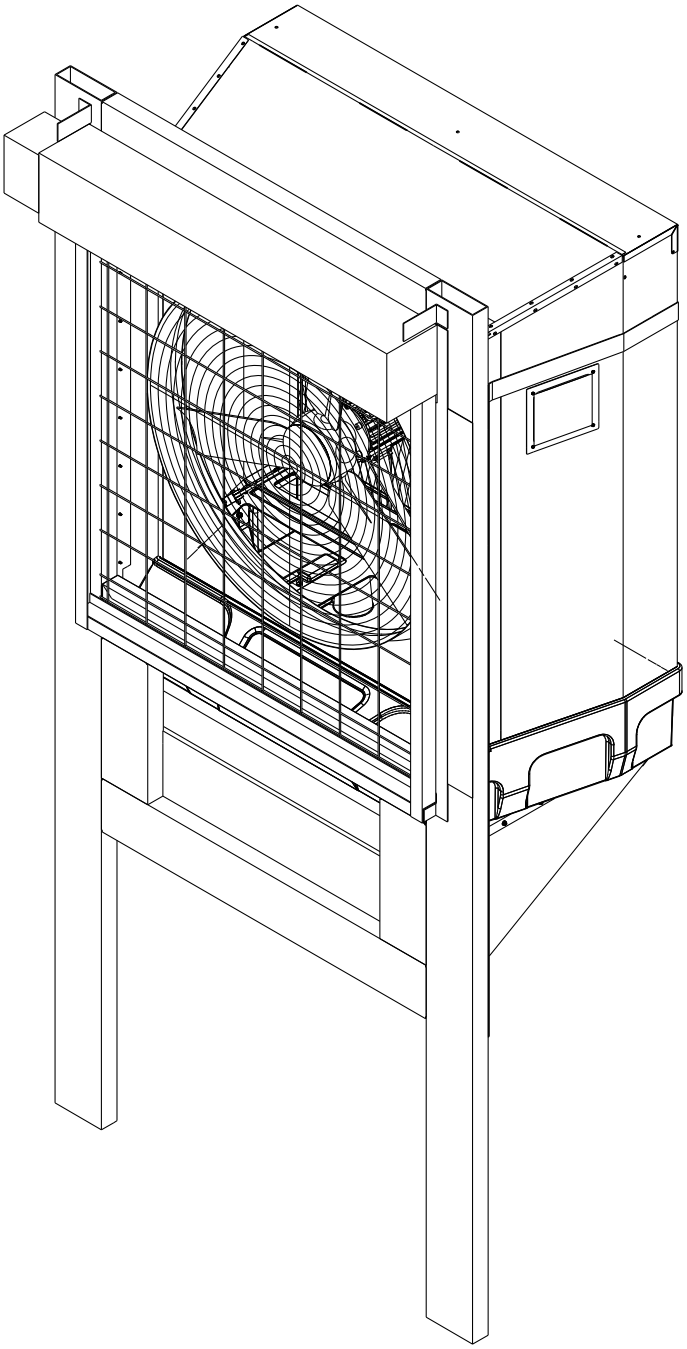
PolarCool Wall Mount Installation Manual



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Section 1: Introduction

Section 1.1: Safety

Section 1.1.1: Definitions of Signal Words and Symbols

This indicates a hazard that, if not avoided, **will** result in death or serious injury.

This indicates a hazard that, if not avoided, could result in death or serious injury.

This indicates a hazard that, if not avoided, could result in minor or moderate injury.

This indicates important information that is not related to hazards.

Section 1.1.2: Statements

Do not place body parts, clothing, or other objects in the path of the blades or operate the fan without the guards in place. Death, serious injury, or equipment damage may result.

All wiring must be in accordance with national electrical codes as well as any applicable local codes.

Electric shock may occur when water and electricity are combined in an enclosed environment. Use this equipment only on a GFCI-protected, three-prong receptacle, ideally without an extension cord.

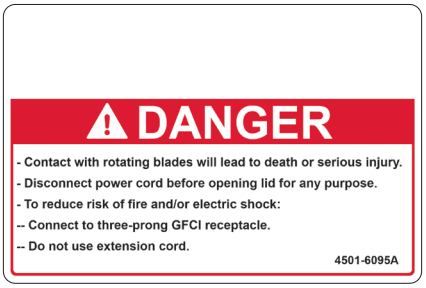
Do not operate this equipment with a damaged power cord or outlet. If the cord and/or outlet is damaged, submit the equipment to an authorized service facility for repair.

California Proposition 65 Warning: This product can expose you to chemicals, including lead, which is known to the State of California to cause cancer or birth defects or other reproductive harm. For more information, go to *www.p65warnings.ca.gov/furniture*.

To Reduce The Risk Of Fire, Electric Shock Or Injury To Persons, Do Not Use Replacement Parts That Have Not Been Recommended By The Manufacturer (e.g. Parts Made At Home Using A 3D Printer).

Do not route the power cord under furniture, appliances, carpet, or other coverings. Route the cord away from traffic to minimize the risk of tripping.

Section 1.1.3: Product Labels

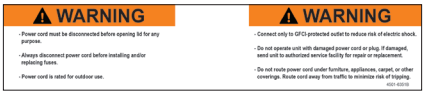


Label 4501-6095 displays the unit serial number and indicates the following:

- Contact with the spinning blades **will** lead to death or serious injury.

- The power cord must be disconnected before opening the lid.

- Steps must be taken to reduce the risk of fire and/or electric shock.



Label 4501-6351 indicates steps that must be taken to reduce electrical hazards and the risk of tripping. It also notes the power cord is rated for outdoor use.

