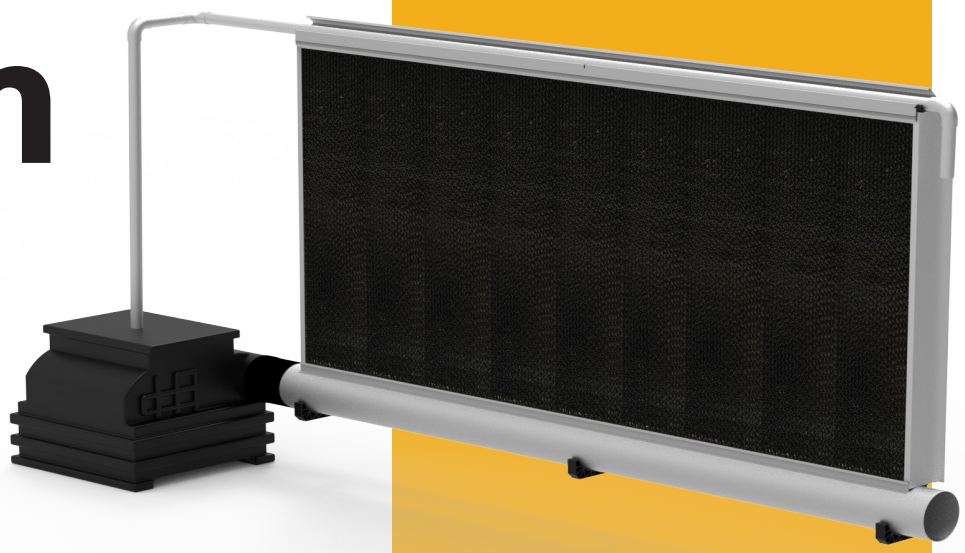
DOUBLE L
GROUP LLC

DirectAire Cool Cell System



INSTALLATION MANUAL

REV05022025

CONTENTS

1. GENERAL

2. ASSEMBLY

1. GENERAL

1.1 INTRODUCTION

The DirectAire Cool Cell is an evaporative cooling system which can be used for all animal husbandry or green houses. It is a modular system which can be applied to every dimension (length or height) of pads. Before installing the Cool Cell System we highly recommend that you carefully review this manual. Keeping it safely on hand for future reference will ensure that you can always access important
information regarding operation, maintenance, and troubleshooting.

1.2 NOTES

Double L reserves the right to make alterations to specifications, quantities, dimensions, and other product details for production or other reasons after publication. While we strive to provide accurate and complete information, Double L makes no warranty or representation regarding the suitability of the product for any particular purpose.

It is essential that this manual is read and followed by all personnel involved in the system's operation, installation, and maintenance. This includes, but is not limited to, those responsible for: Operation including preparation, troubleshooting, and cleaning; Maintenance including servicing, inspection, and repair; and Deactivation including shutdown and disposal procedures.

1.3 DELIVERY CHECK

Before opening any boxes, carefully inspect the external packaging for any signs of damage. If any damage is found, contact your forwarding agent immediately before proceeding with unpacking. If the packaging appears safe, proceed to open the boxes. Carefully compare the contents of each box with the item list provided. Verify that the quantities and types of products match the list. If there are any discrepancies, such as missing or incorrect items, please contact Double L immediately for resolution. Retain all packaging and documentation until the issue is resolved. Please note that the boxes may contain small and numerous items that are easily lost. If the products are not being used immediately, do not open the boxes. Instead, keep them sealed and store them in a safe, dry, and secure location to prevent loss or damage. Retain all delivery documentation, including item lists, packing slips, and any communication with the forwarding agent or Double L. This will be essential in case of any future issues or claims.

1.4 SAFETY & WARNINGS

Danger: Electrical Hazard

Ground all electrical equipment for safety. All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes. Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Personnel Requirements

This product must only be used by persons adequately trained in the hazards, dangers, and risks of the equipment.

All users of this product must be trained in the following areas:

- **Health and safety hazards relating to use of this machine throughout its entire life cycle**
- **Devices provided for safety of the operator**
- **Instructions for safe shutdown in case of emergency**

The customer must assume the following responsibilities:

- **To provide necessary personal protective equipment required**
- **To ensure normal maintenance operations are carried out**
- **To provide necessary repair parts in a timely manner**

Carefully read all safety messages in this manual and on your equipment safety signs.Follow recommended precautions and safe operating practices. Keep safety signs in good condition. Replace missing or damaged safety signs.

Warning

DO NOT add unapproved chemicals or commercial water treatments to the sump or supply water. If the above recommendations are followed and problems on the pad are observed such as algae growth, mineral deposits or softening of the pad material, contact Double L Group LLC for further recommendations.

1. 5 LIMITED WARRANTY

Double L Group, LLC ("Double L") warrants new Double L DirectAire Cool Cell System manufactured by Double L to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of purchase ("Warranty"). Double L does not cover the cost of labor; therefore, installation issues as well as repair costs are not applicable or covered under a warranty claim. This Warranty is not transferable, and applies only to the original purchaser of the Product.

Conditions and Limitations

THIS WARRANTY CONSTITUTES DOUBLE L'S ENTIRE AND SOLE WARRANTY AND DOUBLE L EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. DOUBLE L shall not be liable for any direct, indirect, incidental, consequential or special damages which any purchaser may suffer or claim to suffer as a result of any defect in the Product. Consequential or Special Damages as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs, and operational inefficiencies. *Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.*

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and DOUBLE L shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

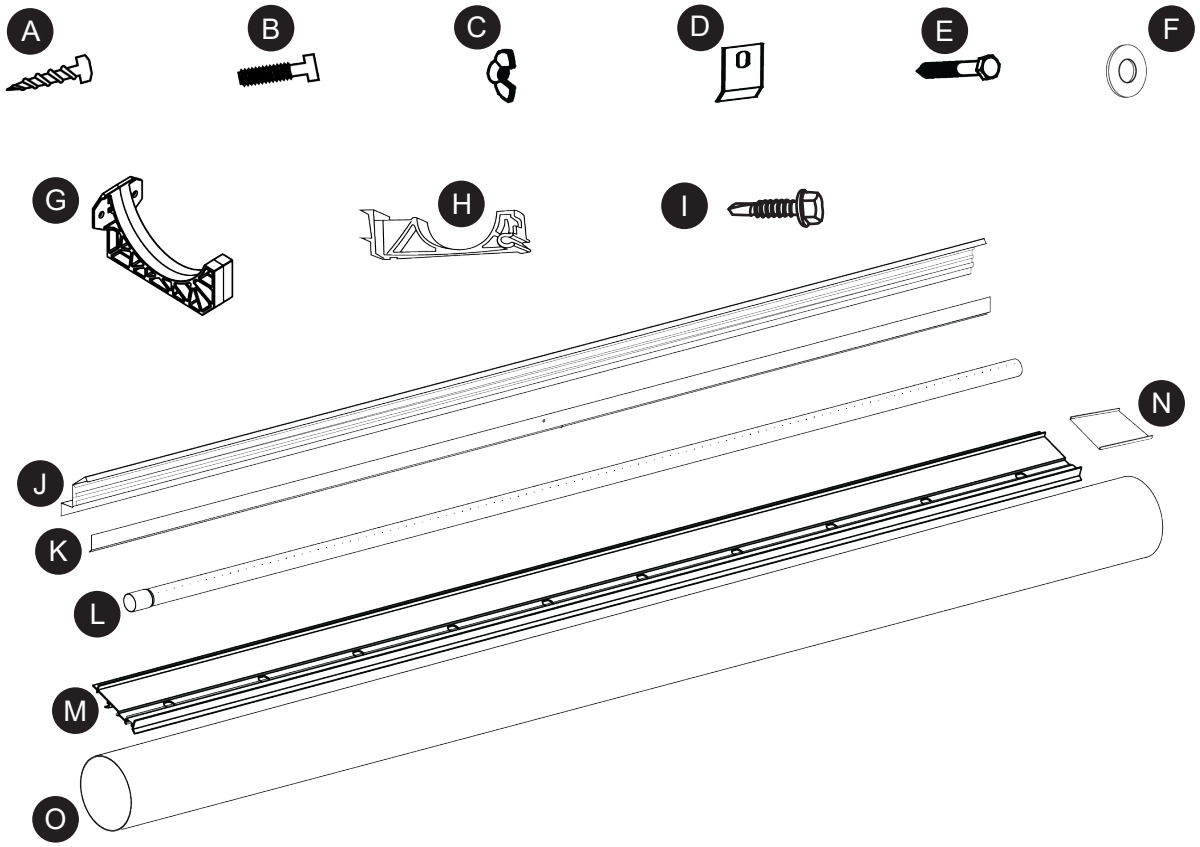
- **Modifications made to the Product not specifically delineated in the Product manual.**
- **Product not installed and/or operated in accordance with the instructions published by Double L.**
- **All components of the Product are not original equipment supplied by Double L.**
- **Product was not purchased from and/or installed by a Double L authorized distributor or certified representative.**
- **Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.**
- **Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.**
- **Product was used for any purpose other than for the care of poultry and livestock.**

The Warranty and Extended Warranty may only be modified in writing by an officer of Double L. Double L shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.

1.6 PARTS LIST

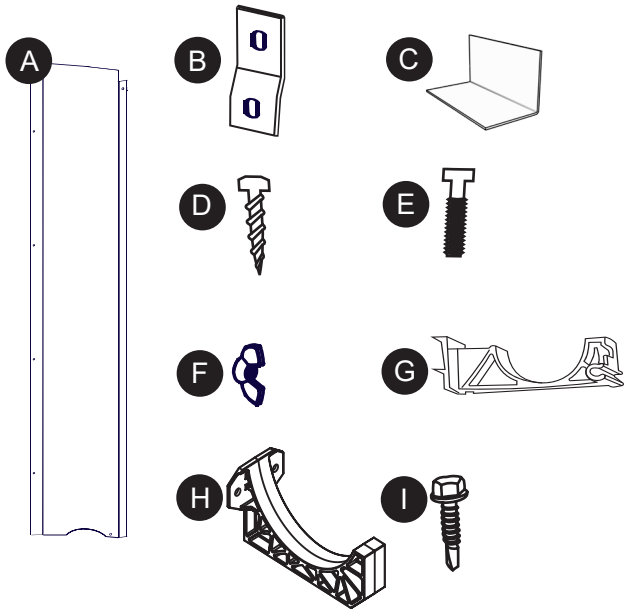
10' Cooling Kit- Part #31150

	Part #	Description	QTY./KIT
A	031013	#10 X 1" Roofing Screw	10
B	600001BO	1/4" x 1-1/4" Bolt	2
C	500164WI	1/4" - 20 Nylon Wingnut	2
D	031109	Front Retainer Bracket	1
E	031014	5/16" x 3-1/8" Wood Screw	4
F	600350WA	3/8" SS Washer	4
G	031105	8" Bracket for PVC Pipe	2
H	031104	1.5" Bracket for PVC Pipe	4
I	031012	#10 x 3/4" Tek Screw	10
J	031101	10' PVC Deflector	1
K	031102	10' Front Retainer	1
L	031120	1.5" Pipe with Pre-Drilled Holes (10'-3")	1
M	031103	10' PVC Trough	1
N	031112	Trough Splice	1
O	031108	8" PVC Pipe (10'-6")	1



