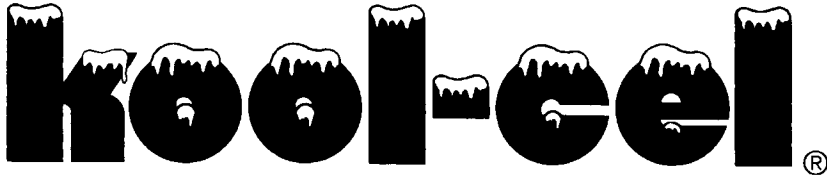




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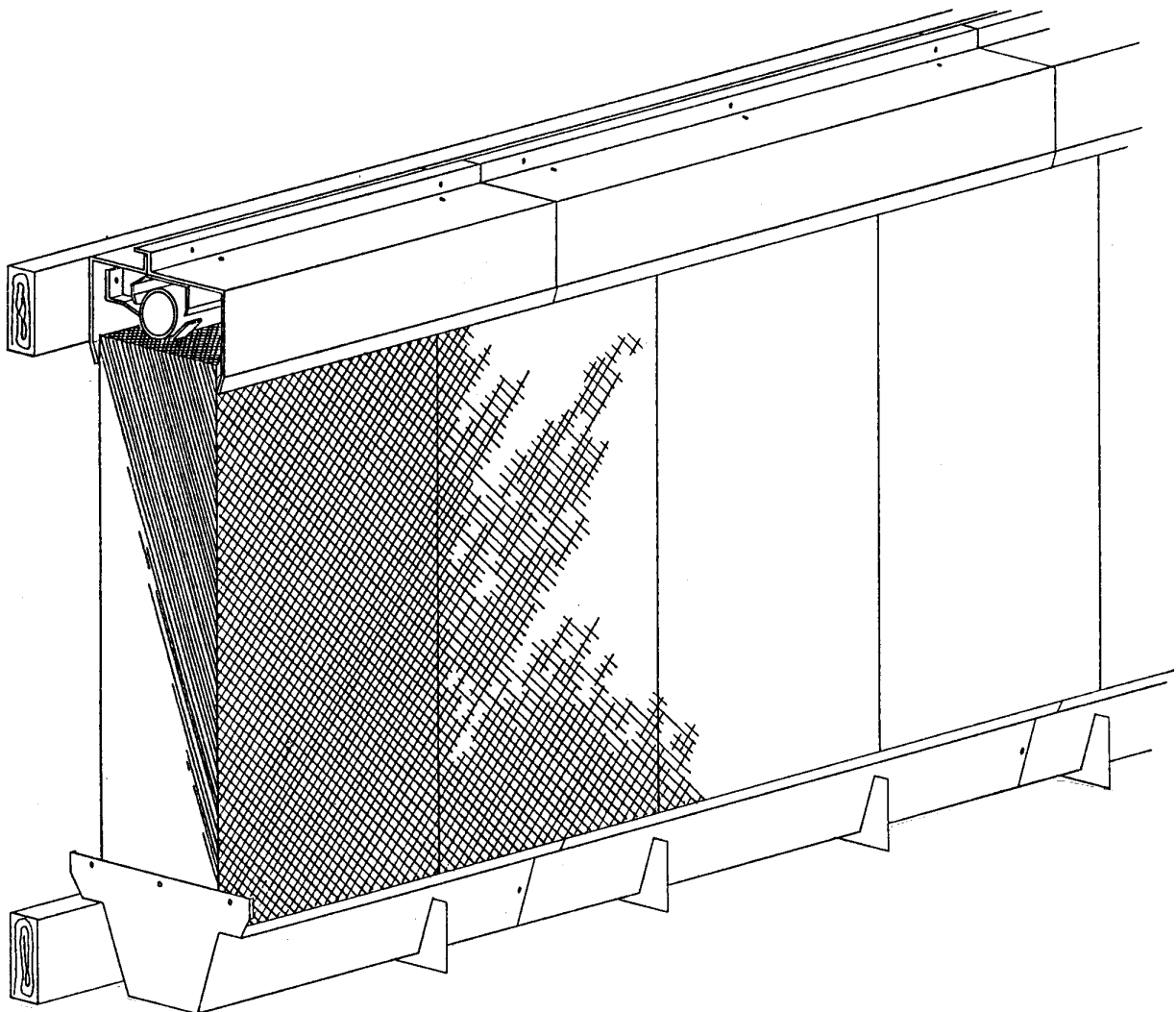
Form 610260



**Owners Manual &  
Instructions for  
Acme PDR 4" and 6"  
Kool-Cel  
Evaporative Cooling  
System**

**Model PDR 4" and 6"**

**Cooling Systems**





# PDR 4” and 6” Evaporative Cooling System

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## Components

### Packaging

Your Kool-Cel system consists of five major components:

1. Kool-Cel pads 4” or 6” x 12” x 24”, 36”, 48”, 60” and 72” (Two pads are used for 84” and 96” high pads.) **Note:** 4” pads over 48” high require tall pad supports installed between every other pad.
2. Water Pump
3. Distribution and return system - a combination of the following packages for the length of the system. See exploded view and parts list on page 9 for parts identification.
 

a. 5’ Basic Package	e. 10’ Regular Package
b. 7’ Basic Package	f. 10’ Basic w/o Outlet Package
c. 10’ Basic Package	g. 10’ Regular with Outlet Package
d. 5’ Regular Package	

**Note:** A maximum system length of 50’ is recommended. Longer system applications can be installed as shown on page 11, figures 24 and 25.

4. Plumbing Kit
5. End Closure Package
  - \* Optional Pump Reservoir for use with 8” PVC Pipe
  - \* Optional Extension Kit

### By Owner

- Framing material
- Sump tank, drain and cover or optional 8” PVC Transition Pump Tank
- Water supply to float valve
- Return pipe from down spout to sump and filter

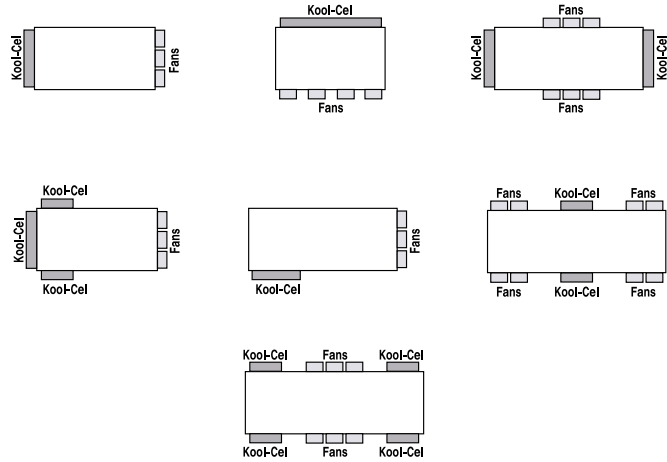


# Building Preparation

## Location of Pad System: Typical Pad/Fan Relative Locations

The Kool-Cel pad should be placed away from the fans (opposite) so that cooled air can flow through the building without turbulence. Pads should be no more than 250' from the fans in greenhouse buildings to avoid excessive temperature rise and velocities. In a greenhouse, the top of the pad should be near the top of the crop or have its midpoint centered on the midpoint of the crop.

In poultry and livestock installations the pad is generally placed on the outside of the building so that the top of the pad is not below the highest desired cooling level. An eave extending beyond the PDR system is recommended.