Section 1.2: Product Overview

The PolarCool Pro Evaporative Cooling System (henceforth referred to as "the unit") reduces air temperature by drawing warm ambient air across a water-soaked surface (the cooling pads), evaporating the water and dissipating the heat it has absorbed. Simple controls make the unit easy to operate, and the overall design permits straightforward cleaning and maintenance.

Section 1.3: Limited Warranty

For three years from the date of invoice, PolarCool, a division of HH Technologies, Inc., warrants the motor and any electrical components of the PolarCool Pro Evaporative Cooling System ("the Product") that are found, upon examination by factory-authorized personnel, to be defective in material and/or workmanship.

PolarCool also warrants the metal housing of the Product for three years on black powder coated units and the full lifetime of stainless steel units, to the extent the Product is found, upon examination by factory-authorized personnel, to be defective in material and/or workmanship. The Lifetime Warranty does not cover ordinary wear and tear.

If any of the original component parts, including the Product housing, exhibit any defect(s) covered by this Limited Warranty within the applicable time periods defined above, the same may be repaired or replaced at PolarCool's discretion.

This Limited Warranty excludes any labor, equipment, transportation, and/or service expenses that may be required to remedy the warranted defect(s); all such charges must be funded by the purchaser. Neither the Product nor any of its component parts are to be returned for repair or replacement until they have been inspected and/or a Return Goods Authorization (RGA) number has been issued.

Complaints are to be directed first to the authorized distributor who sold the Product. If satisfaction is not obtained and/or the distributor cannot be contacted, complete the warranty form at polarcoolstore.com/pages/return-policy.

This Limited Warranty is void if (a) the Product and/or any of its component parts are found to have been misused, abused, or otherwise tampered with by unqualified personnel; (b) any of the Product's component parts have been replaced by anything other than authorized PolarCool replacement parts; (c) the Product has been modified in any way other than officially sanctioned upgrades made by qualified personnel using authorized PolarCool accessories; (d) the Product has not been appropriately registered by its original purchaser; and/or (e) the customer cannot provide proof of purchase indicating them to be the Product's original owner.

This Limited Warranty is made solely to the original purchaser of the Product. It cannot be transferred.

This Limited Warranty is in lieu of any and all other representations and/or warranties, expressed or implied, including any implied warranty of merchantability and/or fitness for a particular purpose. The remedy set forth by this Limited Warranty shall be the exclusive remedy available to any entity. No entity has the authority to bind PolarCool to any representation or warranty other than this Limited Warranty. PolarCool shall not be liable for any damages or losses resulting from any application of the Product or caused by any defect, failure, or malfunction of the Product.

This Limited Warranty gives you specific legal rights. You may have additional rights, as some areas do not allow the exclusion or limitation of incidental or consequential damages. The above limitation or exclusion may therefore not apply to you.

Warrantor: HH Technologies, Inc. (*d.b.a.* RollSeal)

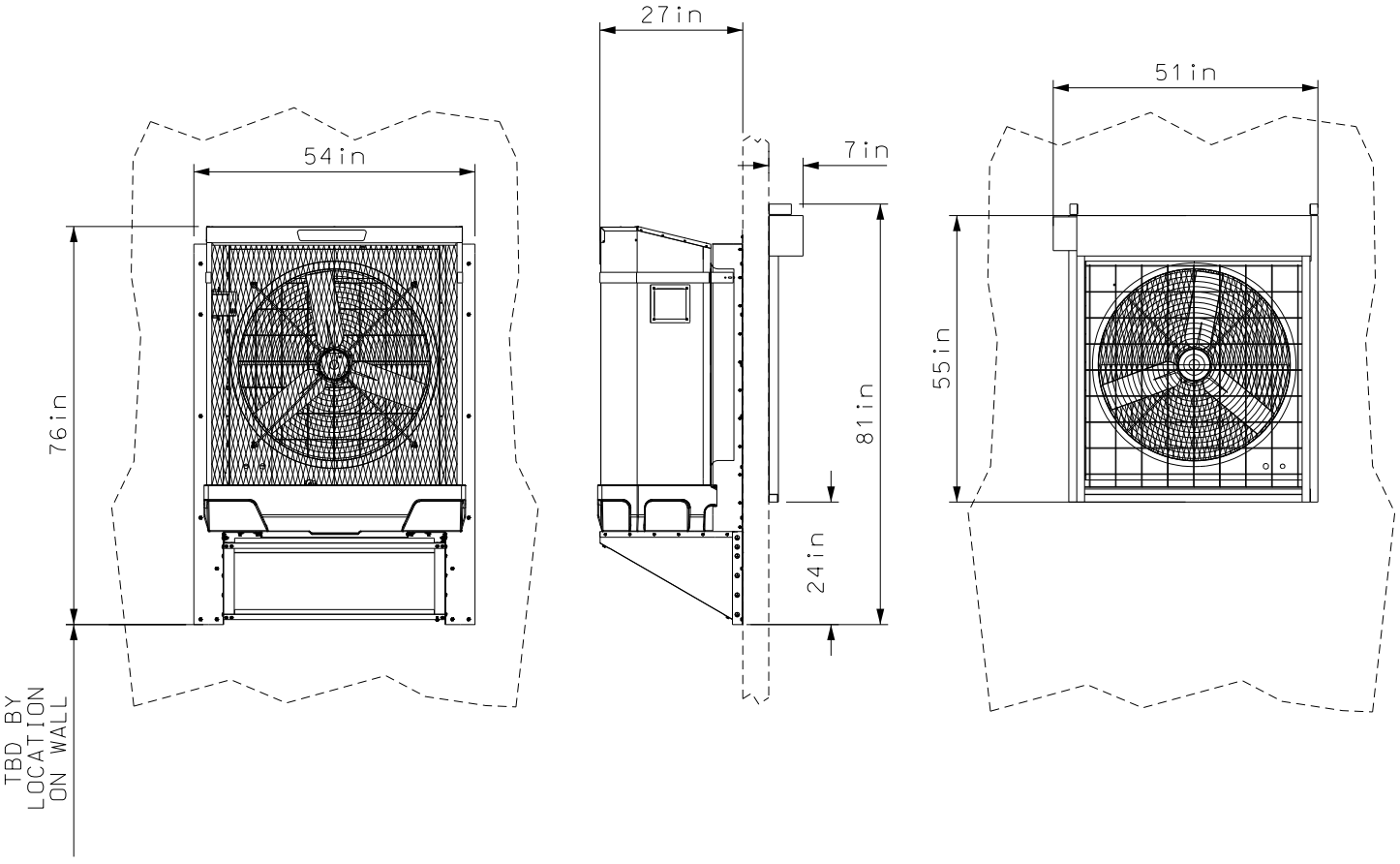
Address: 1733 County Road 68; Bremen, AL 35033