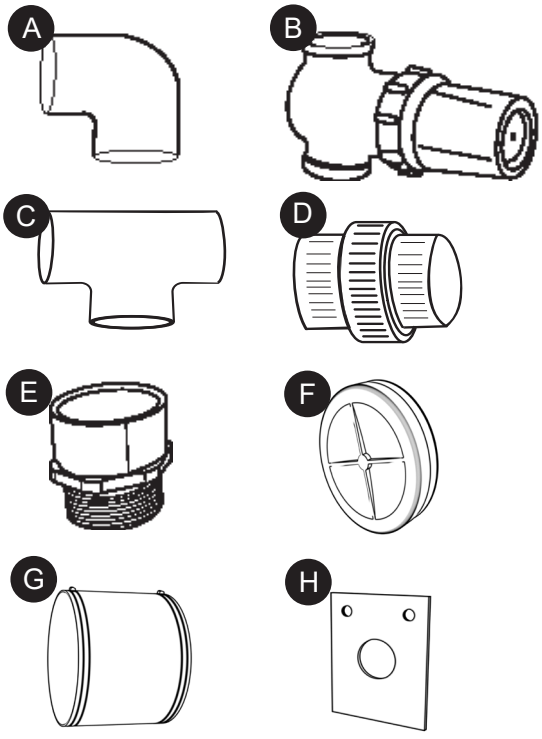
Cooling End Kit- Part #31151

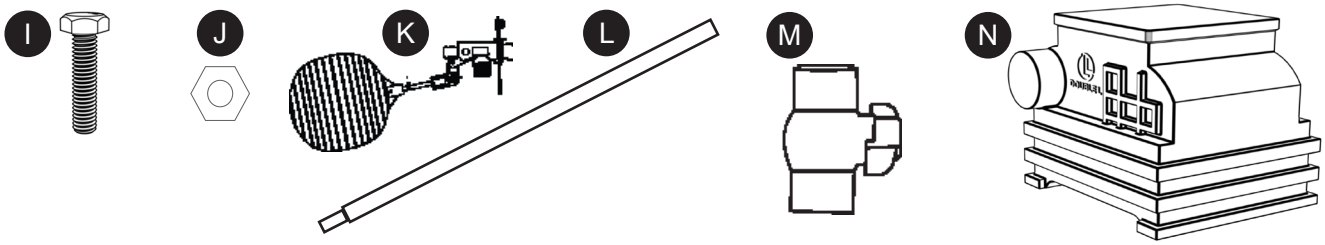
	Part #	Description	QTY./KIT
A	031106	5' PVC End Panel	2
B	031110	End Panel Bracket	2
C	031111	End Panel Cap	1
D	031013	#10 x 1" Roofing Screw	8
E	600001BO	1/4" x 1-1/4" Bolt	4
F	600164WI	1/4"-20 Nylon Wingnut	4
G	031104	1.5" PVC Pipe Bracket	1
H	031105	8" PVC Pipe Bracket	1
I	031012	#10 x 3/4" Tek Screw, SS	12



Cooling Tank Kit Part #31154-31155

	Part #	Description	31154 QTY.	31155 QTY.
A	031122	1.5" PVC Slip Elbow	3	3
B	031123	1.5" PVC In Line Strainer	1	1
C	031124	1.5" Slip Tee	1	1
D	031125	1.5" Slip Union	1	1
E	031126	1.5" Threaded Male Adapter	3	3
F	031128	8" Rubber Slip Cap	1	2
G	031134	8" Rubber Coupler	1	2
H	031117	Float Valve Mounting Plate	1	1
I	600000BO	1/4" x 1" SS Bolt	2	2
J	600003BO	1/4" SS Nut	2	2
K	031133	Float Valve Assembly	1	1
L	031107	1.5" SCHL 40 PVC x 10'x3"	1	1
M	031121	1.5" Slip Ball Valve	2	2
N	031113	Poly Cooling Tank	1	1



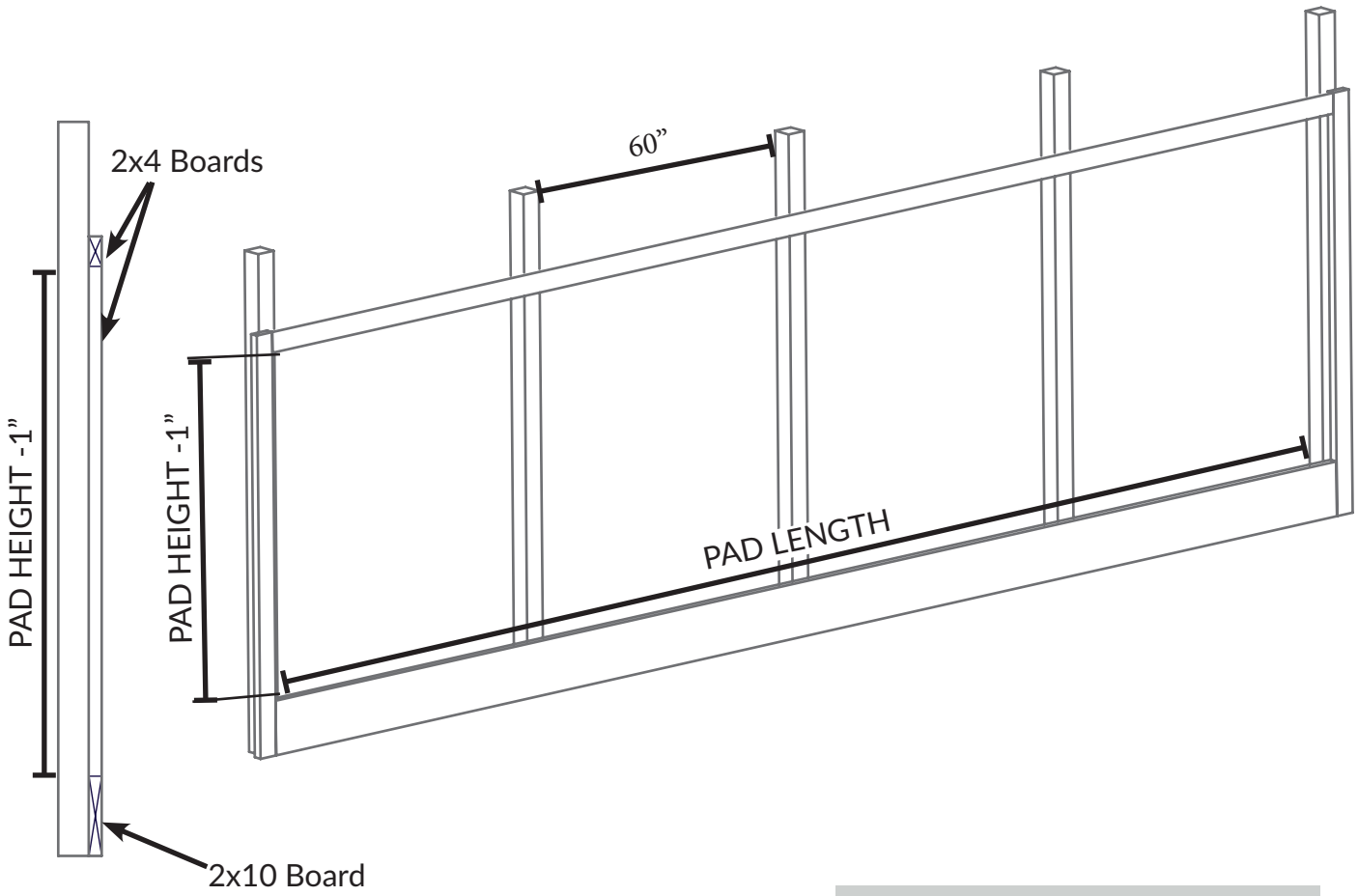


2. ASSEMBLY

2.1 MEASURING ROUGH OPENING

Step 1

Assemble the framework for the Cool Cell according to the dimensions specified in the provided drawing. Use 2x10 lumber for the bottom frame and 2x4s for the top and side frames. Space out building posts no more than 60” apart to support framing.



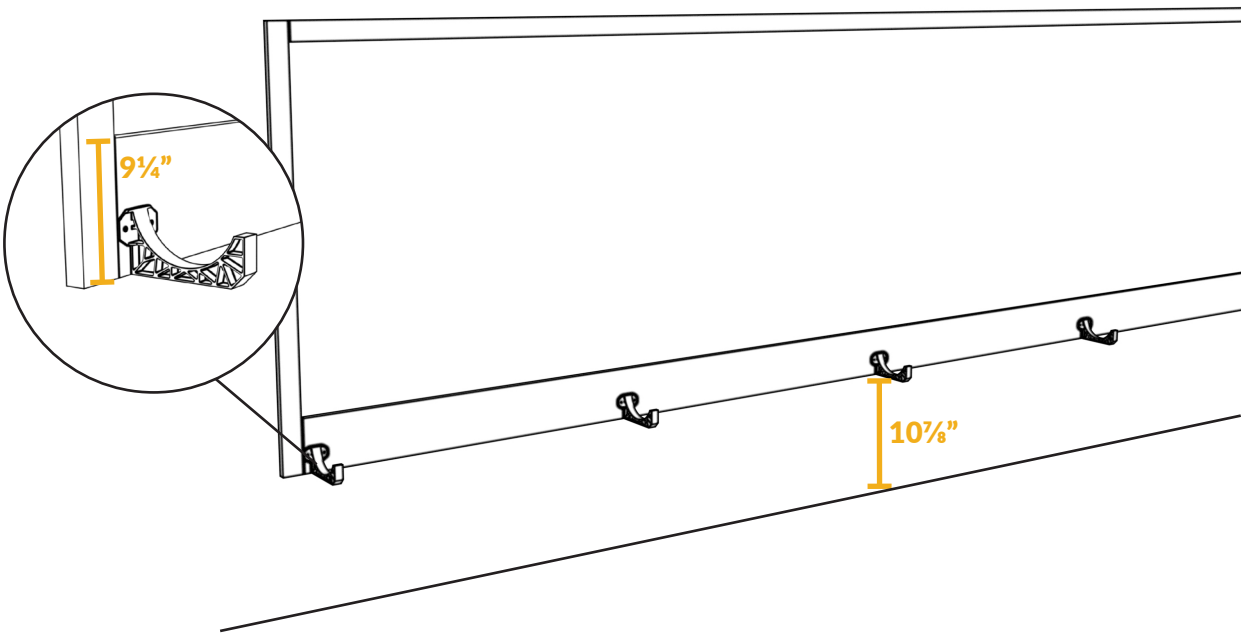
Note: The bottom level of the opening has to be at the same level inside of the building.

2.2 BRACKET ASSEMBLY FOR GUTTER

Step 1

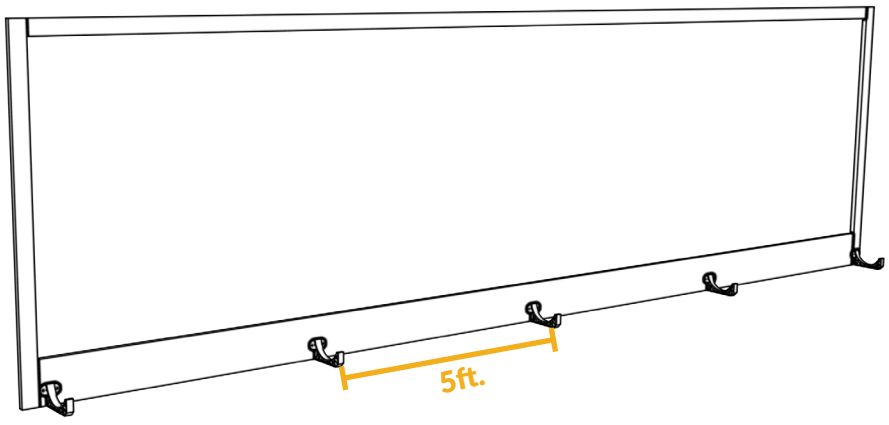
Snap a chalkline 9-1/4” below the bottom of rough opening. On the chalkline install the first bracket for the water gutter to the beginning of the opening. Line up the bracket so that the bottom of the bracket is lined up on the chalkline, then secure it with (2) Wood Screws.