## Framed Opening and Sizes

**Note:** If the 12" Extension Kit is to be used, refer to the Extension Kit instructions for proper framing dimensions.

**Note:** The side wall structural members should be left intact as shown in figure 1.

Clear Opening For The Pad System	
A	(Vertical) Ordered pad height less 1/2"
B	(Horizontal) Ordered pad length
Overall Height Of The System	
C	Ordered pad height plus 10 1/2"
D	Standard: 8" minimum for return piping Optional: 12 1/4" minimum for 8" PVC Transition Pump Tank.
E	7 1/4" Typical

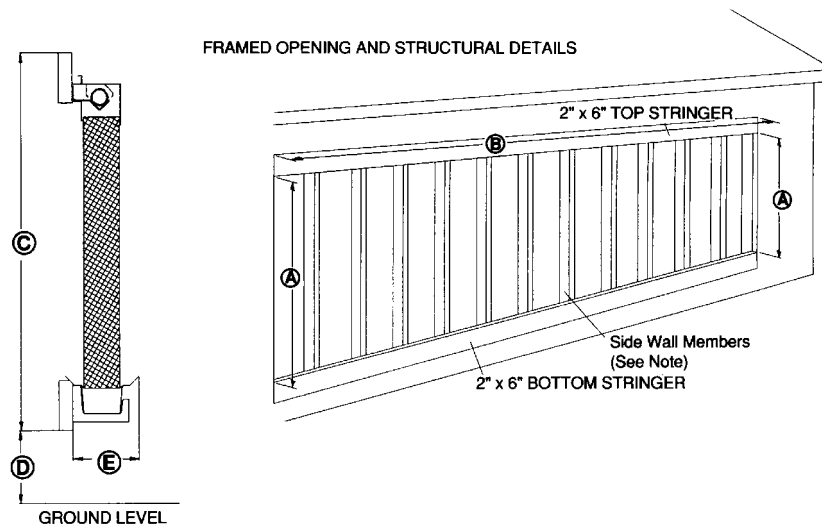


Figure 1

## Stringers

The framing and support stringers could be any type of material (metal channels, rectangular or square tubes, treated wood, etc.). The design should provide a flat surface for mounting support brackets and the lower stringer should be capable of carrying a load of 2.74 lbs. per sq. ft. of pad for the 4" system or 4.11 lbs. per sq. ft. for the 6" system. All framing in this manual refers to 2" x 6" treated wood. The framed opening **must** be vertical and square for proper installation of the system. The use of a chalk line during stringer installation will aid in keeping the system square.



# PDR 4" and 6" Evaporative Cooling System

## Sump Tank and Cover

Provide a tank with a capacity of 3/4 gallon per square foot of pad area for 4" pads and 1 gallon per square foot of pad area for 6" pads. A tank cover should be provided capable of supporting the pump (#30-35 lbs., #60-50 lbs.). The sump should be set in place prior to start of the installation of the distribution and return system.

## Optional Transition Pump Tank

See page 12.

## System Installation

After installing all framing materials, the Kool-Cel distribution and return system will go together simply and quickly following the instructions step by step.

### Hints:

- Framing -** Verify framing installation using instructions in framed opening B and in figure 1 on page 3. **If framing is not properly installed as shown the system will not operate properly.**
- Caulking -** Where the following instructions refer to caulking, use the 1/2" caulking tape provided with the system unless otherwise specified.
- Packages -** Place all cartons in the areas of installation and open the top of the carton. Do not remove the material until needed. The "basic" package contains all parts for each end of the system, end sections, elbows, plugs, etc. A packing slip describes all parts and is included in every box.  
The "regular" packages (5' and 10') contain all the parts between each end to make your system the desired length. All regular packages contain a packing slip listing all materials contained in the packages. **Note:** All packing slips and maintenance instructions should be retained for future reference.

## Gutter Installation

### Gutter Support Brackets

- To locate the gutter support bracket position on the bottom stringer, refer to chalk line shown in figure 2. The chalk line should be 1" down from the top of the stringer and run its full length. The chalk line will be used to locate the top hole position of the brackets. Hole spacing is shown in figure 2 and figure 3.