Phone: 256-287-7000

Email: *customerservice@hhtech.net*

Section 2: Technical Specifications

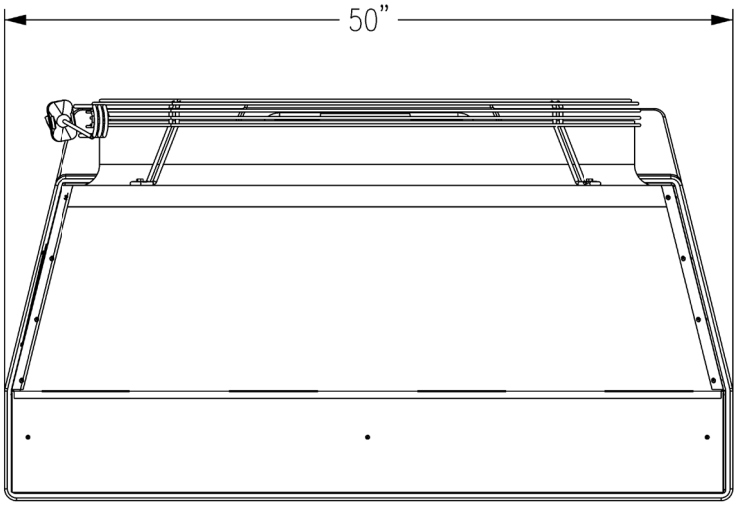
Specifications			
Unit Dimensions	54” W x 76” H x 34” D	**Cooling Area**	3,200 ft^2
Unit Weight	198 lbs (Empty); 515 lbs (Full)	**Current**	8.5A
Shipping Dimensions	PC Wall Mount and Fan: 32"x92"x89"	**Typical Air Movement†**	10,000 CFM
	Shutter: 49"x49"x13"	**Cooling Media (x4)**	CELdek: 12” W x 48” H x 6” D
Shipping Weight	PC Wall Mount and Fan: 473 lbs	**Cooling Media Area**	16 ft^2
	Shutter: 85 lbs	**Cooling Media Volume**	8 ft^3
Drive Type	Direct	**Water Output**	Adjustable
Speeds	1 Speed	**Power Cord**	120VAC
Water Consumption*	12 Gallons per Hour	**Unit Housing ***	Stainless Steel Upper Housing
Reservoir Volume	38 Gallons	**Water Inlet Adapter**	3/4” Garden Hose
Power Consumption	10A at 115V; 60 Hz	**Drain Outlet Adapter**	3/4” Garden Hose