Note: When using above ground Poly Tank, ensure that the bottom of the **bracket is 10⅞” from the ground** or the bottom of the tank.



Step 2

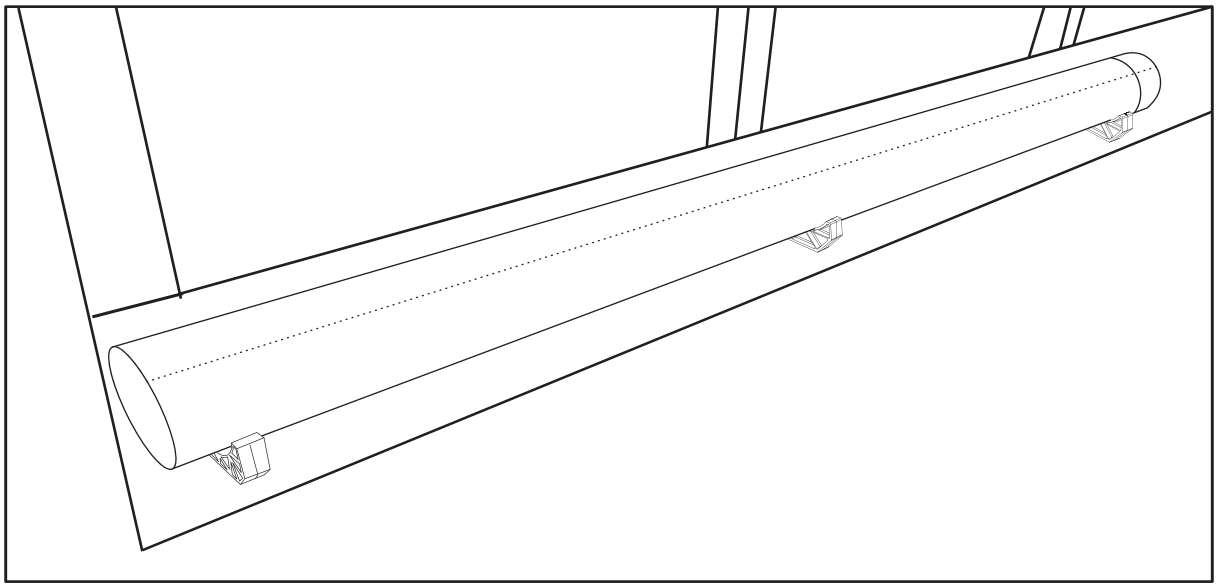
Every 5ft continue to install the next brackets up to the end frame.



2.3 PVC PIPE AND TROUGH INSTALL

Step 1

Position along the bottom of the rough opening full sections of 8” Pipe in the Pipe Support Brackets, with the Non-Bell end towards the water reservoir.

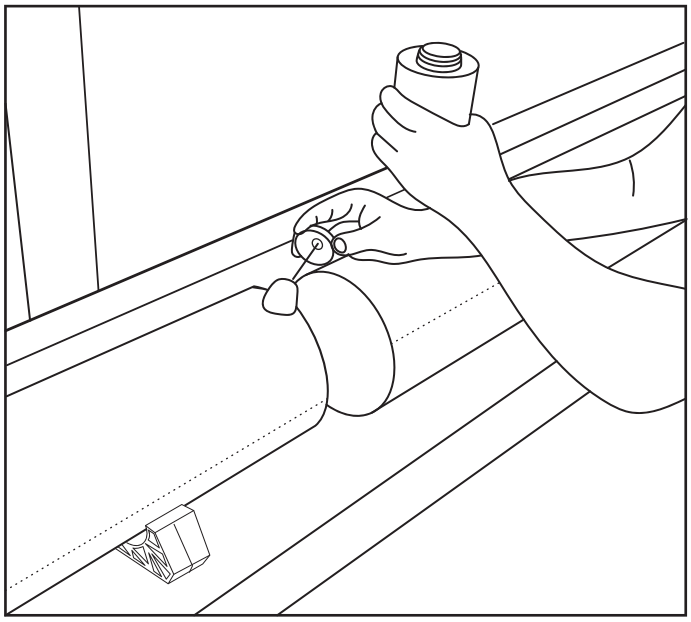


Step 2

With the 8" Pipe sitting in the Pipe Support Brackets, prepare the Pipe with PVC Pipe Primer (not provided), following the directions for use and drying. After priming, use heavy duty, heavy bodied PVC cement (not provided) for pipe 8" diameter or larger, in accordance to the PVC cement directions.

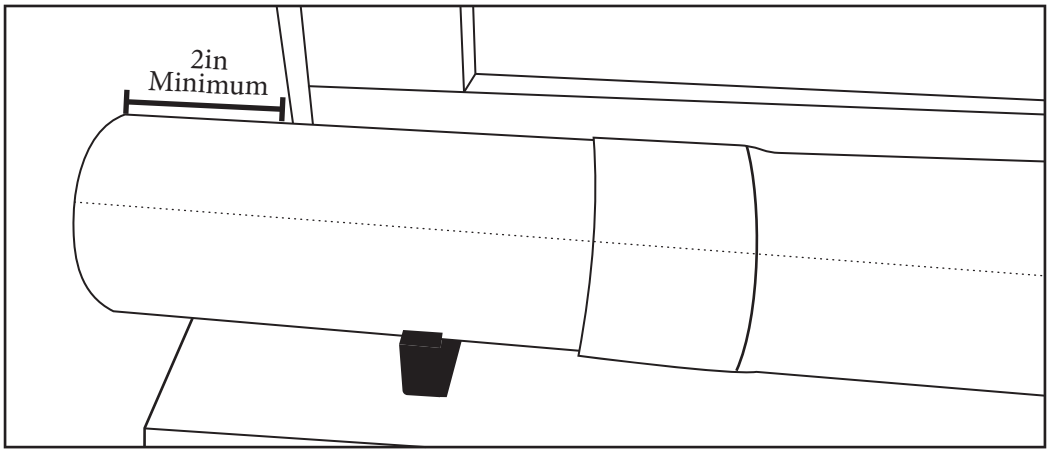
Step 3

Apply a generous amount of PVC cement to the inside of the bell end , and the outside of the non-bell end, and slide together, 5" deep. Turn the pipe 1/4 turn to spread glue and ensure a tight seal. Continue for all sections of 8" Pipe.



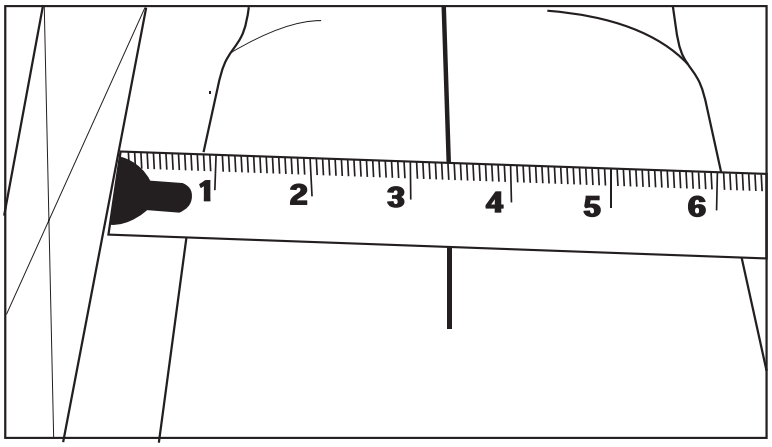
Step 4

At the ends of the cooling system, let the 8” Pipe extend past the framing and cut any excess 8” Pipe off so that it extends as least 2” past the outside edge of the rough opening.



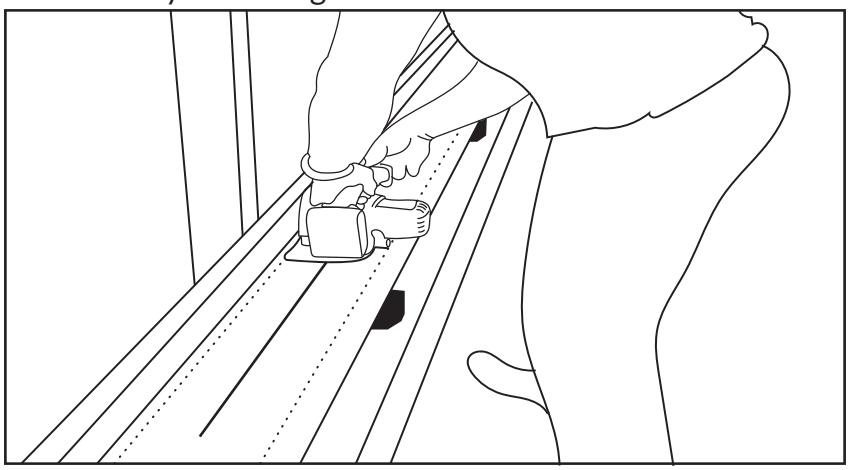
Step 5

While the PVC Cement is setting up, create cut lines along the length of the PVC Piping with a straight edge and sharpie. The first line should be marked 3-1/4” from the rough opening and the second line parallel to the first should be marked 5” from the rough opening.



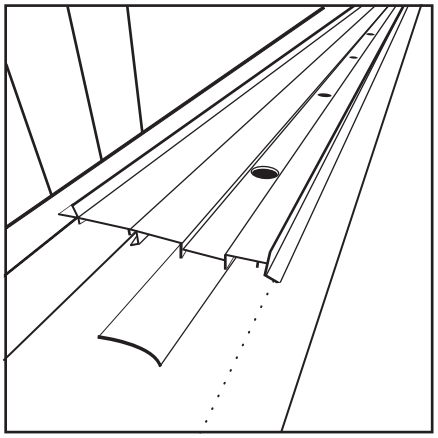
Step 6

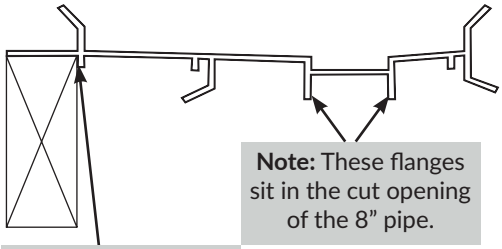
Once the cut lines are made and the PVC Cement is set-up, begin cutting along the outside edge of the cut lines to create a gap in the piping for a trough to fit in. Be sure to continuously cut through the piping the entire length of the system with an extra 1/4” cut past the end of the rough opening. Remove the cut out piece and any remaining debris.



Step 7

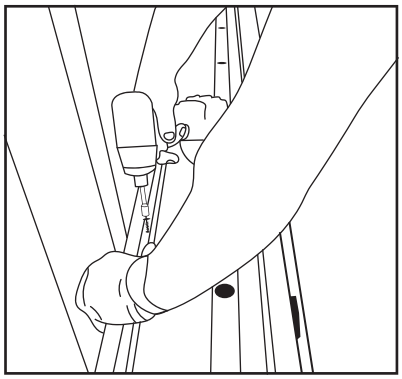
With the cut-out opening in the 8” Pipe facing up, start installing the trough piece with the holes side furthest away from the rough opening. Insert the straight flanges dropped down under the holes portion into the piping cut out area.