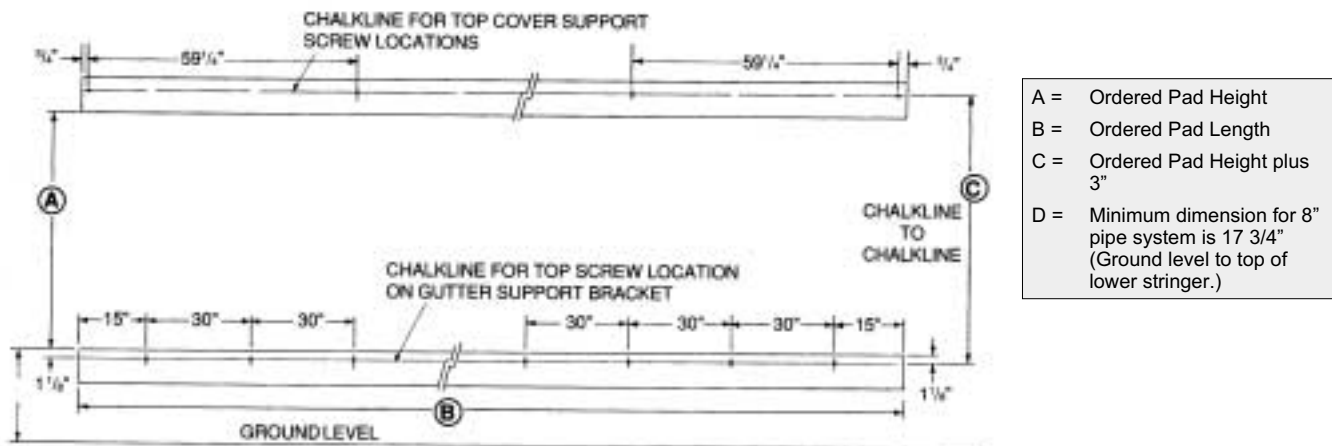


Figure 2

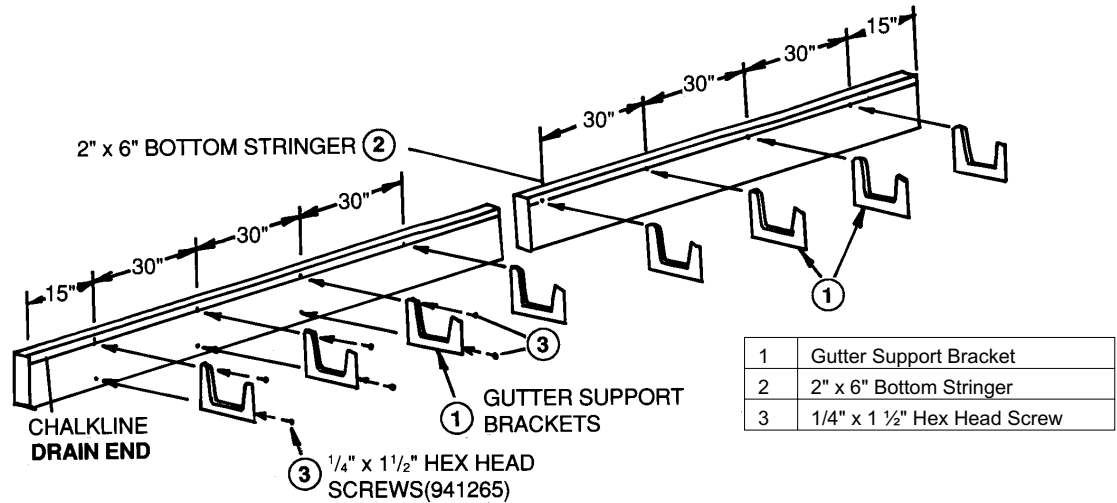


Figure 3

2. Install all gutter support brackets (1) as shown in figure 3, making sure brackets are vertical.

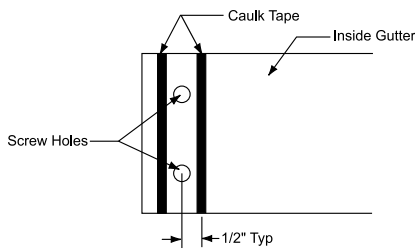


Figure 4

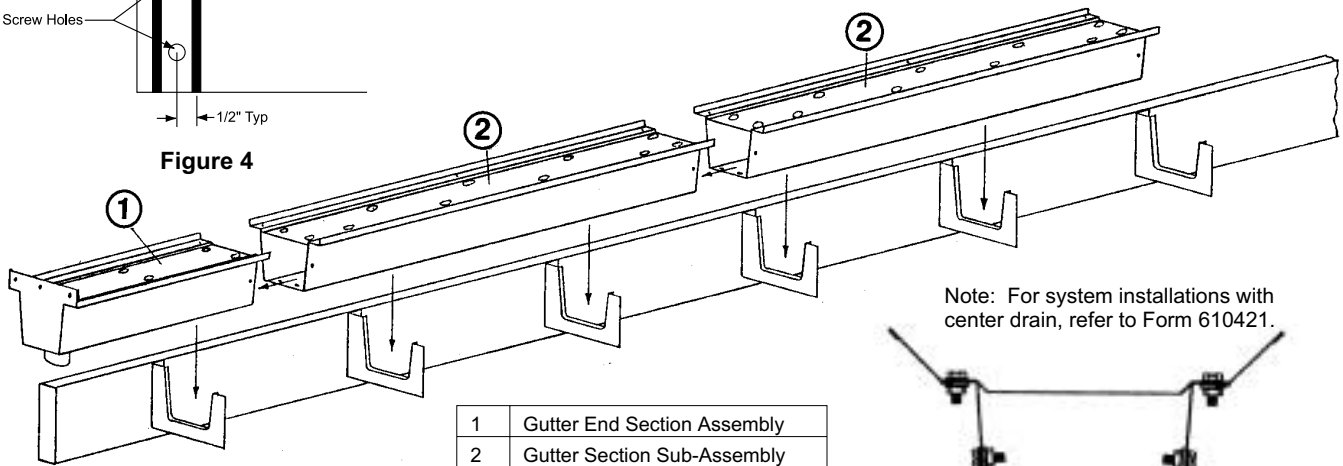


Figure 5

Assembled View

## Gutter

Once assembled, the entire gutter simply sits in the gutter support brackets, therefore it may be easier to assemble the entire gutter on level ground then set it into the brackets in one piece. **Ground must be level or gutter will be warped when assembled.**

1. Locate the gutter end section (1) that includes an end cap and pre-drilled drain hole. Install the 4" threaded tank fitting into the pre-drilled drain hole.
2. At the open end of the gutter end section, place caulking tape on each side of the bolt holes as in figure 4. Place the next gutter section inside the gutter end section, overlapping the first section with the notched end (located under flange) toward the drain end. Line up the bolt holes and secure with #10 - 24 x 1/2" hex head screws and #10 - 24 whiz lock nuts. Continue assembling gutter sections until complete, always overlapping with the notched end toward the drain end.
3. Attach the pad support sections to the gutter sections by lining up the holes and securing with #10 - 24 x 1/2" hex head screws and #10 - 24 whiz lock nuts.



# PDR 4" and 6" Evaporative Cooling System

## System Top Installation

1. Beginning at the drain end, install the top cover support sections and the pipe hangers to the top stringer by lining up the top holes of the top cover support sections with the chalkline on the top stringer. Attach the hangers and the top cover support sections to the stringers with  $1/4" \times 1\ 1/2"$  hex head screws as shown in figure 6, and figure 7 (4" systems) or figure 8 (6" systems).

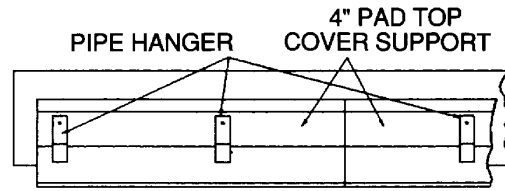


Figure 6

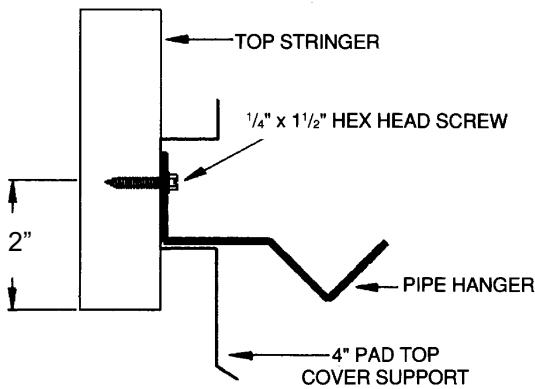


Figure 7

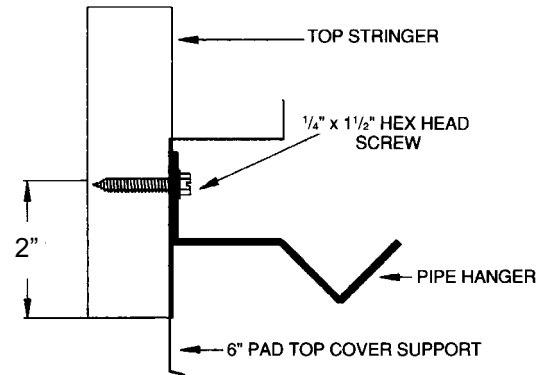


Figure 8

2. Caulk the top cover support sections at the seams then center the top cover connectors over each seam and attach with #10  $24 \times 1/2"$  screws as shown in figure 9.
3. Place a 10' section of  $1\ 1/2"$  pipe **with the metered holes up** into the pipe hangers at the drain end of the system. Enough pipe should extend beyond the end of the top cover support to later attach a  $90^\circ$  elbow for plumbing installation as in figure 10.

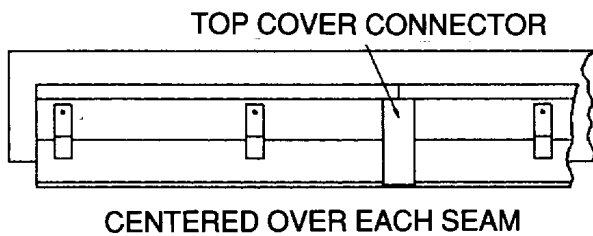


Figure 9

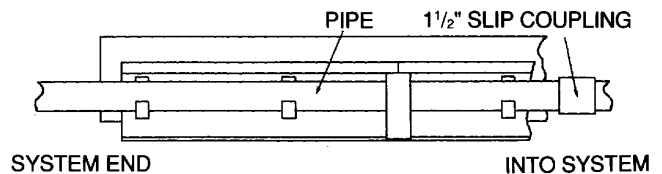


Figure 10

4. Install a 1 ½" slip joint coupling on the pipe end away from the drain and assemble another 10' section of pipe. **Do not use PVC cement on these joints.** The coupling and pipe should be pushed tightly together **but not cemented.** Make sure the metered holes are at the top so the water will spray directly upward for proper water distribution.
5. Install the remaining pipe using the 1 ½" couplings (no cement), always making certain that the metered holes point directly upward. Again, enough pipe should extend beyond the opposite end to later attach a 1 ½" tee for installation of the bleed-off clean-out assembly.

## End Panel Installation

1. Locate the two end closure panels. Select the panel that will have the channel legs toward the pads on the drain end. Set the bottom of the end closure panel inside the gutter (see figure 11) and attach with #10 - 24 hex head screws and whiz lock nuts. Locate the proper top cover end cap and slip it over the pipe. Attach it to the top stringer with two 1/4" x 1 1/4" screws.
2. Next, attach the end closure panel to the top cover end cap with #10 - 24 hex head screws and whiz lock nuts (see figure 12). Install the end closure panel and top cover end cap on the opposite end in the same manner.

**Note:** If the chalklines on the top and bottom stringer were marked correctly and all sections installed on the chalklines, the end closure panels will match the pre-drilled holes in the gutter end cap and the top cover end cap.