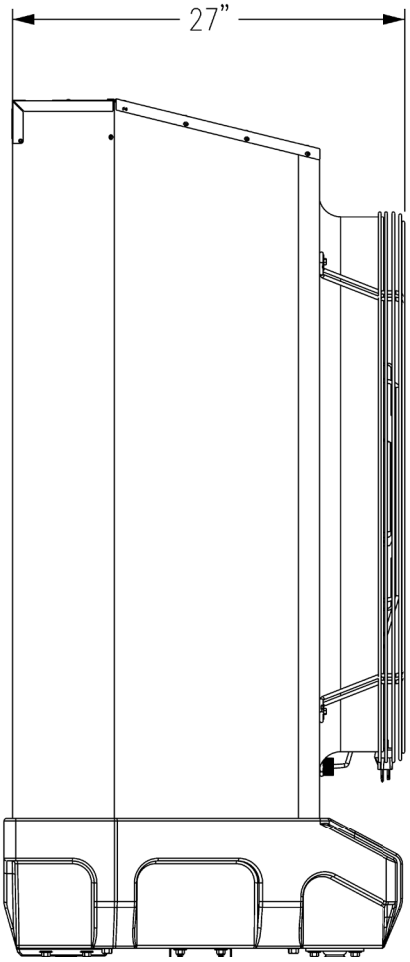


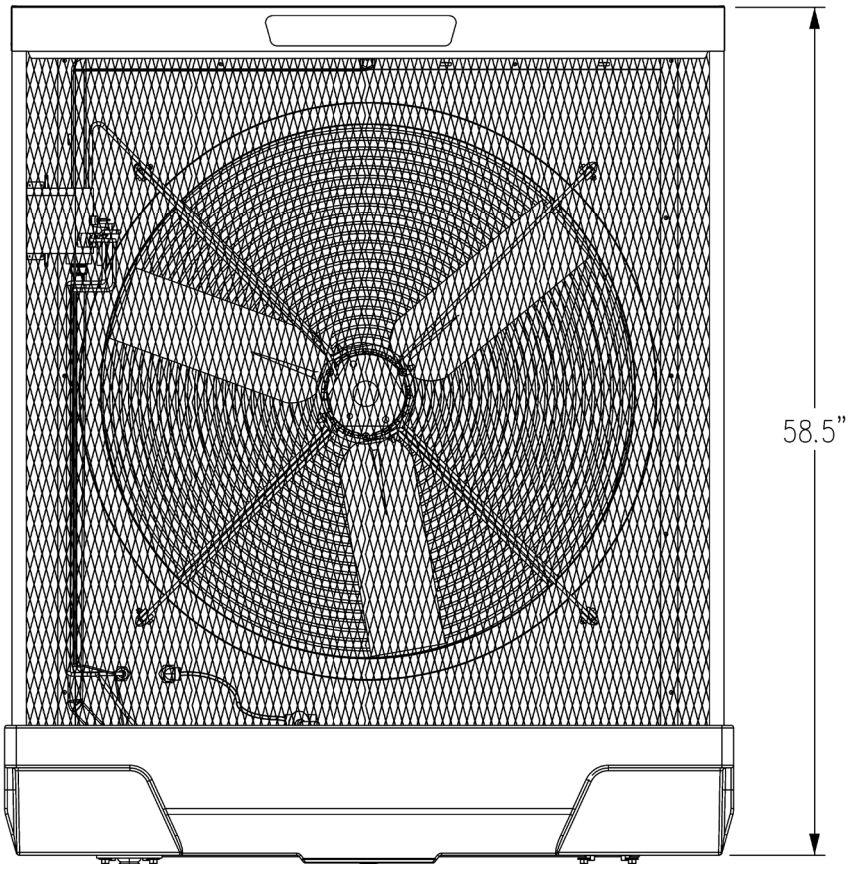
**Assuming space is ≥ 90°F. Lower temperatures will result in less water usage.*

†Depending on relative humidity, temperature, and area being cooled.

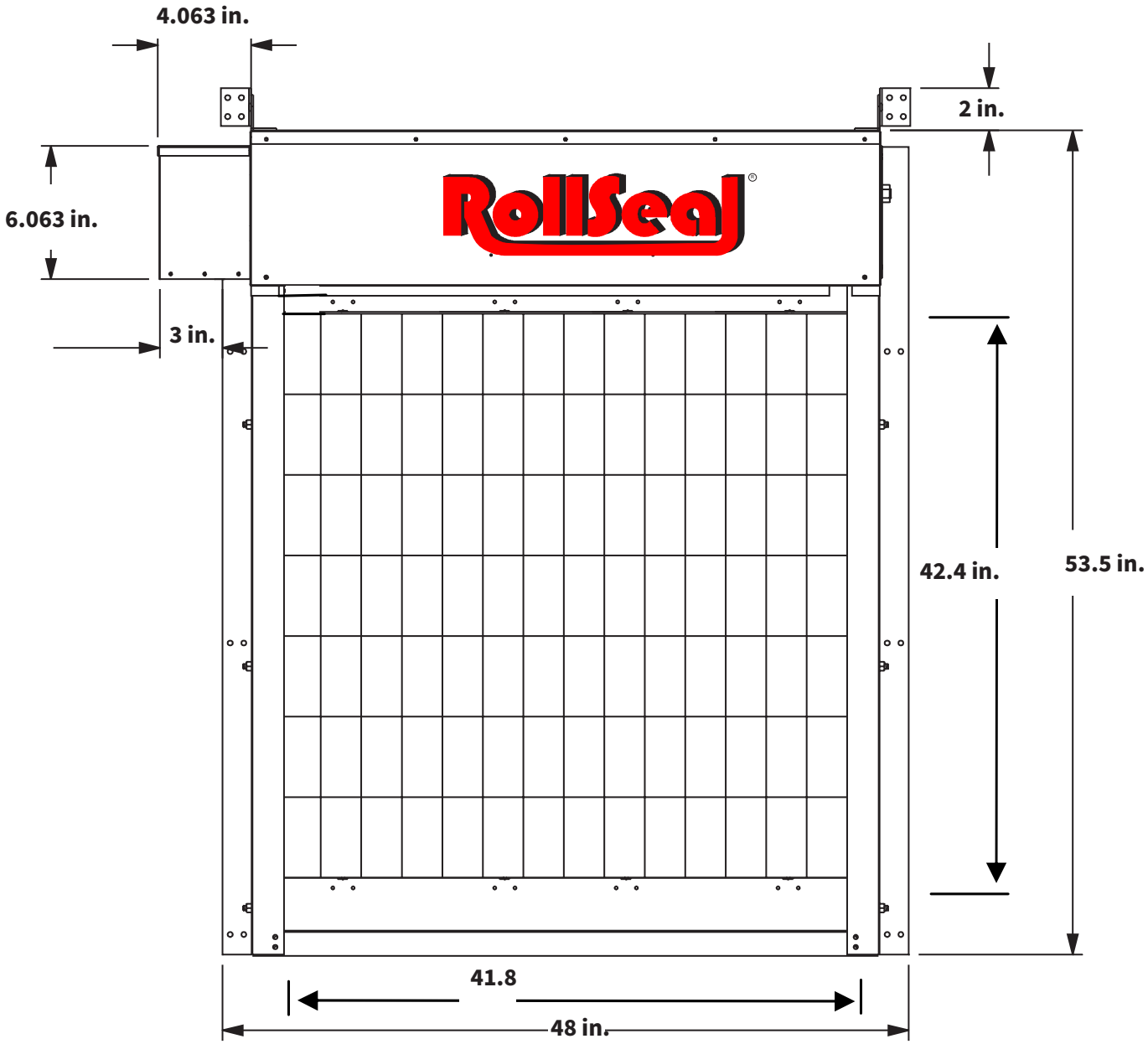
Section 2.1: Unmounted Unit Dimensions







Section 2.2: Shutter Specifications



Features	
NOTICE	Input Voltage = 115 Vac
	Current = 1.6 A Max
	Activation = Manual/Auto

Notice	
⚠ WARNING	NOTICE
Disconnect all power sources before installing this piece of equipment. Failure to disconnect power source can result in property damage, serious injury, or death.	Use of this product in timer fan applications will void the manufacturer' warranty.