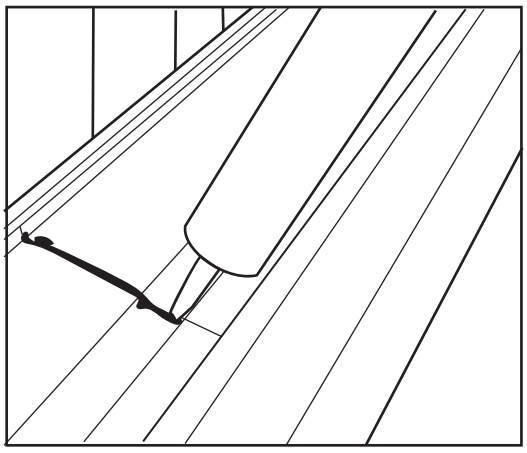
Step 8

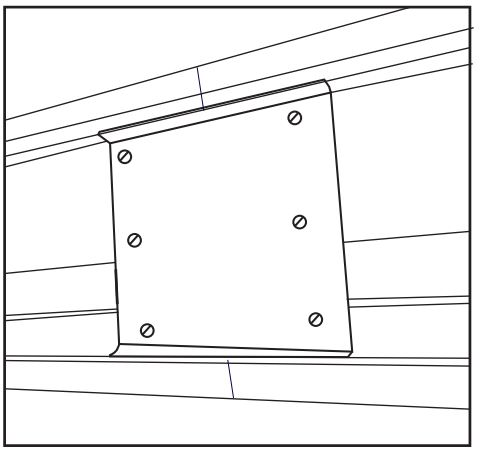
Once the trough is placed into the 8” Pipe make sure it is level and the back flange is resting on top of the rough opening. Next ensure that the trough is pushed up against the rough opening leaving a ¼ “ gap between the end of the Trough and the cut end of the 8” Pipe, then secure in place using (5) 1” Roofing Screws. Repeat for the remaining Troughs, pushing them up to one another.



Step 9

Use caulk to secure each trough piece together where they meet, then caulk the bottom of a trough splice with flanges facing up and place it on top of where the trough pieces are meeting. Secure the trough splice with (6) 3/4” Tek screws.

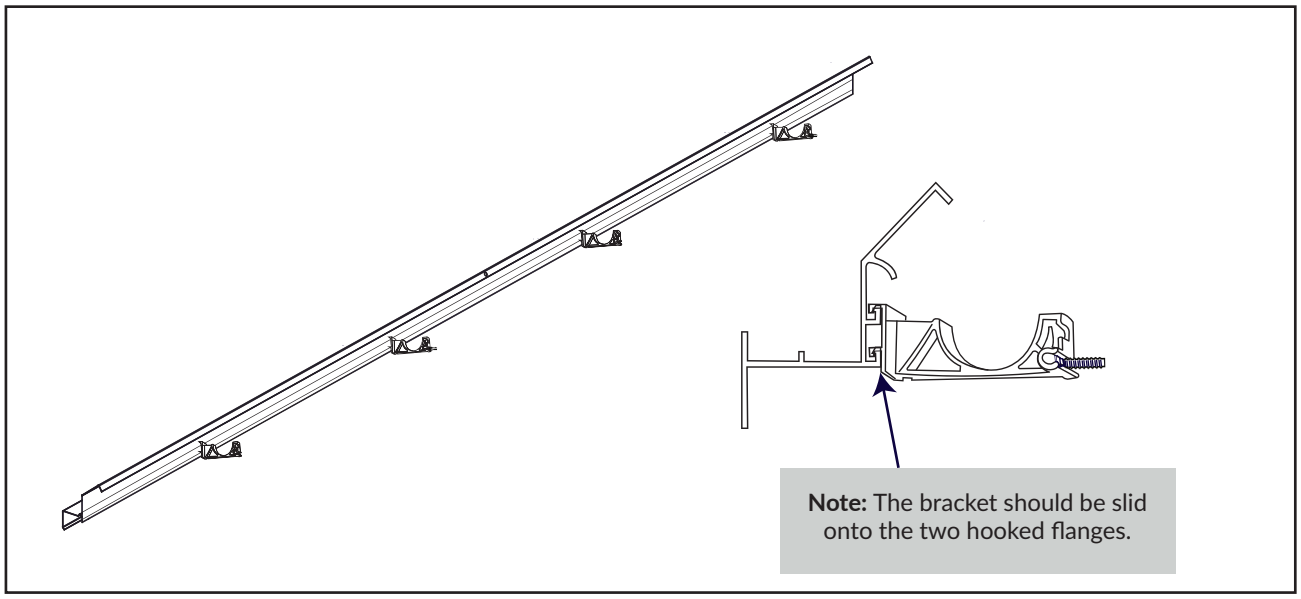




2.4 DEFLECTOR INSTALL

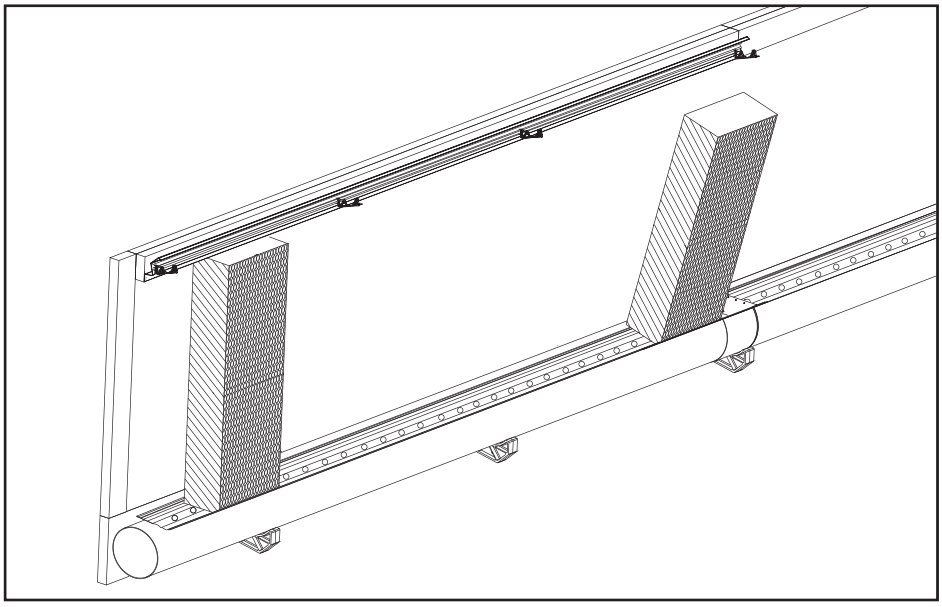
Step 1

Prep the Deflector for install by sliding (4) 1½" Pipe Brackets onto it and placing a Fully threaded 1/4" x 1-1/4" bolt on the front of every other bracket starting with the second bracket.



Step 2

Insert one piece of Cooling Pad at each end on the trough so it is the length of the Deflector. Starting at the Non-Tank End, set the Deflector up onto the cooling pad so that the end is against the end framing. Use the pads to adjust the height of the Deflector so that it fits tightly to Cooling Pad. Secure the Deflector when it is in place, with (5) Roofing Screws along the bottom Flange. Continue this step for installing Deflectors on the rest of the system.

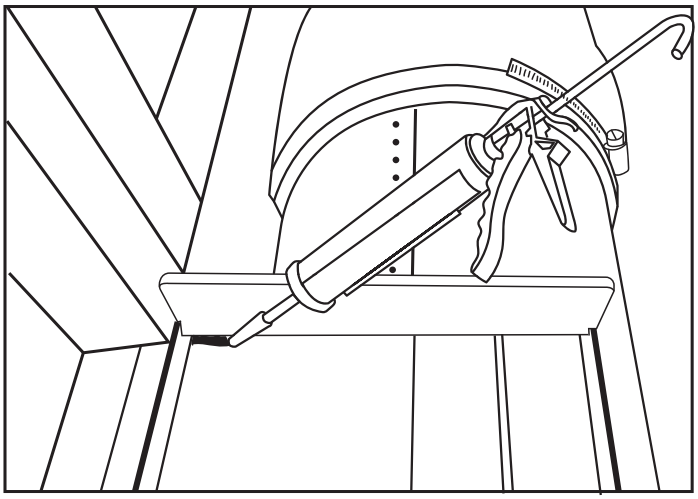


Note: Based on the exact rough opening, the deflector can sit 1-1/2" +/- 1/2" above the RO

2.5 END PANEL INSTALL

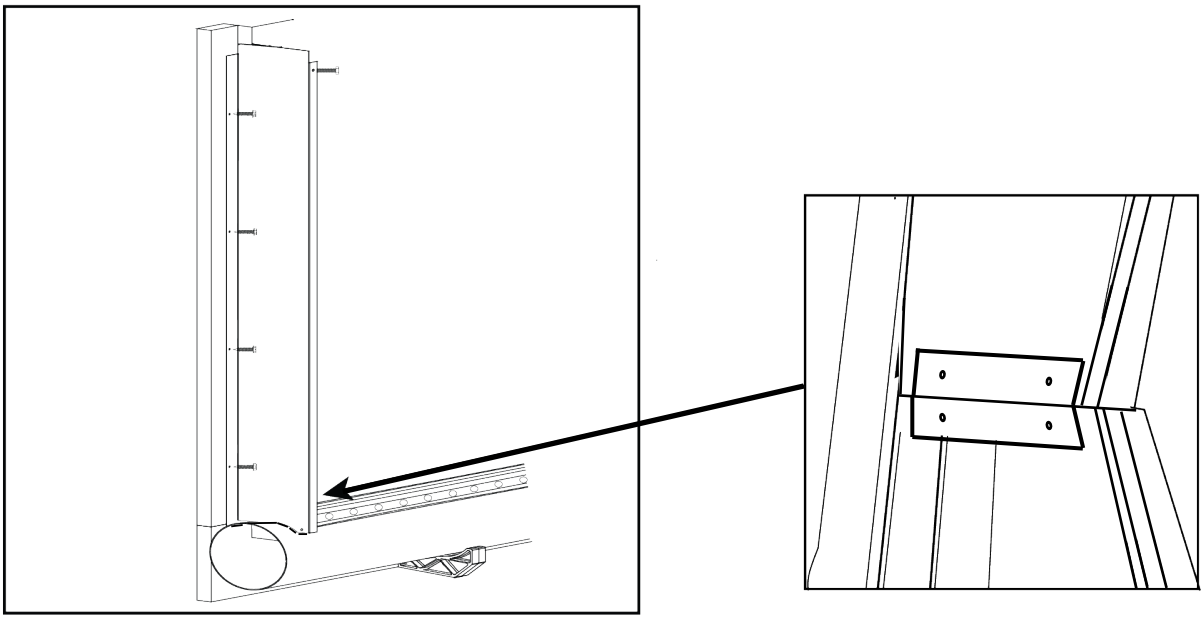
Step 1

Before installing the End Panels you will need to caulk down End Panel caps on both ends of the Trough.