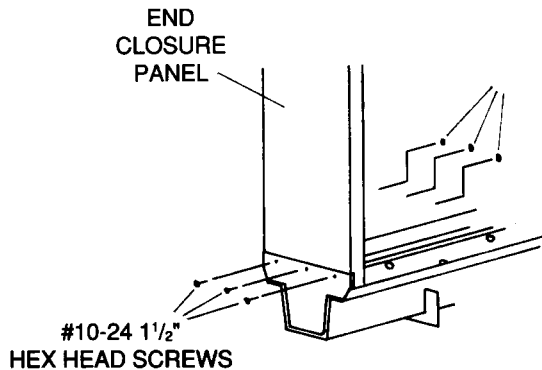


Figure 11

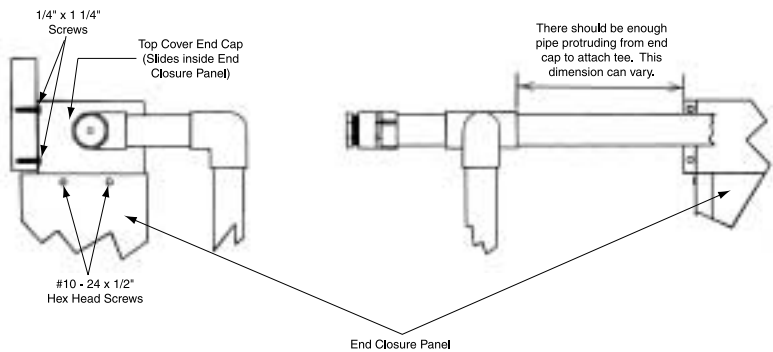


Figure 12

## Top/Pipe Cover Installation

Beginning at the drain end, install the end section of the top cover assembly with #10 ½" hex head screws. The pipe cover should be assembled to the top cover as shown in figure 13 for 4" systems and figure 14 for 6" systems. Continue installing top/pipe cover sections until complete. Top cover connectors should match the joints of the top/pipe cover sections to prohibit leaks between the joints.

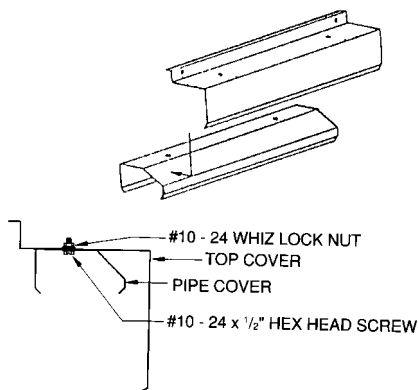


Figure 13

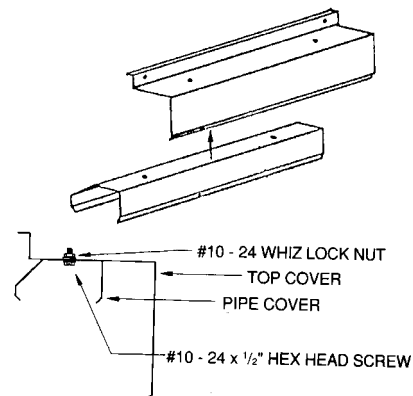


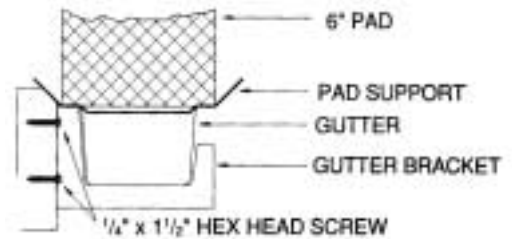
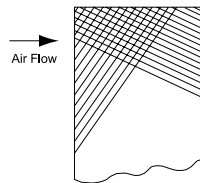
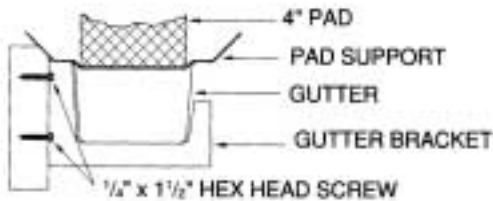
Figure 14



# PDR 4" and 6" Evaporative Cooling System

## Pad Installation

1. **Install the pads before installing the top cover.** (Installing pads with top cover in place could result in pad damage and the "springing" of the top cover which could result in improper channeling of the water.) Place the bottom of the pad firmly on the pad support and under the pipe as shown in figure 15 for 4" systems and figure 16 for 6" systems. 4" Pads install in any direction. **6" pads must be installed as shown below with the higher angle of the flutes pointing upward and toward the building.** (If you can see through the flutes you should be looking at the ceiling of the building).



6" Pad Installation

4" Pad Support Assembly  
Figure 15

6" Pad Support Assembly  
Figure 16

2. 4" pads over 48" tall require tall pad supports. Install between every other pad, centered between the top and bottom and the front and back of the pads. Holding the tall pad support in position, press the pads together until the support sticks into both pads.

**Note:** The last pad installed should not be at either end since it may need to be trimmed to fit remaining space easily. **Do not** force the last pad into a space that is smaller than the pad. Pad retainers cannot be used on either side of the last pad installed.

3. To seal the ends of the system apply caulking tape to the pipe extending outside the end cap as shown in figure 18. Cut the tape to fit around the pipe. Press the end plate firm against the top cover and wrap the tape around the pipe, snug against the end plate. Trim away excess tape.