Section 3: PolarCool Wall Mount Parts Not Provided

Section 3.1: Mount

- Wood Lags (32) Fan Mount (See Section 5.4: Step 4 - Mount Fan Wall Mount Assembly to Building)
  or
- Through Bolts (32) Fan Mount (See Section 5.4: Step 4 - Mount Fan Wall Mount Assembly to Building)

Section 3.2: Shutter Control

- Wood Screws (Self Tapping Screws Provided) (See Section 10: Shutter Installation)

Section 3.3: Wiring and Lengths (See Section 11)

- **18 Gauge Cable/Wire Length:**
- *Between PolarCool Controller and Shutter*

- **14 Gauge Cable/Wire Lengths:**
- *PolarCool Control to Fan Box Pump*
- *PolarCool Control to Fan J Box Fan*
- *Power Supply to PolarCool Control*
- *Power Supply to Shutter Control*
- *Shutter to Power*
- *PolarCool Controller to Shutter Controller*
- *PolarCool Controller to PolarCool Fan*
- *PolarCool Controller to Power*

NOTICE

Cable, Wire, Conduit, and Conduit Fittings for the follwing connections are not provided. Gauge recommendations have been made based on terminal block sizes. Follow all applicable local and national electrical codes when wiring these components.

Section 3.4: Conduit

- Conduit and Fittings - If Using Wire

Section 3.5: Framing

- Framing Members (See Section 4.2: Step 2)
- Hardware (See Section 4.2: Step 2)

Section 3.6: Plumbing

- Drain Line (See Section 9: Plumbing)
- Supply Line (See Section 9: Plumbing)

Section 3.7: Sealing

- UV Rated/Outdoor Silicon
  or
- UV Rated/Outdoor Caulk

Section 4: Wall Mount 36 Opening and Framing Specifications

Section 4.1: Step 1

Cut opening in wall to dimensions shown.

Required clear opening through building wall is 42" W x 52" H. Depending on the building materials present, tin or siding may have to be removed to perform this. The height of the opening from the floor will depend on your desired fan height.