Step 2

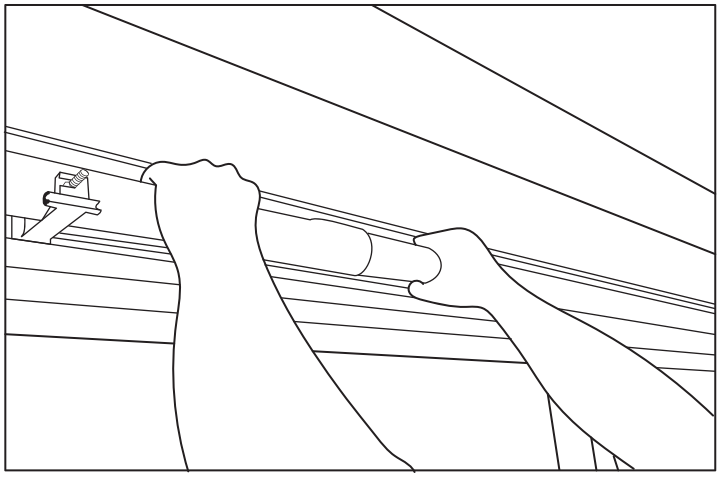
Install the End Panels with the 1” wide flange against the framing, by butting them up against the ends of the Deflector Piece and the End Panel Caps on both ends of the system. Secure Panels into the framing with (4) Roofing Screws along the 1” flange. Next secure the End Panels into the End Panel Caps with (2) Roofing Screws. Insert a 1/4” Bolt into the hole at the top of the End Panels on the side that is facing away from the house.



2.6 TOP PIPE INSTALL

Step 1

Starting on the end by the water reservoir, place a piece of 1½ ” PVC Piping with holes on top of the 1½” Pipe Bracket, make sure the bell end of the piping is towards the reservoir. Assemble other 1½” Pipes into each other to the end of the system keeping the holes aligned. When piping is all together rotate the pipe so that the holes are at a 45° angle facing the Deflector.

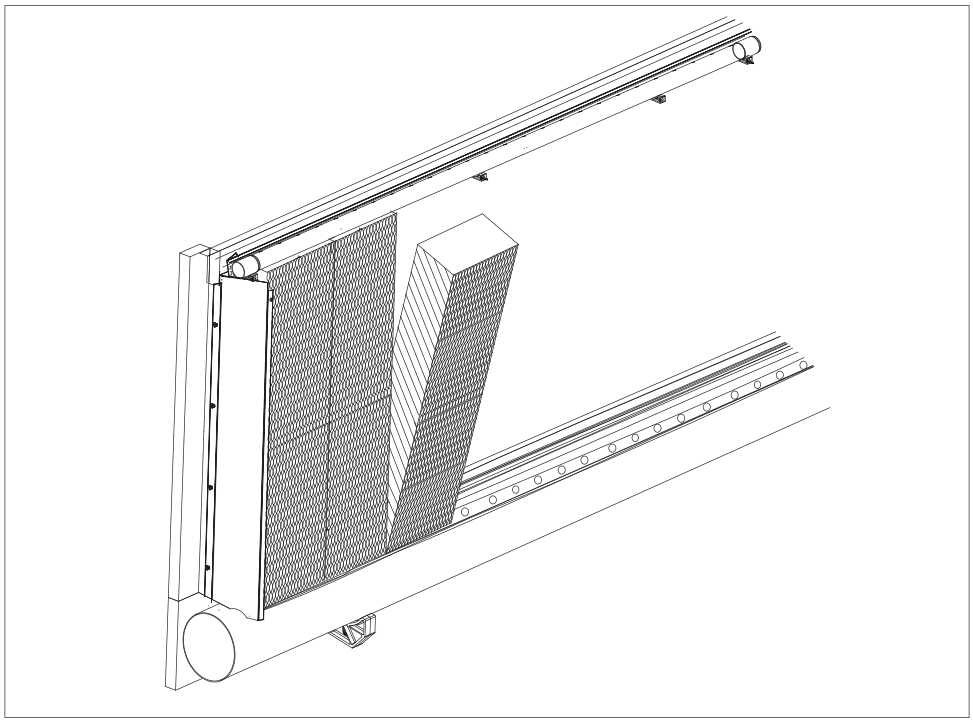


Note: DO NOT GLUE TOP PIPING PIECES TOGETHER.

2.7 COOLING PAD INSTALL

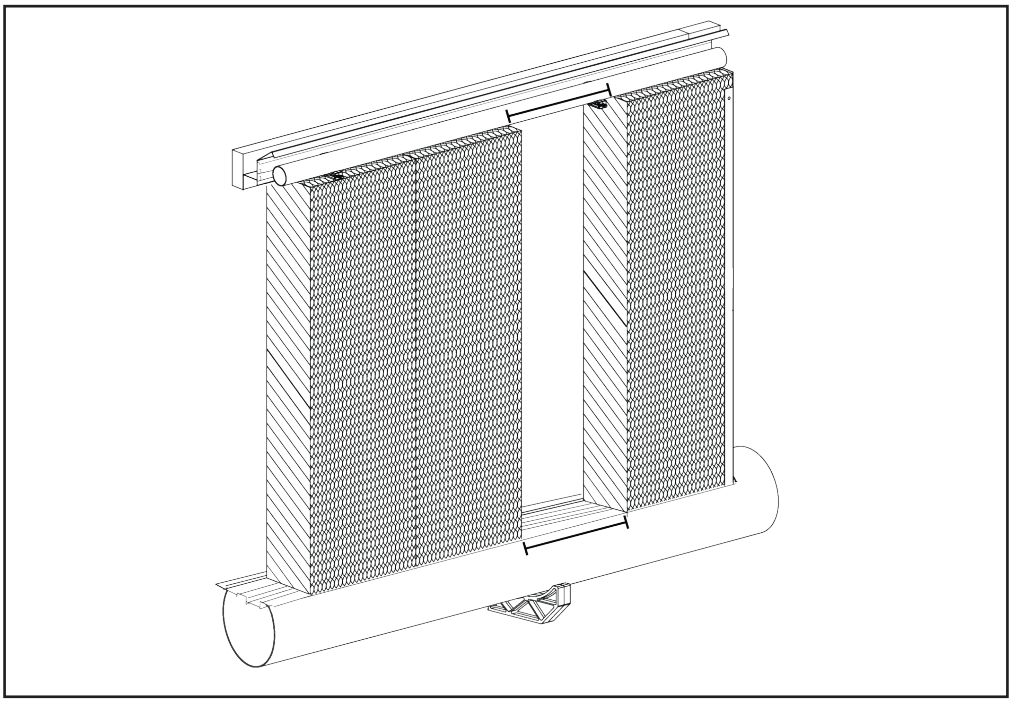
Step 1

Place the first Cooling Pad onto the Trough and slide it tight up to the End Panel. Pads should be positioned with the side directional arrows pointing up and the black side facing away from the building. Making sure the pads are tight together, install the rest until you have two pads left.



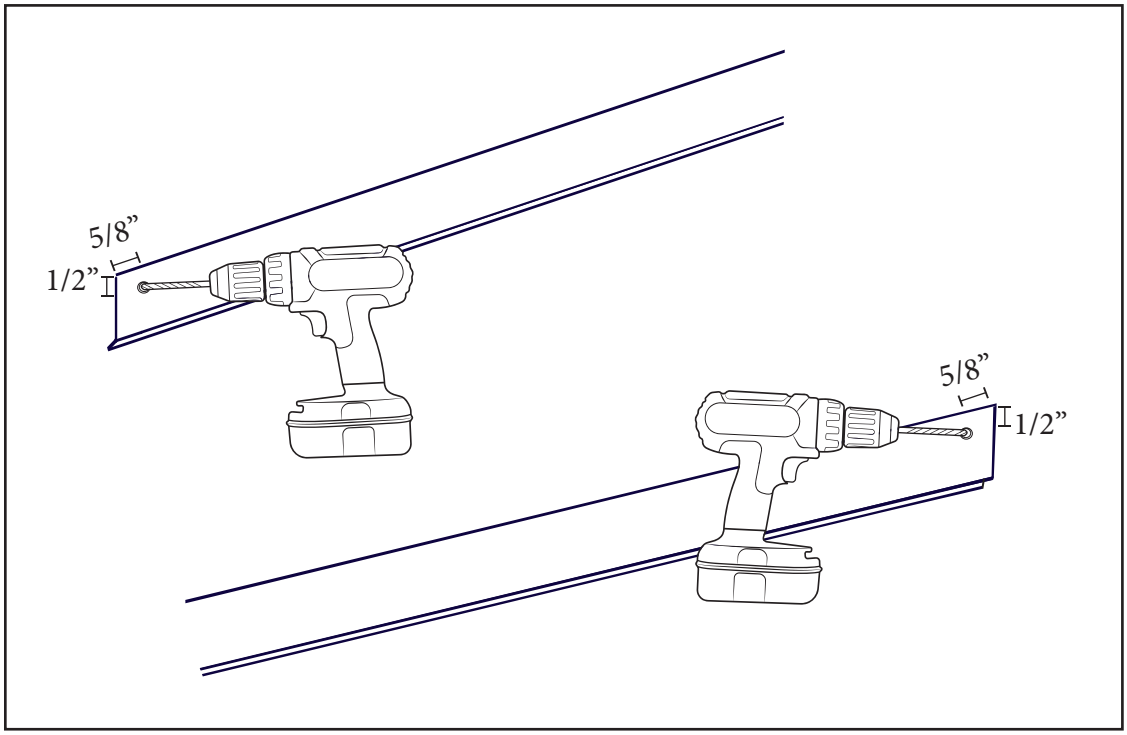
Step 2

Place one of the last pieces of pad tight against the End Panel. With the opening that is left for the last piece of pad measure at the top and bottom of that opening. If the opening is smaller than the width of the last piece of pad, then use a hand saw to trim the last piece of Cooling Pad to fit the opening. Insert the last piece of pad into the opening.



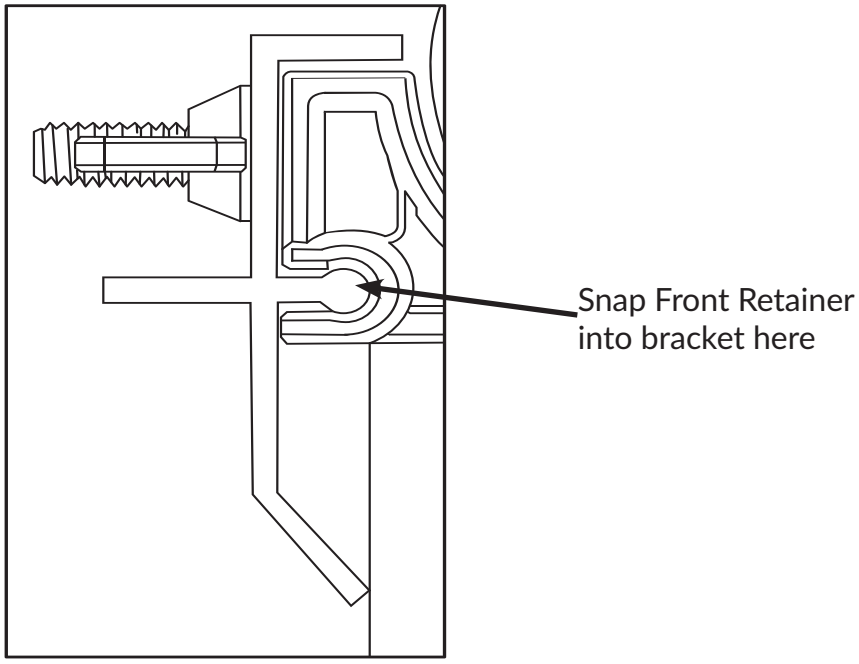
Step 3

Prepare the Front Retainer pieces by drilling a hole in the pieces that will be used as the **FIRST and LAST** retainer only. Orient the piece so that the angled part is on the bottom. One piece will need a 1/4” hole drilled 5/8” from the left end and 1/2” down from the top. The other piece will need the 1/4” hole drilled 5/8” from the right end and 1/2” down from the top.



