a href="#">107194</a>	<a href="#">107201</a>	
48 × 8-5/8 × 6	<a href="#">107191</a>	<a href="#">107200</a>	1
48 × 8-5/8 × 12	<a href="#">107195</a>	<a href="#">107202</a>	

### Flushing Water Lines

- Annually, the water supply line, the PVC water distribution pipe, and the bleed line should be flushed of debris and contaminants.
- Remove (and replace) the media pads in accordance with the [Installation/Replacement of Media Pads](#) section. Remove the water feed line from the downstream side of the ball valve and unscrew the water bleed line barbed hose fitting.
- Force a fresh water supply up through the water inlet hose and thoroughly flush the distribution pipe.

### Water Pump Maintenance

## ⚠ DANGER ⚠

- **Disconnect all power to the unit before doing any maintenance. Failure to do so may cause electrical shock, personal injury, or death.**
- **Do not expose pump motor or any part of the electrical box to water. Evaporative cooling pump is NOT submersible.**

Annually, the water pump and inlet basket screen should be removed, disassembled, and cleaned as follows:

1. Disconnect power supply to unit.
2. Remove junction box door and disconnect two power supply wires from terminal block inside junction box (see [Figure 16](#)).
3. Disconnect water feed line hose from upstream side of ball valve.
4. Remove four sheet metal screws that secure junction box to cooling module and remove junction box/pump/float switch assembly (see [Figure 16](#)).
5. Dislodge inlet basket screen from pump and clean any buildup of debris and dirt.
6. Carefully remove basket and snap-on base cover plate from bottom of pump and wash all deposits from inside pump using mild soap solution.
7. Remove all debris from impeller.
8. Reassemble pump, replacing parts in exact reverse order and ensuring that everything is returned to its proper position.

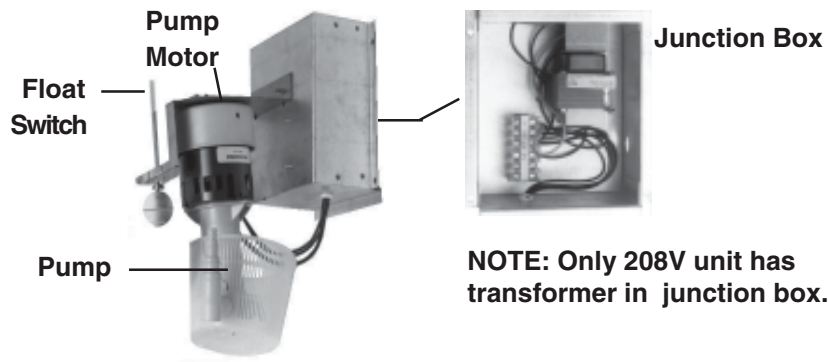


Figure 16. Water Pump

## TROUBLESHOOTING

### ⚠ DANGER ⚠

**Disconnect the power before servicing the cooling module. Failure to do so can cause electrical shock, personal injury, or death.**

Table 5. Troubleshooting

Symptom	Probable Cause	Remedy
A. Pump doesn't run (pump and float system)—unit calling for cooling and reservoir	1. Electrical connections (low voltage)	Verify all electrical connections Verify correct voltage at pump terminal H
	2. Electric float switch	Check position of actuators on electric float switch
	3. Dirty pump	Clean pump (refer to <a href="#">Water Pump Maintenance</a> section)
	4. Defective pump	Replace pump
B. Required water level (3 inches) not being maintained (pump and float control system)	1. Float valve	Adjust float valve (refer to <a href="#">Filling and Adjusting Water Level in Reservoir</a> section)
	2. Drain and fill valves not working properly	Check valves for proper operation
	3. Incorrect overflow pipe nipple	Replace pipe nipple with 3-1/2-inch nipple
	4. Drain leaking	Tighten drain fittings
C. Water running off media pads	1. Excessive water flow	Adjust ball valve in distribution line (refer to <a href="#">Adjusting Water Flow</a> section)
	2. Dirty media pads	Clean or replace media pads (refer to <a href="#">Installation/Replacement of Media Pads</a> section)
D. Water not distributing evenly	1. Distribution line clogged	Flush distribution line (refer to <a href="#">Flushing Water Lines</a> section)
	2. Holes in distribution line turned	Check position of distribution line—holes should be spraying upward toward diffuser
		Adjust position of line if not positioned with holes toward top
3. Pump not running on correct voltage	Check voltage at pump terminal in cooling module junction box	
E. Media pads becoming clogged and discolored (scale and salt deposits) quickly	1. Bleed line clogged or inadequate bleed-off (pump and float control system)	Clean bleed line (refer to <a href="#">Flushing Water Lines</a> section) Uniform buildup of minerals on entering air face of media indicates insufficient bleed-off—increase rate until mineral deposits dissipate
	2. Excessive water flow	Adjust ball valve in distribution line (refer to <a href="#">Adjusting Water Flow</a> section)
F. Water blow-off from media pads or water being pulled from reservoir	1. Media pads installed incorrectly	Install media pads correctly (refer to <a href="#">Installation/Replacement of Media Pads</a> section)
	2. Requires moisture elimination pad	Install moisture elimination (over 600 FPM) pad (refer to <a href="#">Installation/Replacement of Media Pads</a> section)
	3. Water level not 3 inches (pump and float control system)	Refer to probable causes and remedies for symptom B above