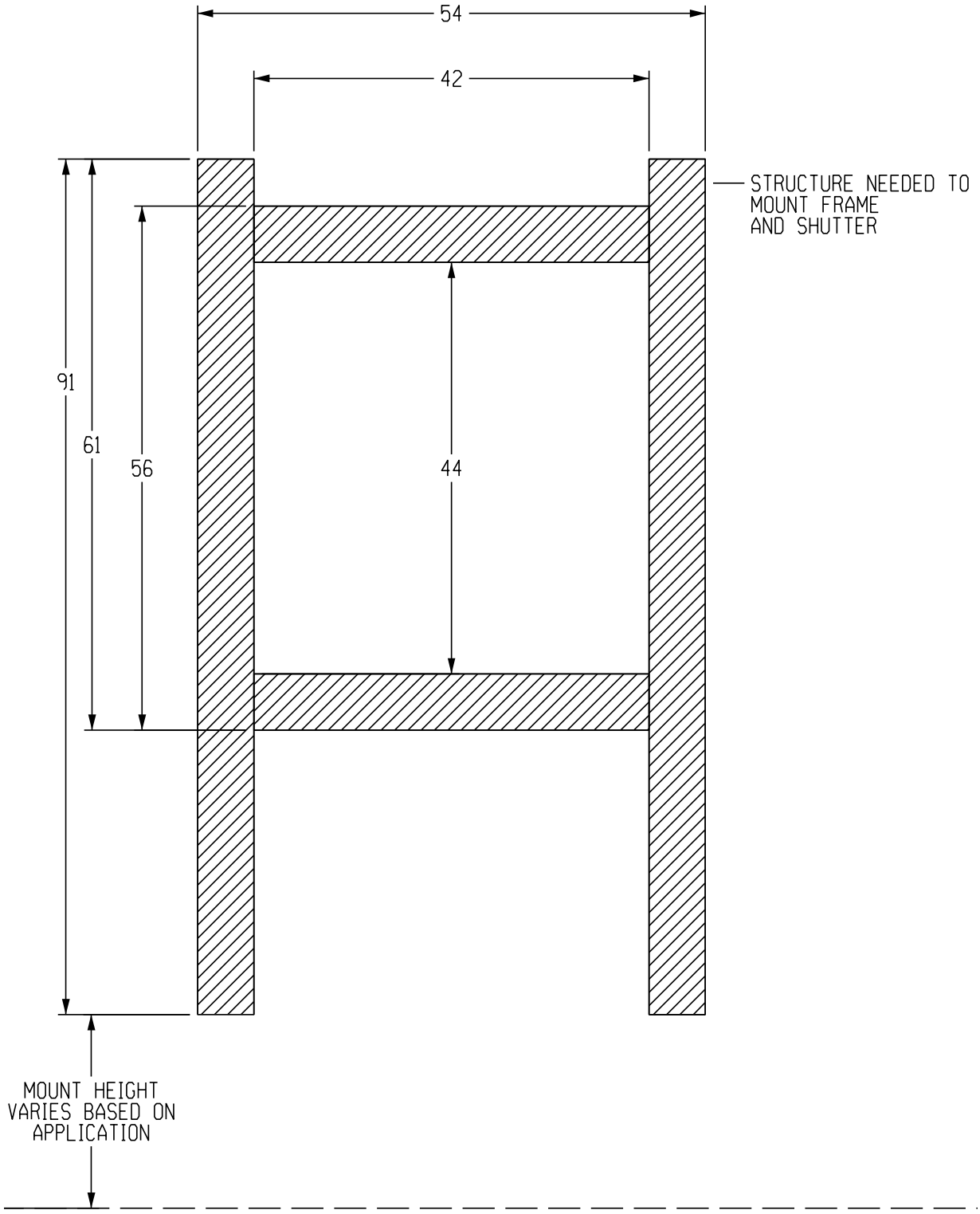
Section 4.2: Step 2

Install additional framing in building wall to support wall mount bracket per below specs.

Framing in drawing is shown as 6" wide. However, (2) separate framing members, like wood studs, tubing, or CEE channel may be used as long as it covers the area for the outside and inside mounting flanges. Ensure additional framing is connected to building structure.