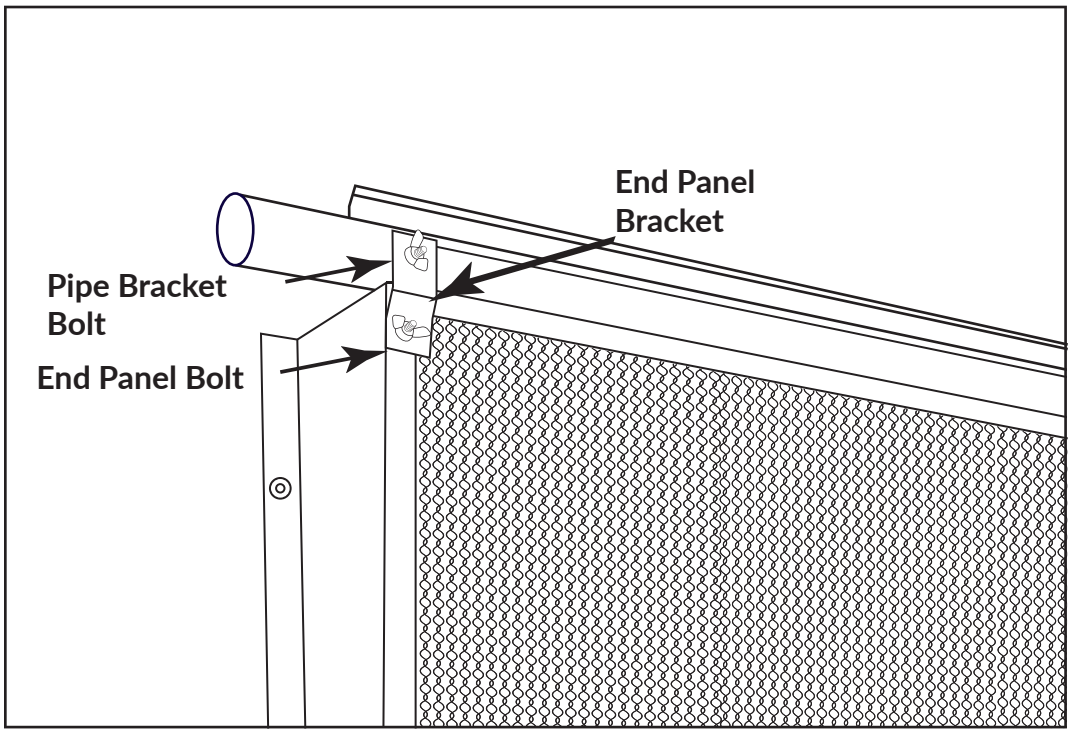
Step 4

On the side with the water reservoir, install the Front Retainer that has a hole on the end closest to the reservoir. Position the two holes in the Front Retainer with the bolts on the 1.5” Pipe Bracket. Once lined up, snap the front retainer into the bracket so it is secure. *Note slide the Pipe Brackets along the Deflector to where they best line up with the holes in the retainer piece.



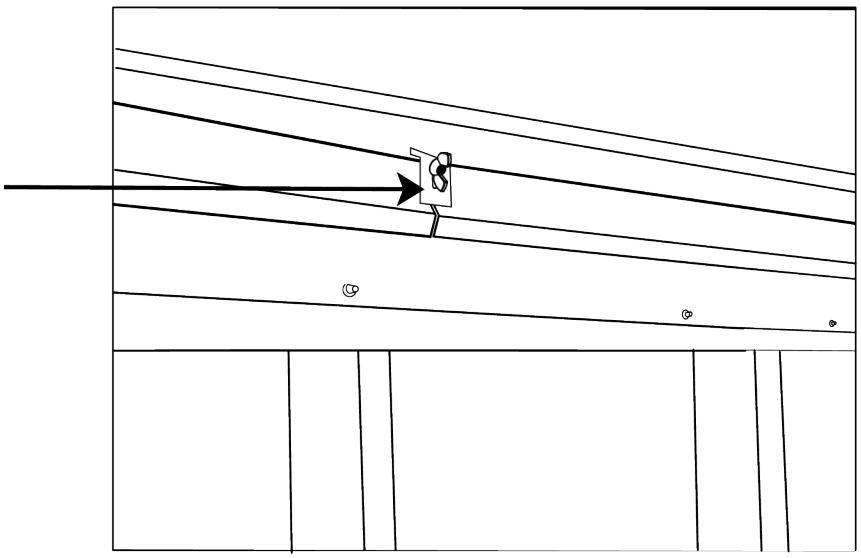
Step 5

Secure the end of the Retainer by placing an End Panel Bracket on the bolt from the Pipe bracket and the top bolt that is on the End Panel. The End Panel should go on so that the two pre-drilled holes are on the bottom, only one of the pre-drilled holes will be used for the bolt on the End Panel. Place Wing Nuts on the Bolts to secure the bracket in place.



Step 6

Install the next Front Retainer so that there is a Pipe Bracket with a bolt in it sitting between it and the previous Retainer piece. Position the remainder of the Retainer onto the bolt in the center and snap the Front Retainer into the Pipe Bracket. Secure the Bolt where the retainers meet with a Front Retainer Bracket and Wing Nut. Place a Wing Nut on the middle bolt to secure.

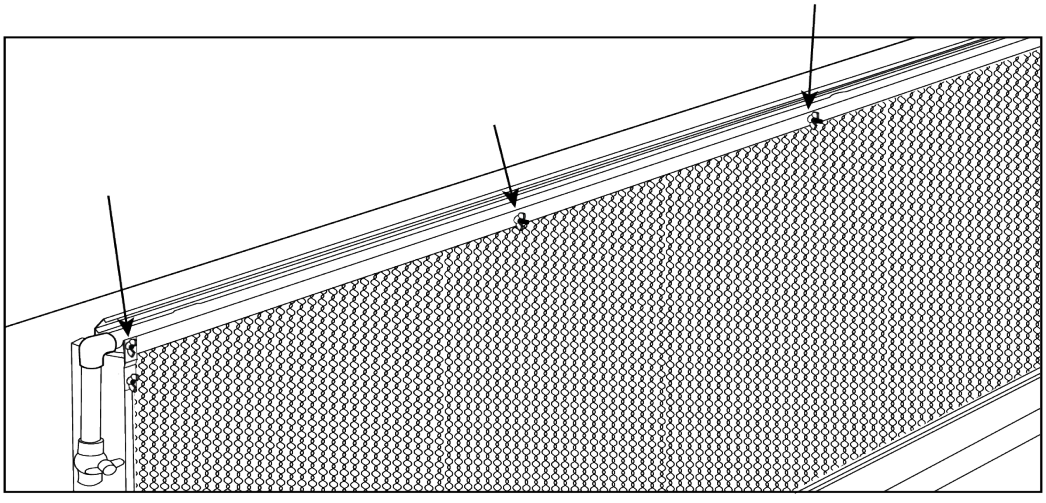


Step 7

Repeat Step 5 until you get to the last Front Retainer piece.

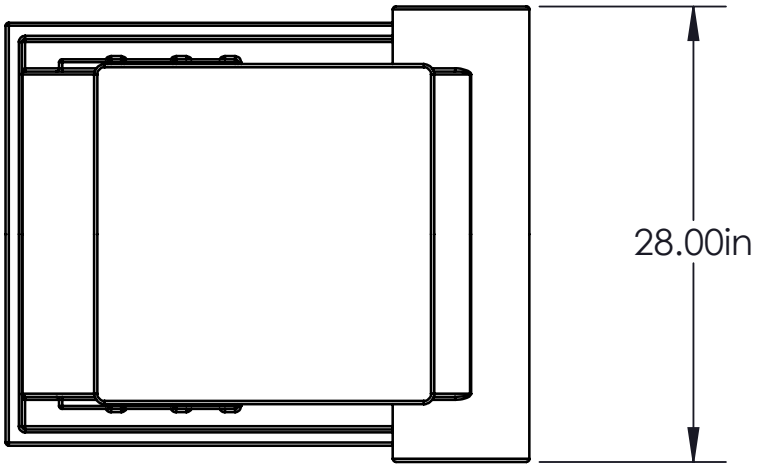
Step 8

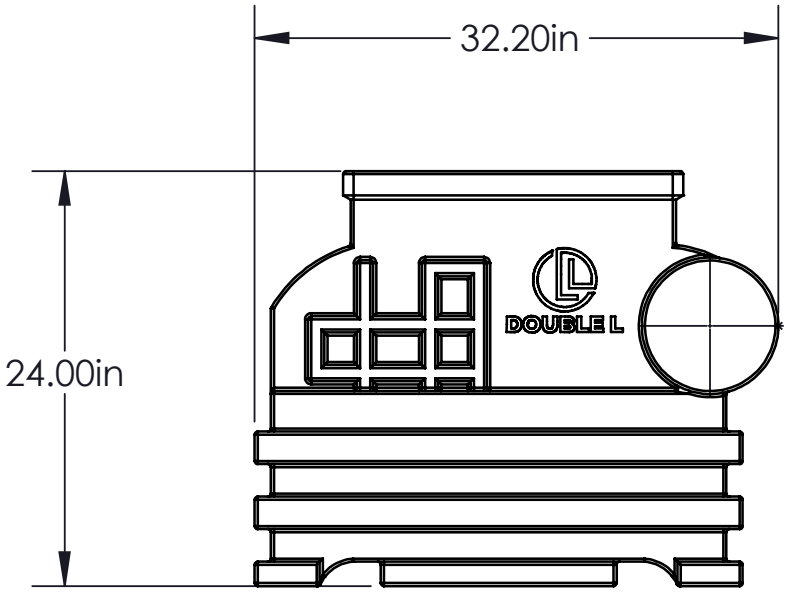
Install the Final Retainer piece and be sure there is a drilled hole on the end near the systems End Panel. Secure the end of the Front Retainer in by placing an End Panel Bracket on the bolt from the Pipe bracket and the top bolt that is on the End Panel. Place Wing Nuts on the Bolts to secure the bracket in place.