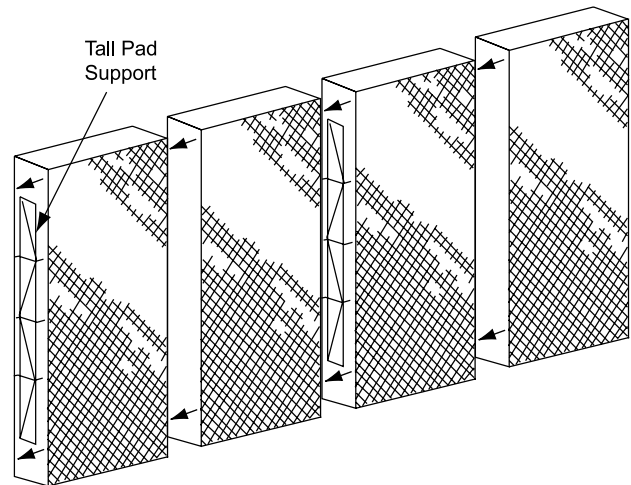


Figure 17

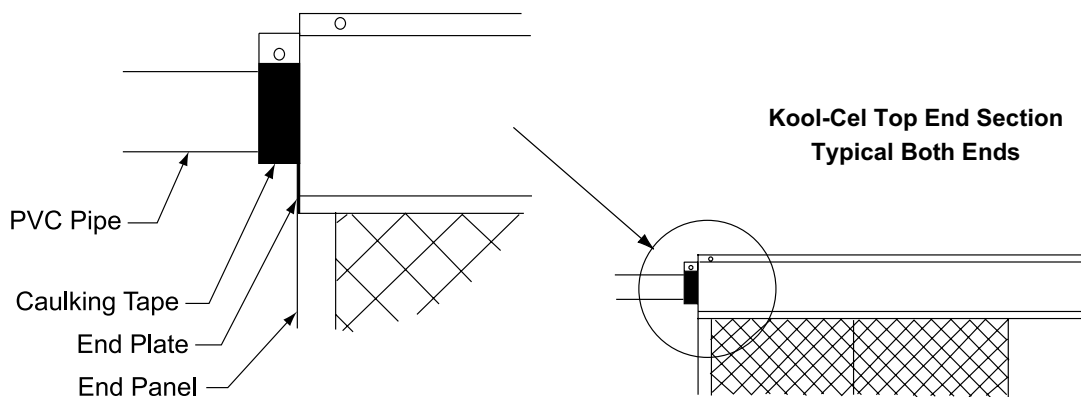
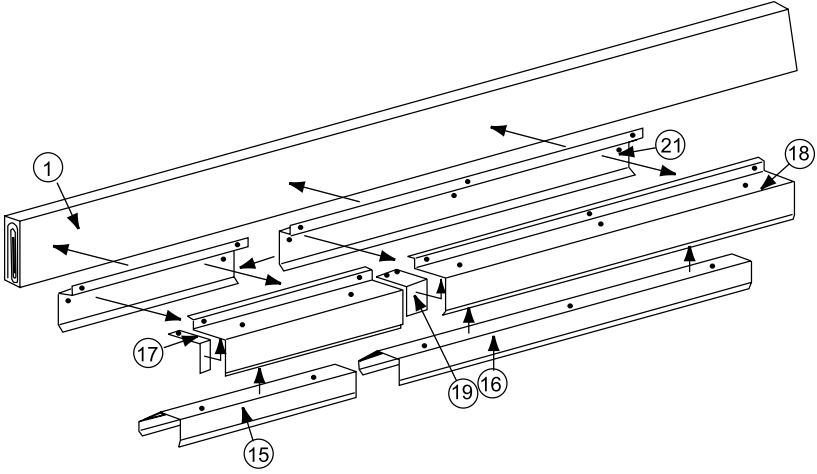
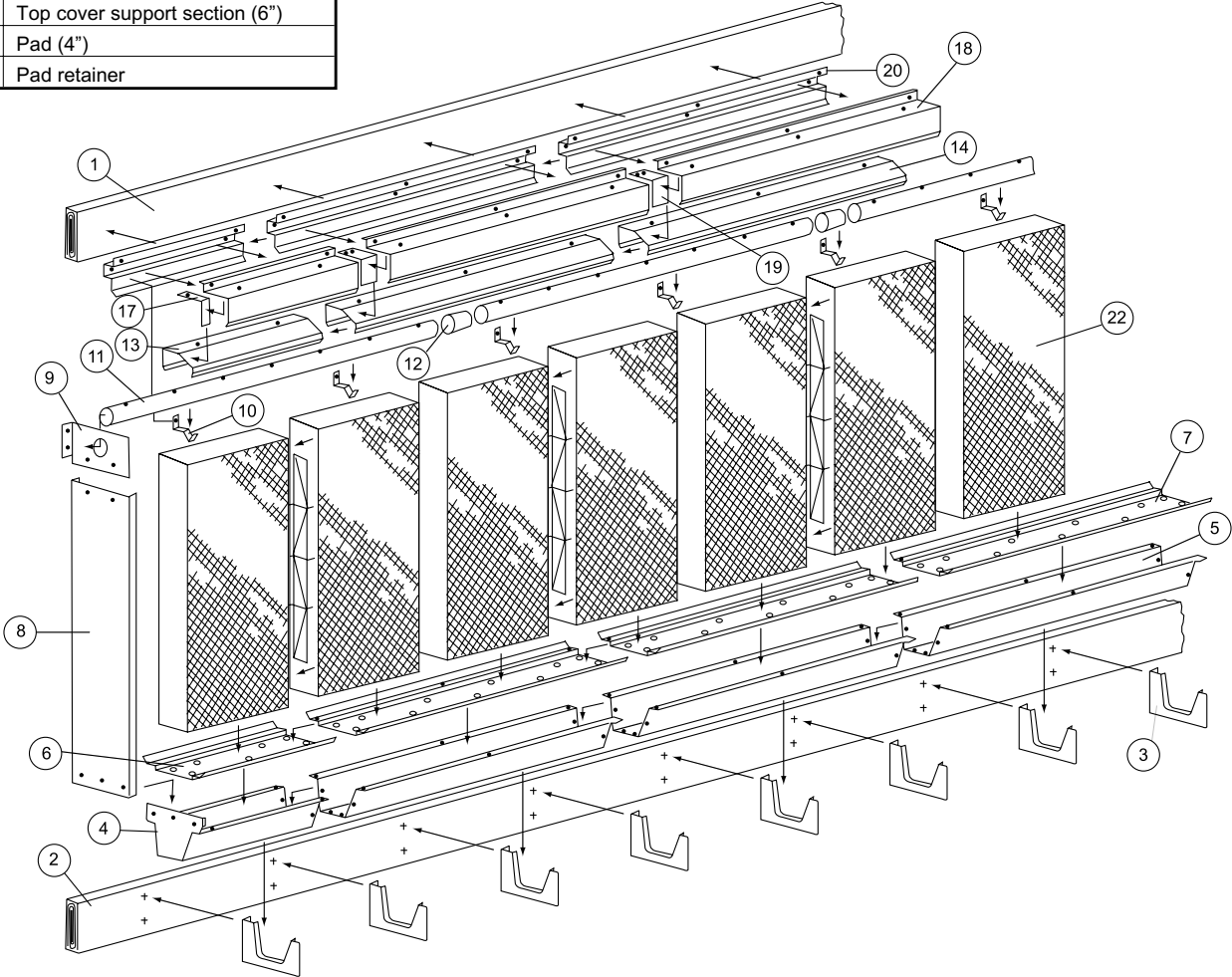


Figure 18  
Page 8

Bill of Material	
1	Top stringer (by others)
2	Bottom Stringer (by others)
3	Gutter support bracket
4	Gutter end section w/drain hole
5	Gutter section
6	Pad support end section
7	Pad support section
8	End closure panel
9	Top cover end cap
10	Pipe hanger
11	Distribution pipe
12	Slip coupling
13	Pipe cover end section (4")
14	Pipe cover section (4")
15	Pipe cover end section (6")
16	Pipe cover section (6")
17	End cover connector
18	Top cover section
19	Top cover connector
20	Top cover support section (4")
21	Top cover support section (6")
22	Pad (4")
23	Pad retainer



**Top Cover Assembly - 6" System**



**Figure 19  
Exploded View - 4" System**



# PDR 4" and 6" Evaporative Cooling System

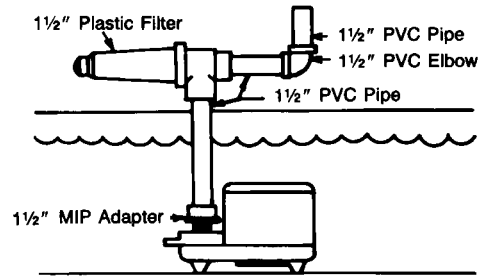
## Plumbing Installation

A complete plumbing kit is available through your distributor. Extra items are included in this kit so that one kit may fit all installations. If you have not purchased this kit, refer to figures 20 & 21 for items required. Assemble the plumbing as shown in figures 20 & 21 after the system has been installed.

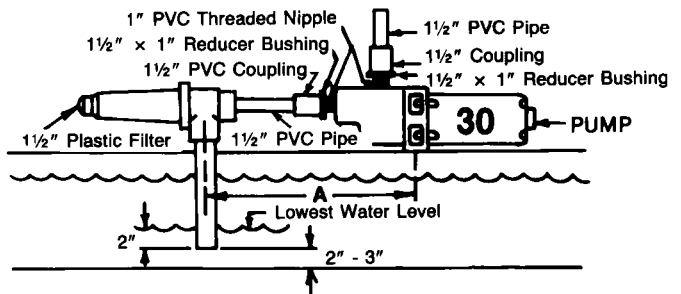
### Notes

- A. 2" PVC leader pipe (by others)
- B. Screen over leader pipe (by others)
- C. Sump tank and cover (by others)