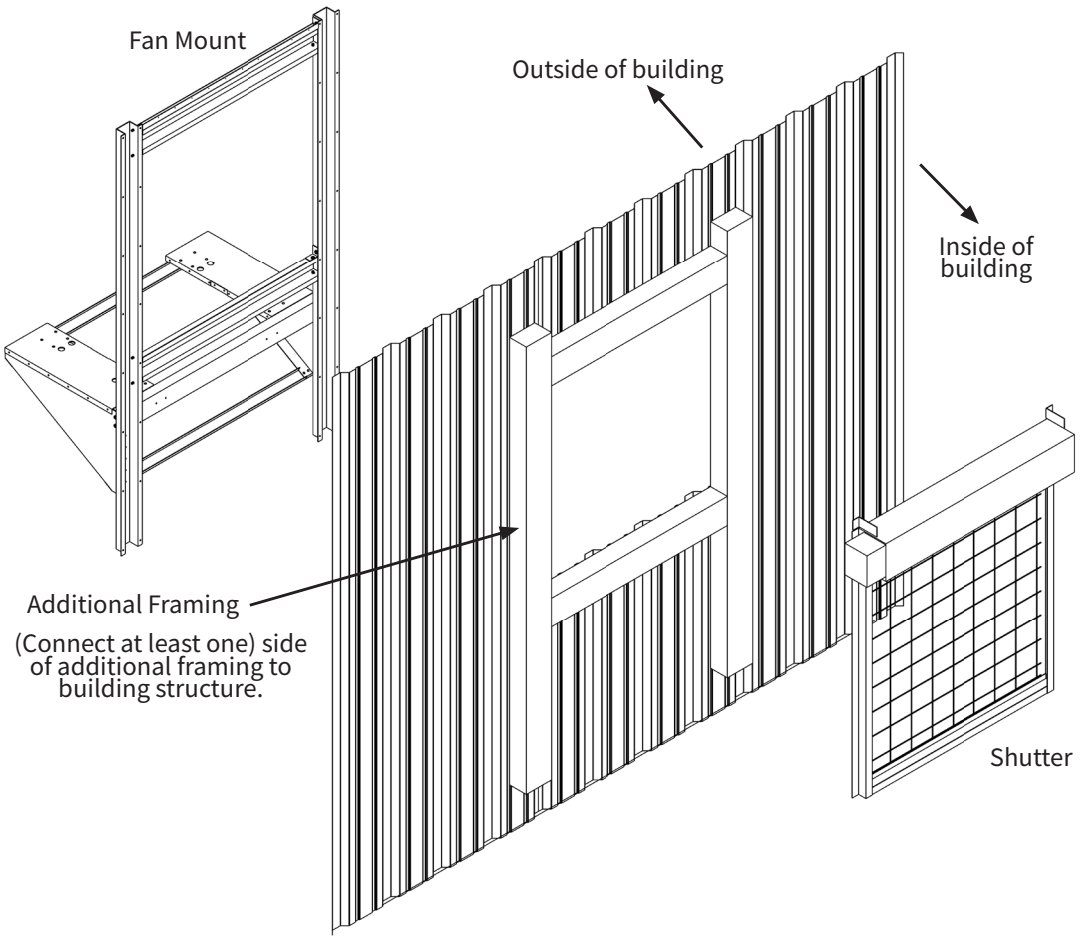
NOTICE

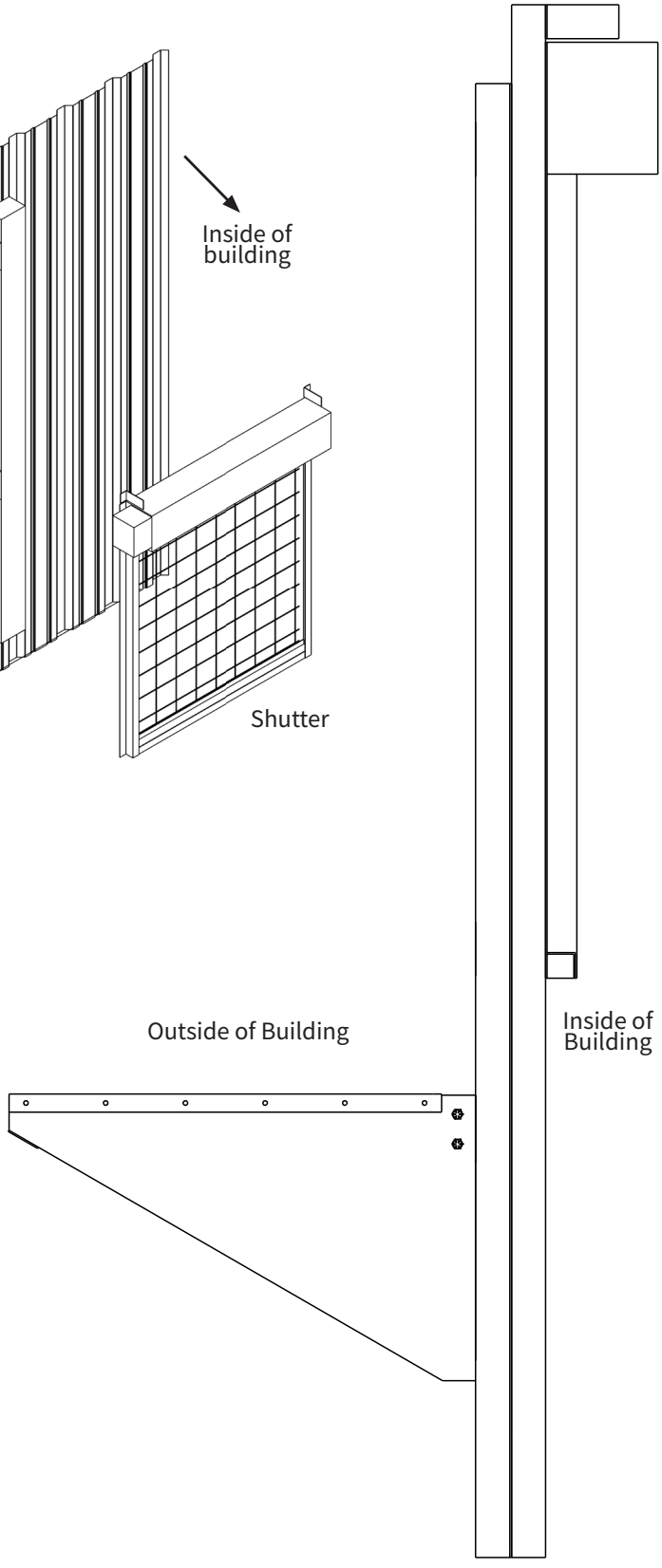
When PolarCool Fan is full of water it will weigh 500+ lbs.



Section 4.3: Fan Mount, Framing, Shutter Exploded View and Side View

Below images shows fan mount and Shutter orientation to additional framing.





Section 5: Fan Mount Assembly

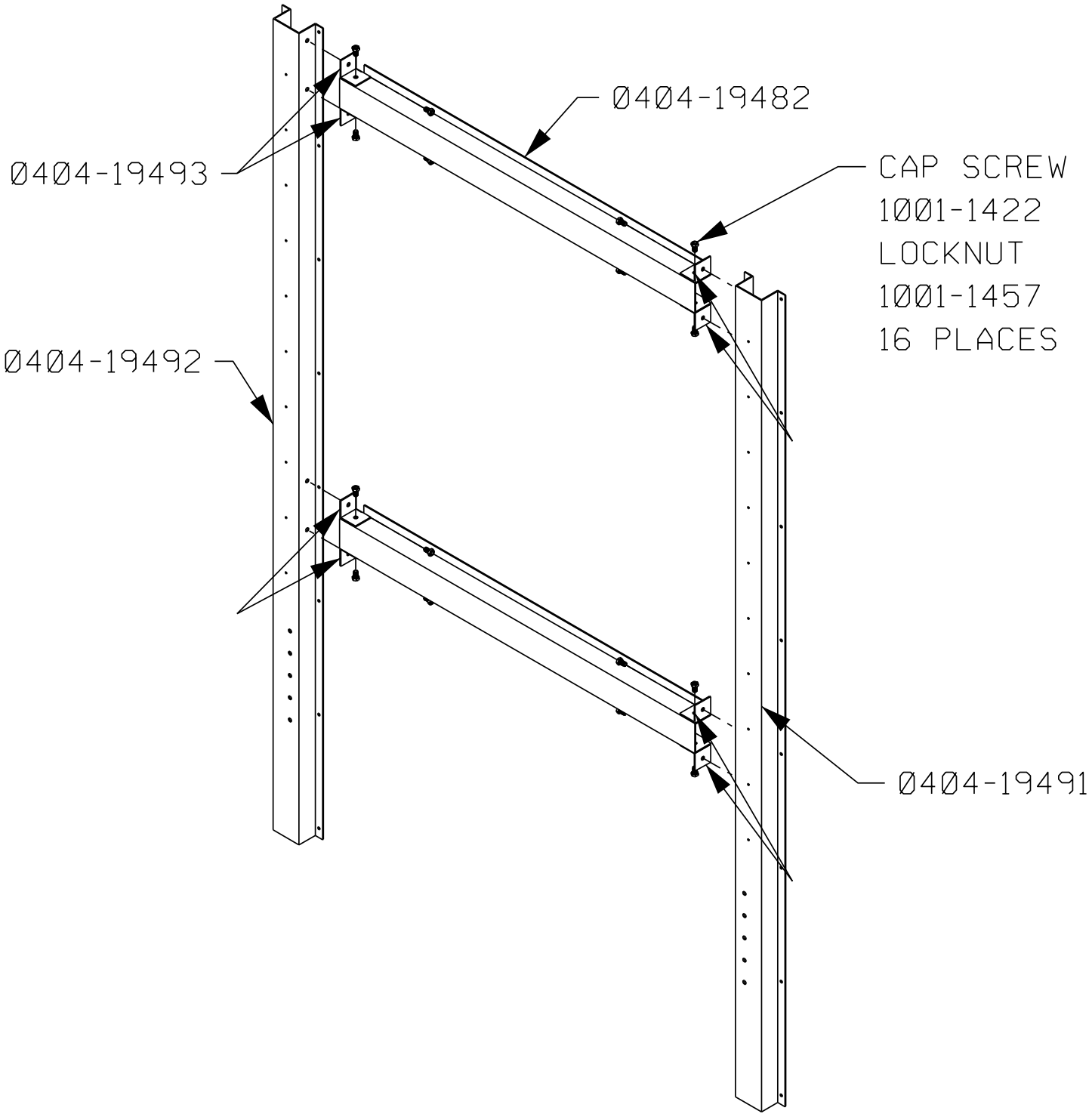
Section 5.1: Step 1 - Fan Mount Structure