2.8 TANK /PLUMBING INSTALLATION

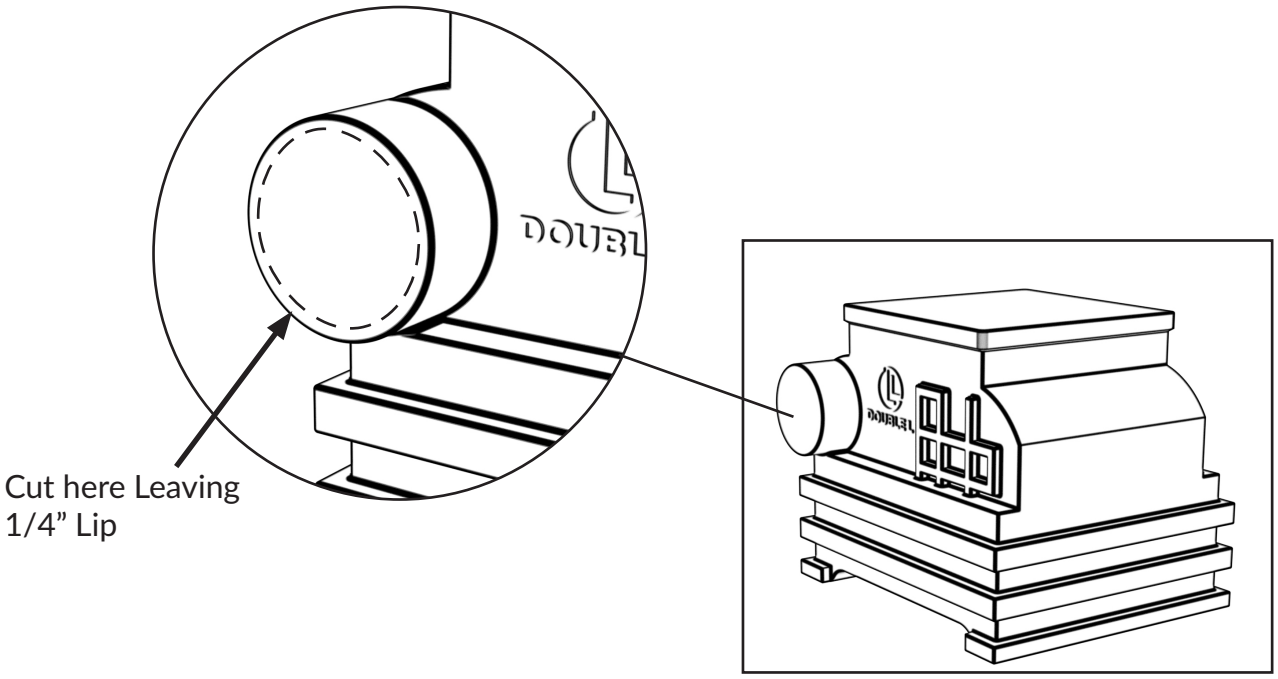
TANK DIMENSIONS:





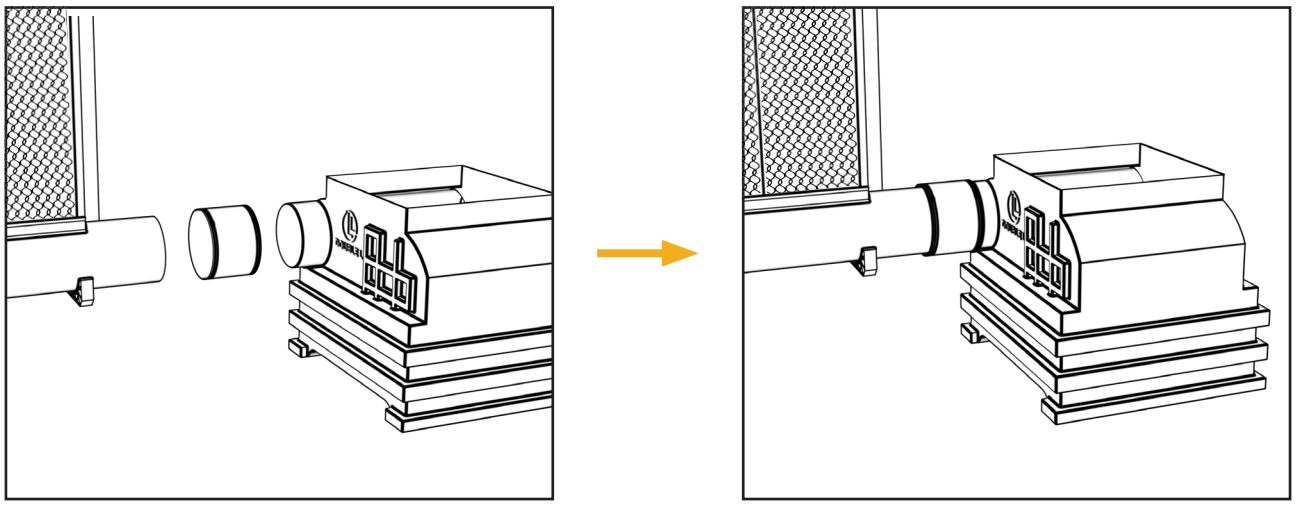
Step 1

Prepare the cooling tank for attachment to the 8” pipe by cutting out the flat surface on the tank cylinder. On the flat side of the cylinder cut a circle leaving a 1/4” lip on the edges.



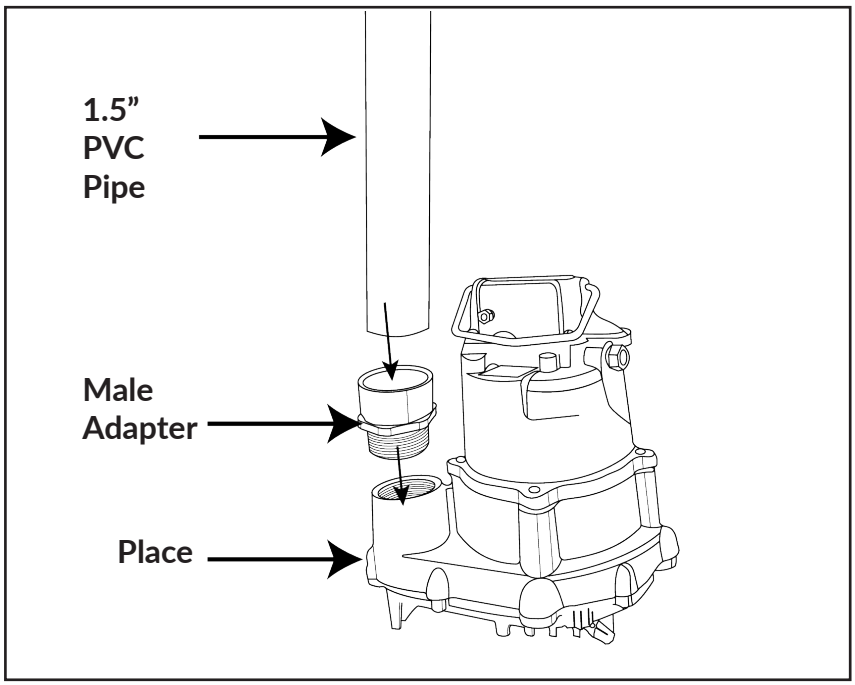
Step 2

Use the 8” rubber coupler to secure the tank to the rest of the system. Slide one end of the coupler onto the tank cylinder and the other end onto the main 8” pipe. Secure both sides tightly by fastening with a flat head screw driver or 3/8” socket.



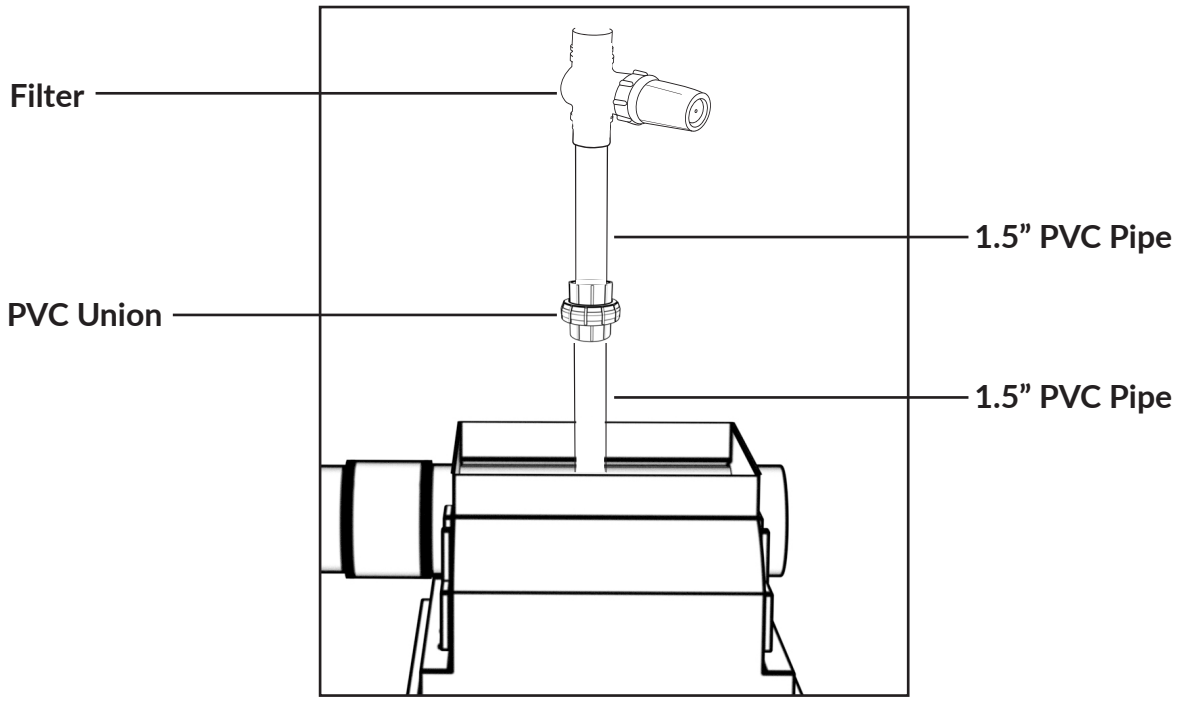
Step 3

Find your system pump and thread a 1.5” Male PVC Adapter onto it. Find the 1.5” PVC Pipe with no holes and cut a 30” length. Next use primer and PVC cement to secure the 30” length to the Threaded Male Adapter.



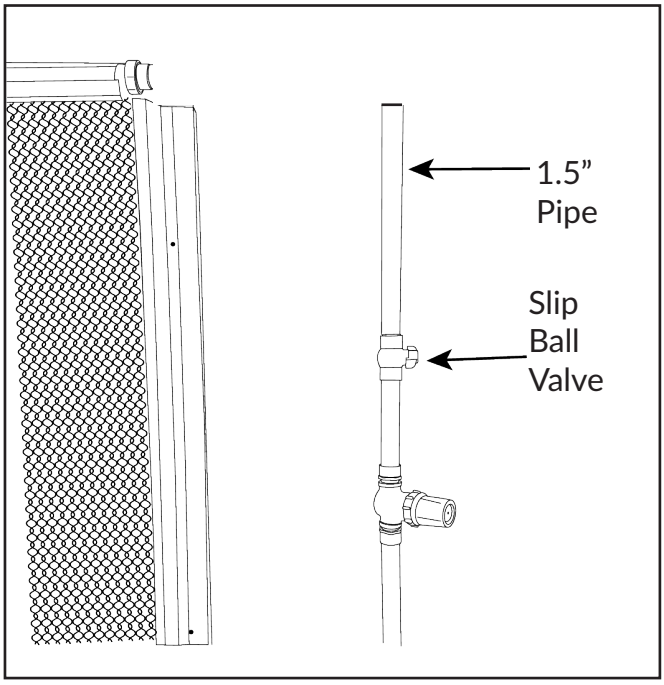
Step 4

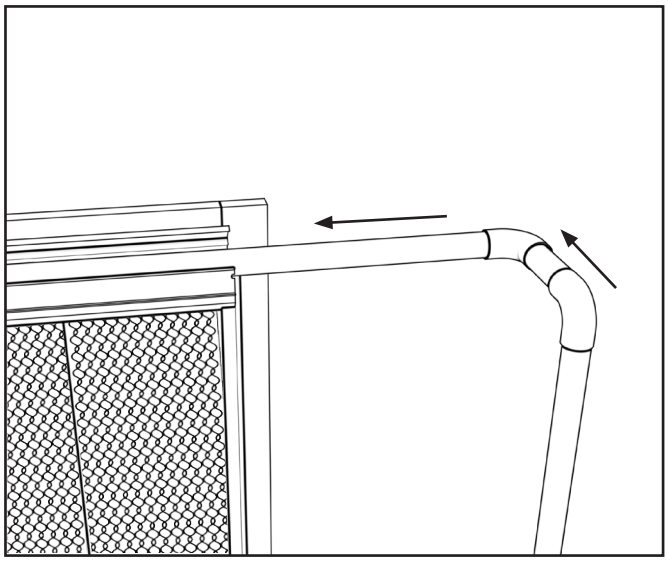
Lower the Pump with the PVC Pieces into the tank. At the open end of the 1.5ft. PVC Pipe utilize the primer and PVC cement to add a PVC Union, a 1ft. length of 1.5” PVC, then the filter.