### 10S, 15S, 30S, and 60S Submersible Pumps



### #30 PUMP



### #60 PUMP

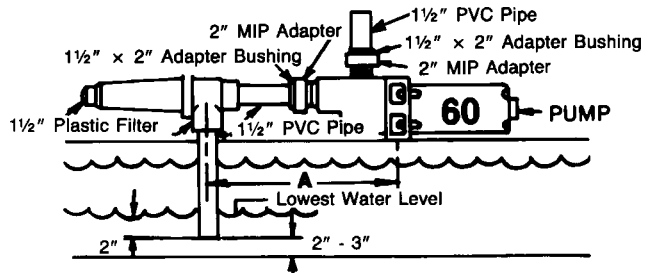
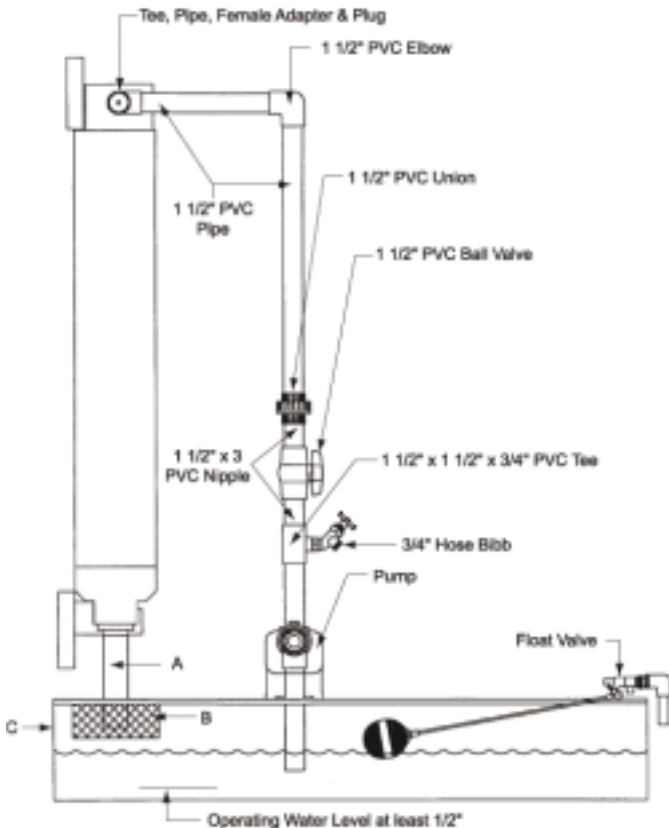


Figure 21



Drain End

Figure 20

### Centrifugal Pumps

Pump Model	Distance From Pump Mounting Holes To Centerline of Sump Tank	Mounting Hole Spacing
	A	B
#30	21 1/2"	5 5/8"
#60	20 1/2"	5"

## Bleed-Off Assembly Installation

Locate the bleed-off end opposite the supply line (or drain). Locate the following parts and install in the number sequence shown. Cement the pipe and fittings but **do not** cement the threads of the female adapter or the male threads of the plugs. Allow at least one hour drying time for the cement.

Parts Listing		
Ref. No.	Description	Qty.
1	1 1/2" Tee	1
2	2'4" Piece of 1 1/2" Pipe	1
3	1 1/2" Female Adapter	2
4	1 1/2" Plug	1
5	Short Piece of 1 1/2" Pipe	1
6	1 1/2" Plug Set with Bleed-off Tube Fitting	1
7	Bleed-off Tube	1

**Do not place bleed-off tube in return gutter.**

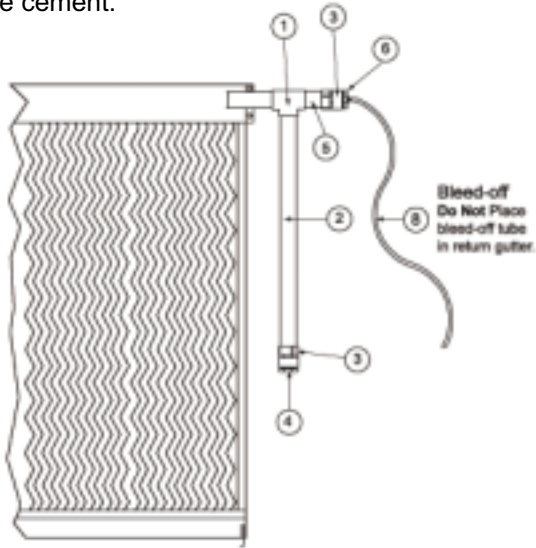
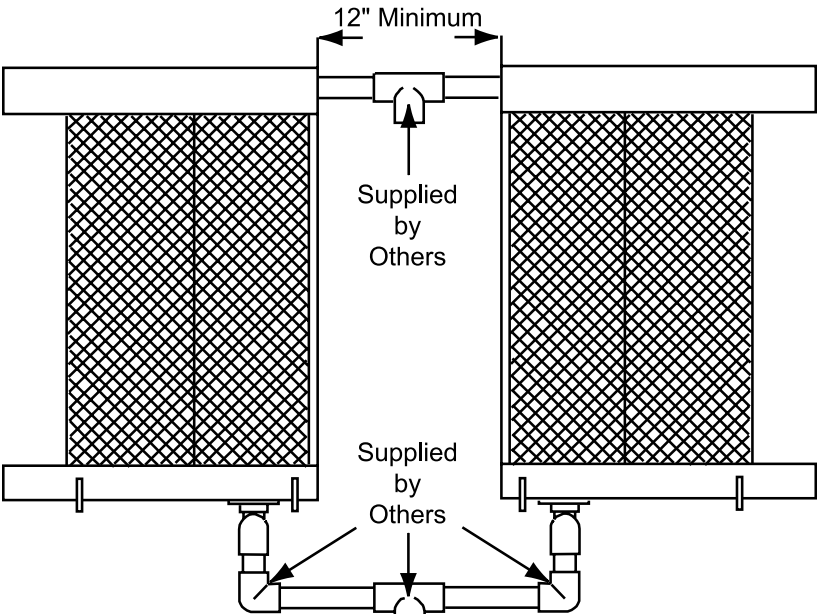