Step 5

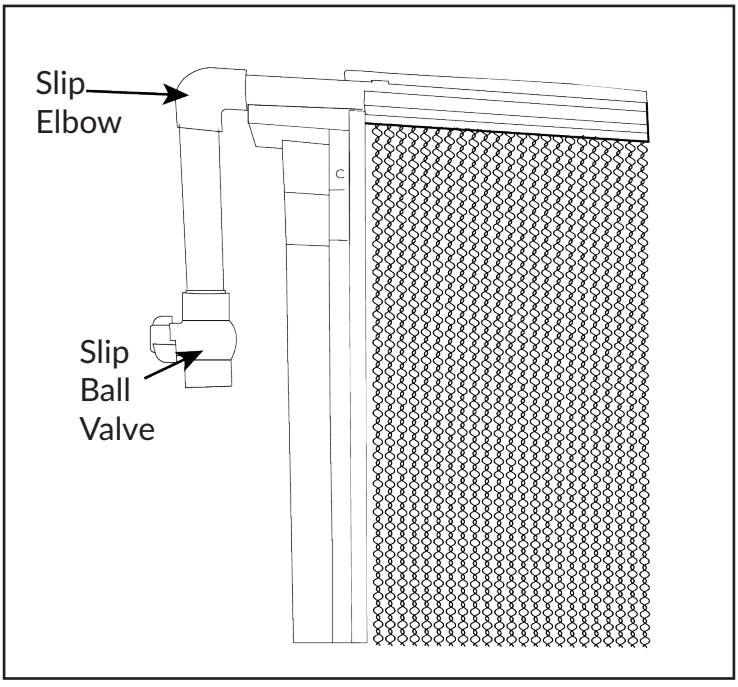
Cut another 1ft length of the 1.5” PVC and glue it into the open end of the Filter. Glue on a Slip Ball Valve then utilize the Slip Elbows and measure the remaining length needed to finish routing the pump to the rest of the Cool Cell system.





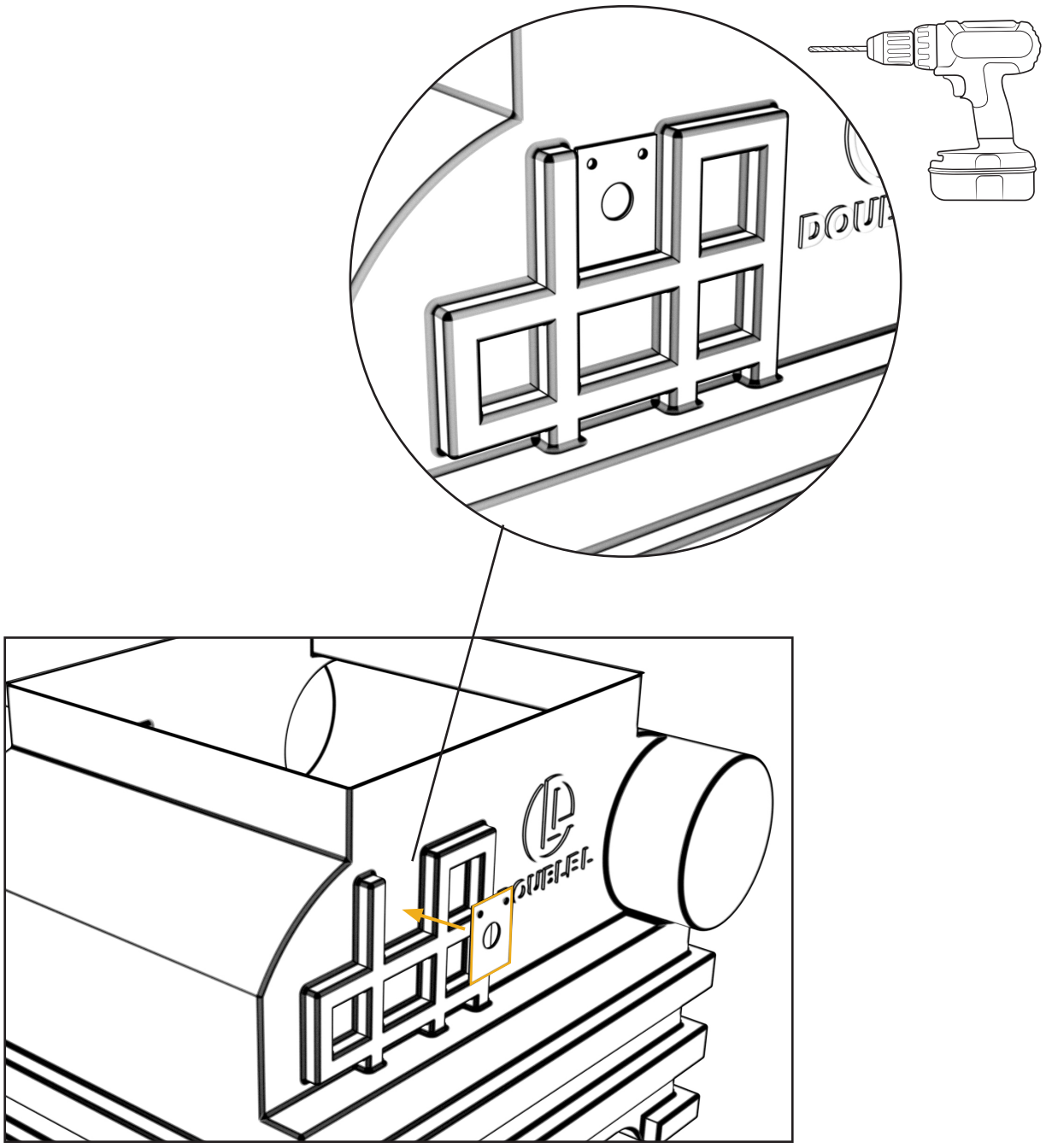
Step 6

On the end of the Cool Cell system opposite of the tank, use Primer and PVC cement to attach a Slip Elbow, a 1ft length of 1.5” PVC Pipe, and a Ball Valve. This will allow you to pump out and drain your system.



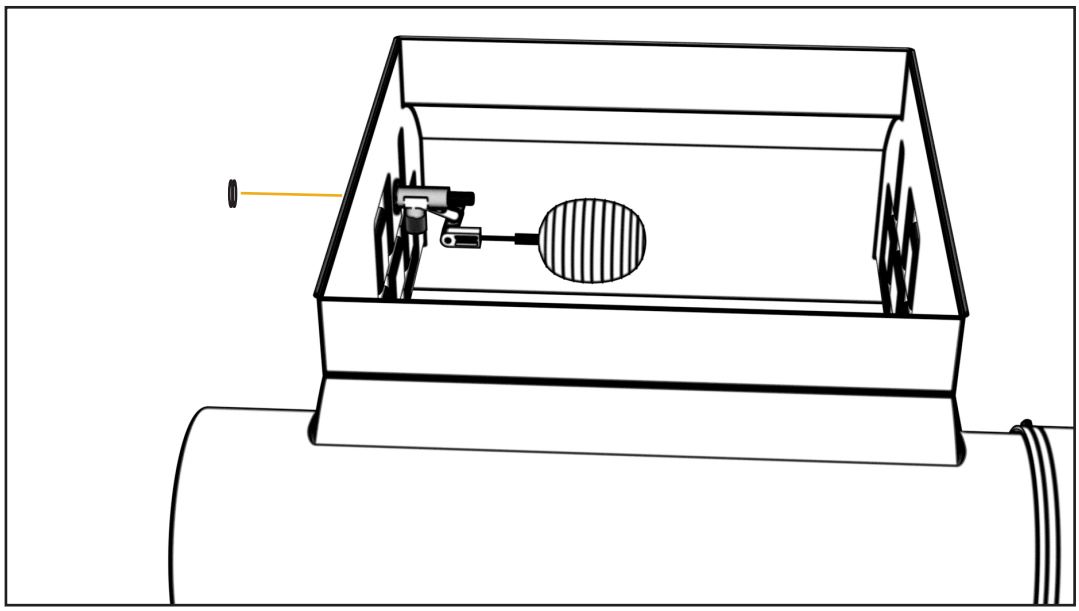
Step 7

Find the Float Valve Mounting Plate and place it on the tank between the ribs as shown below. Use the holes in the plate as a drill guide to make two 1/4” clearance holes and one 1-1/16” hole in the side of the tank. Once holes are drilled secure the plate in place using the provided 1/4” X 1” Bolts and 1/4” nuts



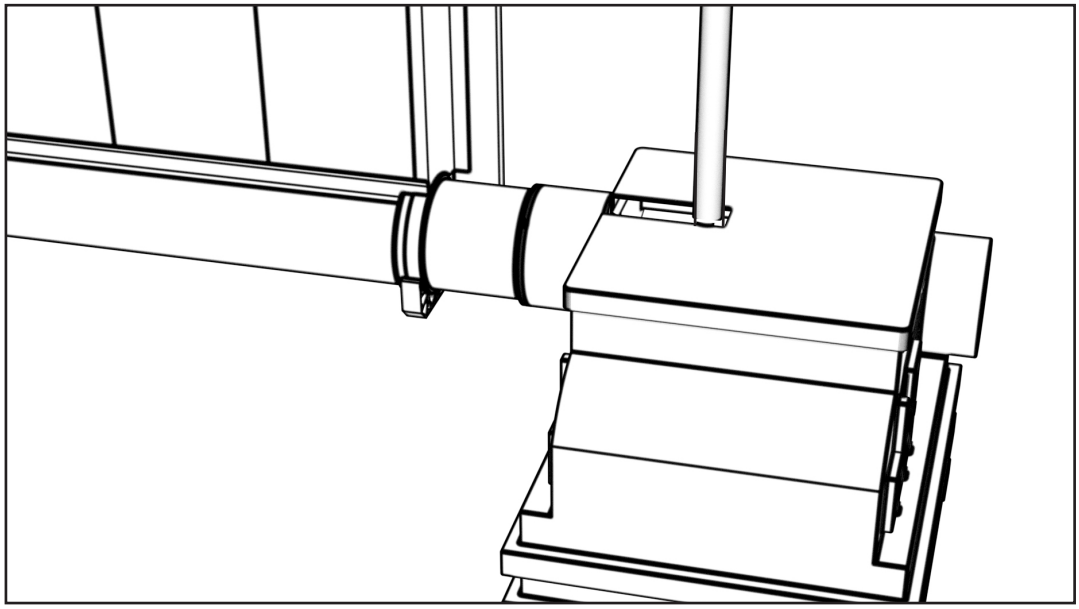
Step 8

From the inside of the Tank, insert the threaded end of the Float Valve into the larger hole drilled in Step 7. Make sure the rubber gasket is INSIDE the tank. Secure the Float to the Tank by threading on the provided plastic nut to the threaded end of the valve on the outside of the tank. Adjust the Float Ball as needed so that thw water does not go above the top of the tank cylinder.



Step 9

Locate the lid for the Cool Cell Tank and cut out notch to fit around the extending 1.5” PVC Pipe. Cover tank to keep debris out of water.



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