Figure 22

## Optional Installations

### Optional Dual System Plumbing (Uses a common sump and pump)



Optional "Duo-System" Plumbing Installation

Figure 24

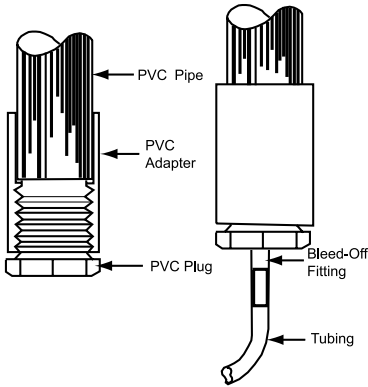


Figure 23

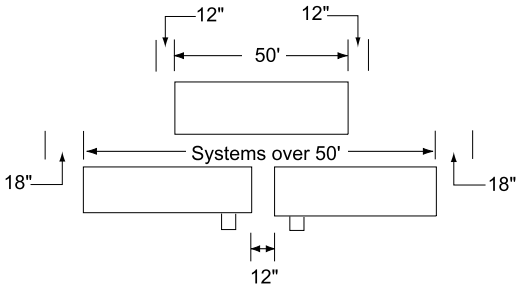


Figure 25

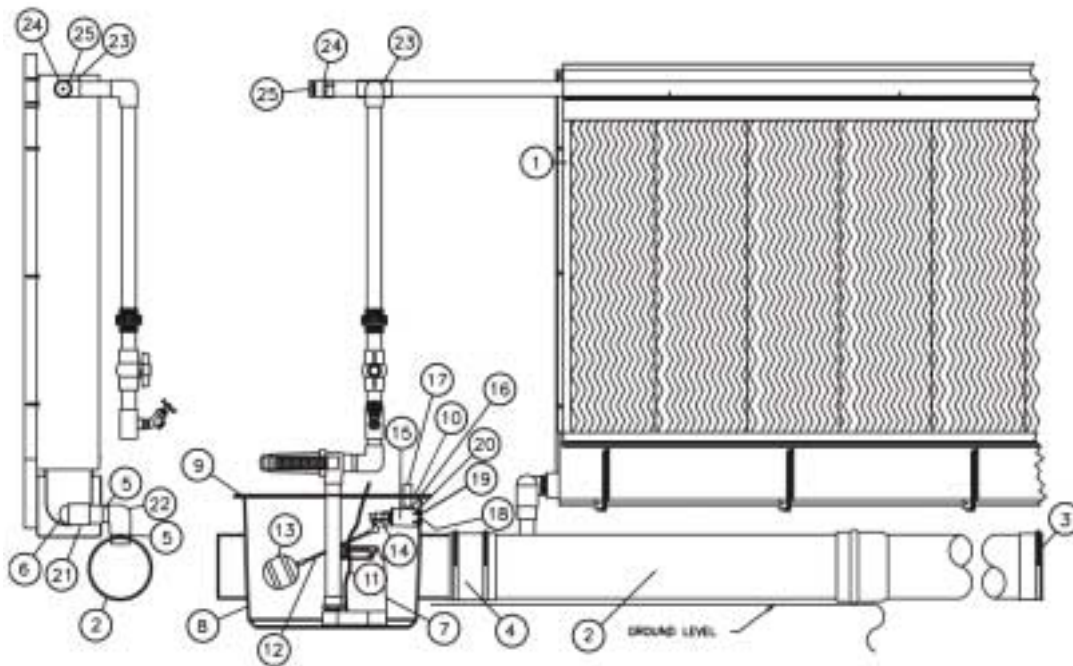
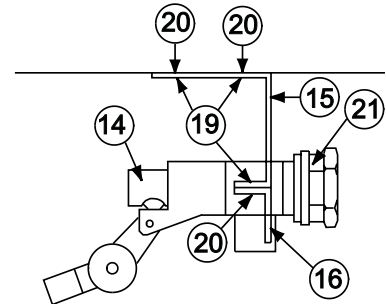
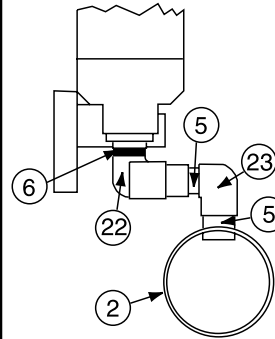
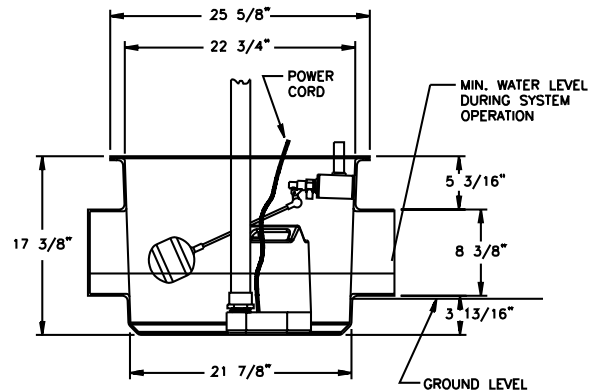


# PDR 4" and 6" Evaporative Cooling System

## 8" PVC Transition Pump Tank (optional)

8" PVC TRANSITION PUMP TANK & RELATED ITEMS	
ITEM#	DESCRIPTION
*1	KOOL-CEL SYSTEM
†2	8" PVC PIPE
3	8" PIPE CAP W/CONNECTOR
4	8" COUPLER 1/8 X 6 X 30 NEOPRENE
†5	2" PVC PIPE
*6	2" THREADED TANK FITTING W/2 RINGS
7	PUMP
8	TRANSITION PUMP TANK
9	TRANSITION PUMP TANK - LEFT HALF
10	TRANSITION PUMP TANK - RIGHT HALF
11	PUMP POWER CORD/SUPPLIED W/PUMP
12	FLOAT ROD
*13	FLOAT
*14	FLOAT VALVE
15	FLOAT VALVE BRACKET #1
16	FLOAT VALVE BRACKET #2
17	3/4" PVC ELBOW
†18	3/4" PVC PIPE
19	1/4 X 20" WHIZ LOCK NUT
20	1/4 X 20 X 1 BOLT
21	3/4 TO 1/2 REDUCING BUSHING
22	2" 90° STREET ELL MIPT X SLIP
23	2" 90° STREET ELL SP X SLIP
*24	1 1/2" TEE
*25	1 1/2" FEMALE ADAPTER
*26	1 1/2" PLUG
*ITEM SUPPLIED IN BASIC PACKAGE, OR PLUMBING COMPLETER KIT	
†SUPPLIED BY OTHERS	

Install the transition pump tank according to figures below. Framing considerations for this optional equipment are described on pages 3 and 4 of this booklet.





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## Start Up and Testing

- I. Test water - Make up water should be tested for Ph level and soluble salts. Ph must be between 6 and 9 and salt concentrates below 40,000 ppm. See "Pad Care" on page 14.
- II. Float valve - Open the water supply line to the sump. Adjust the float valve so the water shuts off before the water level in the tank reaches the top of the overflow pipe.
- III. Pump - Prime the pump (#30 and #60) per instructions received with the pump.
- IV. Flush the system to clean out all accumulated debris as follows:
  1. Remove plug from bleed-off end of system
  2. Open the flow valve. Close clean out valve.
  3. Be sure pump is primed prior to operation. Run power to pump and let the system flush out for approximately 5 minutes.
  4. Shut the pump off and replace plugs.
- V. Turn on the pump and be sure the water is flowing from all holes in the distribution pipe. Clean out any holes that are not spraying water.
- VI. Remove top covers and adjust the flow valve until the water sprays approximately 12" in the air. Replace the top covers and your system is ready for operation.

**Note:** Temperature in a greenhouse that is empty will be considerably higher than a greenhouse with plants as the plants assist cooling by their transpiration.

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## Maintenance

A regular maintenance schedule should be set up to keep your Kool-Cel system operating at peak efficiency and to **maximize the life of the system**.

- I. A visual check should be made whenever you're in the area of the pad.
  1. Check for dry spots on the pad.
  2. Check for algae and scale on pads. See "Pad Care" on page 14.
- II. During the cooling season, when the pad is in operation:
  1. Weekly
    - a. Clean out strainer to prevent possible damage to pump. This may need to be done twice a week.
    - b. Clean out sediment plugs at the ends of system. (Remove plugs and drain into a bucket with system pump off. Replace plugs.)
    - c. Drain the sump to remove sediment; usually every two to four weeks. In areas with extremely high salt concentrates, this should be done weekly to lower salt concentrates in the sump. (Close the valve, connect hose to the hose bibb, open hose bibb and turn on the pump.)
  2. Monthly
    - a. Inspect the complete system:
      - 1) Check for leaks and repair.
      - 2) Check bleed-off connection to insure bleed-off is occurring at all times.
      - 3) Check the strainer from the down spout in the sump - replace if necessary.
    - b. Test water for Ph level (make-up water and sump water). See "Pad Care" on page 14.



## PDR 4" and 6" Evaporative Cooling System

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### 3. Start and End of Cooling Season

- a. At the end of the season, drain the pump and piping system to avoid damage caused by rust and impure particles in the water. If the system is outside of the building, you must drain and remove the pump to avoid freeze damage.
  - b. To restart the system in the spring, follow the "Start up and Testing" procedures on page 13.
  - c. Inspect all parts and pads and replace any damaged or worn parts. See parts list and drawings on appropriate page or "Exploded View of System" on page 9.
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## Pad Care

Kool-Cel pads are very durable and long lasting. To maximize the life of your pads and keep the efficiency of the original installation, review the following items and take necessary action to correct any conditions that may be detrimental to the pad.

- I. Ph of recirculating water (from sump) must be maintained between 6 and 9 (7 is pure water). If these limits are exceeded, the stiffening agents in the pad will leach out and destroy the pad. Water containing acids to a degree that the Ph is below 6.0 aromatic hydrocarbons, or wetting and dispersing agents, such as phosphates can be harmful to the pad.
- II. Hard Water resulting in calcium carbonate deposits on the pad is not harmful, but should be kept within limits. The well known Longelier formula can help to approximate the Ph above which the scaling will appear. The help of a good water treatment expert is advisable if any hardness problems are encountered.
- III. Sodium Chloride (salt water) concentrate above 50,000 ppm (approx.) will deposit salt on the pad and reduce air flow. Keep salt concentrates below 50,000 ppm in recirculating water and below 40,000 ppm in make-up water.
- IV. Algae will grow on any surface that is wet and exposed to sunlight. To help prevent algae build up, follow these tips:
  1. Do not draw make-up water from an open pond. Use well water or chlorinated water from city systems.
  2. Cover the sump to avoid exposure to sunlight and airborne particles and keep animals from drinking it.
  3. Keep the fans running after the pump is shut off to dry the pads, thus killing the algae spores left on the pad.
  4. Isolate the water make-up system from any other system that may carry fertilizers which would enhance algae growth.
  5. If algae persists, use a swimming pool water algaecide non-chlorine, chloride (tablet type) in the sump about 1/4 the concentrate suggested for pools.
- V. Airborne dust and bugs do not seem to clog the air flow passages of Kool-Cel. When the system is running this clogging washes away.
- VI. When Kool-Cel is installed within reach of poultry or livestock it should be guarded. To guard from poultry birds, a 10 x 14 mesh guard approximately 8" - 12" from the pad and the full length of the system should be provided up to approximately 3" from the bird's feet. The pad should be protected from livestock with a full heavy gage wire screen approximately 2" x 2" mesh and placed at least 6" from the pad.
- VII. Bleed-Off - Since the water is continuously evaporating and being replaced by fresh water, the salts and minerals are left behind in the re-circulating water. As these impurities become concentrated, they build up in the pads unless preventive steps are taken. To reduce the build up of deposits and scale, a bleed-off of 1 to 2 percent of the recirculating water is usually required. This is particularly true in areas that have a high mineral content in the water. The required bleed-off is provided by the bleed-off fitting in the plug.



## TERMS AND CONDITIONS

**DESIGN CHANGES** Acme reserves the right to make changes in design, improvements and additions in and to its products any time without imposing any liability or obligations to itself to apply or install the same in any product manufactured by it.

**TITLE** The title and right of possession of the equipment sold herein shall remain with the Company and such equipment shall remain personal property until all payments herein (in-

cluding deferred payments whether evidenced by notes or otherwise) shall have been made in full in cash and the Purchaser agrees to do all acts necessary to perfect and maintain such right and title in the Company.

**SAFETY ACCESSORIES** The Company manufactures equipment designed to serve multiple applications and offers a wide range of safety equipment, including guards and other devices, as may be required to meet customer specifica-

tions. Without exception, the Company recommends that all orders include applicable safety devices. Equipment ordered without applicable safety devices is clearly the responsibility of the Purchaser. Further, the Purchaser warrants that he has determined and acquired any and all safety devices required for equipment sold by the Company. Weather covers and guards for motor and V-belt drives, couplings, shafts and bearings, along with inlet and outlet screens, are optional accessories noted in the price list.

These instructions cover the usual installation, operation and maintenance methods for which the product(s) was designed. They do not purport to cover all details or variations in the product(s) nor to provide for every possible contingency that might be met in connection with the installation, operation and maintenance. For any departures from these instructions, or should particular problems arise which are not covered sufficiently for the purchaser's purpose, the matter should be referred to the Company.

**WARNING** Acme products are designed and manufactured to provide reliable performance but they are not guaranteed to be 100% free of defects. Even reliable products will experience occasional failures and this possibility should be recognized by the User. If these products are used in a life support ventilation system where failure could result in loss or injury, the User should provide adequate back-up ventilation, supplementary natural ventilation or failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

**WARNING DO NOT** use in HAZARDOUS ENVIRONMENTS where fan's electrical system could provide ignition to combustible or flammable materials unless unit is specifically built for hazardous environments.

**CAUTION** Guards must be installed when fan is within reach of personnel or within seven (7) feet (2.134 m) of working level or when deemed advisable for safety.

**DISCLAIMER** The Company has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions or dimensions.

## LIMITED WARRANTY

**WARRANTY AND DISCLAIMER:** Acme Engineering and Manufacturing Corporation extends this limited warranty to the original buyer and warrants that products supplied by the Company, shall be free from original defects in workmanship and materials for two years from date of shipment (except for the warranty periods noted for products in the paragraph immediately following), provided same have been properly handled, stored, installed, serviced, maintained and operated. This warranty shall not apply to products which have been altered or repaired without the Company's express authorization, or altered or repaired in any way so as, in the Company's judgment, to affect its performance or reliability, nor which have been improperly installed or subjected to misuse, negligence, or accident, or incorrectly used in combination with other substances. Evaporative cooling pads are warranted to be free of defects in materials and workmanship for a period of two years from date of shipment provided same have been properly handled, stored, installed, serviced, maintained and operated; and further, not subjected to excessive heat, corrosive agents or chemicals, or mechanical abuse that may cause tearing, crushing or undue deterioration, nor used on a system or in a manner other than that for which it was designed as explained in the product literature. The Buyer assumes all risks and liability for results of use of all products.

Acme's exclusive duplex split pillow block bearings and shaft are warranted to be free of defects in materials and workmanship for a period of five years from date of shipment. Belts are warranted to be free of defects in materials and workmanship for a period of one year from date of shipment. Polyethylene tubing is warranted to be free of defects in materials and workman-

ship for a period of 90 days from date of shipment.

**LIMITATION OF REMEDY AND DAMAGES:** All claims under this warranty must be made in writing and delivered to P. O. Box 978, Muskogee, Oklahoma, 74402, within 15 days after discovery of the defect and prior to the expiration of two years from the date of shipment by the Company of the product claimed defective, and Buyer shall be barred from any remedy if Buyer fails to make such claim within such period.

Within 30 days after receipt of a timely claim, the Company shall have the option either to inspect the product while in Buyer's possession or to request Buyer to return the product to the Company at Buyer's expense for inspection by the Company. The Company shall replace, or at its option repair, free of charge, any product it determines to be defective, and it shall ship the repaired or replacement product to Buyer F.O.B. point of shipment; provided, however, if circumstances are such as in the Company's judgment to prohibit repair or replacement to remedy the warranted defects, the Buyer's sole and exclusive remedy shall be a refund to the Buyer of any part of the invoice price, paid to the Company, for the defective product or part.

The Company is not responsible for the cost of removal of the defective product or part, damages due to removal, or any expenses incurred in shipping the product or part to or from the Company's plant, or the installation of the repaired or replaced product or part.

Implied warranties, when applicable, shall commence upon the same date as the express warranty provided above, and shall, except for warranties of title, extend only for the duration of the express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. The only remedy provided to you under an applicable implied warranty and the express warranty shall be the remedy provided under the express warranty, subject to the terms and conditions contained therein. The Company

shall not be liable for incidental and consequential losses and damages under the express warranty, any applicable implied warranty, or claims for negligence, except to the extent that this limitation is found to be unenforceable under applicable state law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion 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.

No employee, agent, dealer, or other person is authorized to give any warranties on behalf of the Company or to assume for the Company any other liability in connection with any of its products except in writing and signed by an officer of the Company.

**REPLACEMENT PARTS** If replacement parts are ordered, buyer warrants that the original components in which these replacement parts will be placed are in satisfactory working condition, and when said replacement parts are installed, the resultant installation will operate in a safe manner, at speeds and temperatures for which the original equipment was purchased.

**TECHNICAL ADVICE AND RECOMMENDATIONS, DISCLAIMER:** Notwithstanding any past practice or dealings or any custom of the trade, sales shall not include the furnishing of technical advice or assistance or system design. Any such assistance shall be at the Company's sole option and may be subject to additional charge.

The Company assumes no obligation or liability on account of any recommendations, opinions or advice as to the choice, installation or use of products. Any such recommendations, opinions or advice are given and shall be accepted at your own risk and shall not constitute any warranty or guarantee of such products or their performance.

**GENERAL** In no event shall any claim for consequential damages be made by either party. The Company will comply with all applicable Federal, State, and local laws.



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