Gather parts and fasteners needed for assembly.

Section 5.1.2: Required Parts and Fasteners

Needed: (2) 0404-19482 | (1) 0404-19491 | (1) 0404-19492 | (8) 0404-19493 | (16) Cap Screws (1001-1422) | (16) Locknuts (1001-1457)

Assemble the main vertical and horizontal structure of the fan wall mount as shown below.



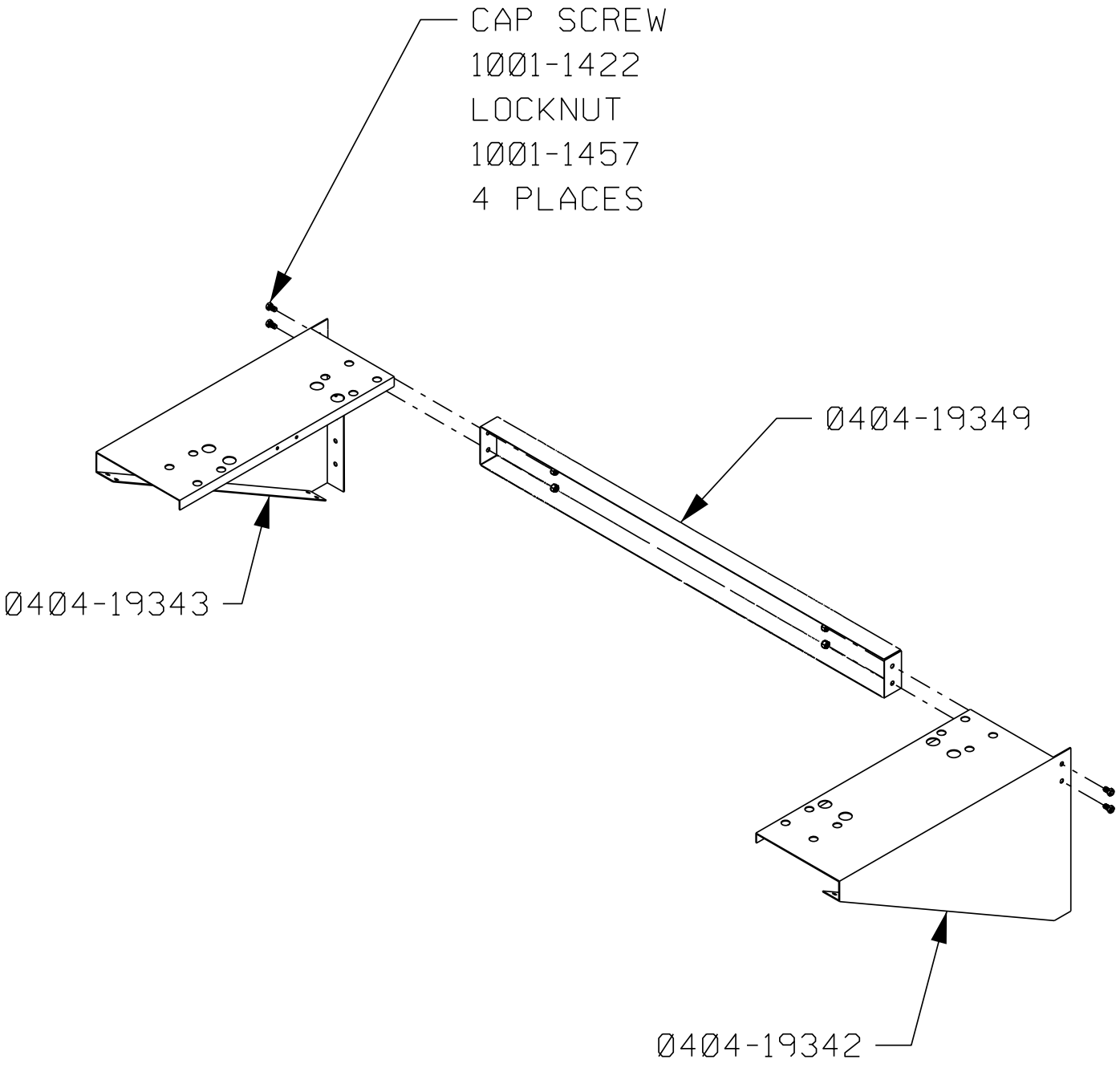
Section 5.2: Step 2 - Fan Support Brackets

Gather parts and fasteners needed for assembly.

Section 5.2.1: Required Parts and Fasteners

Needed: (1) 0404-19342 | (1) 0404-19343 | (1) 0404-19349 | (4) Cap Screws (1001-1422) | (4) Locknuts (1001-1457)

Assemble the fan support brackets as shown below.



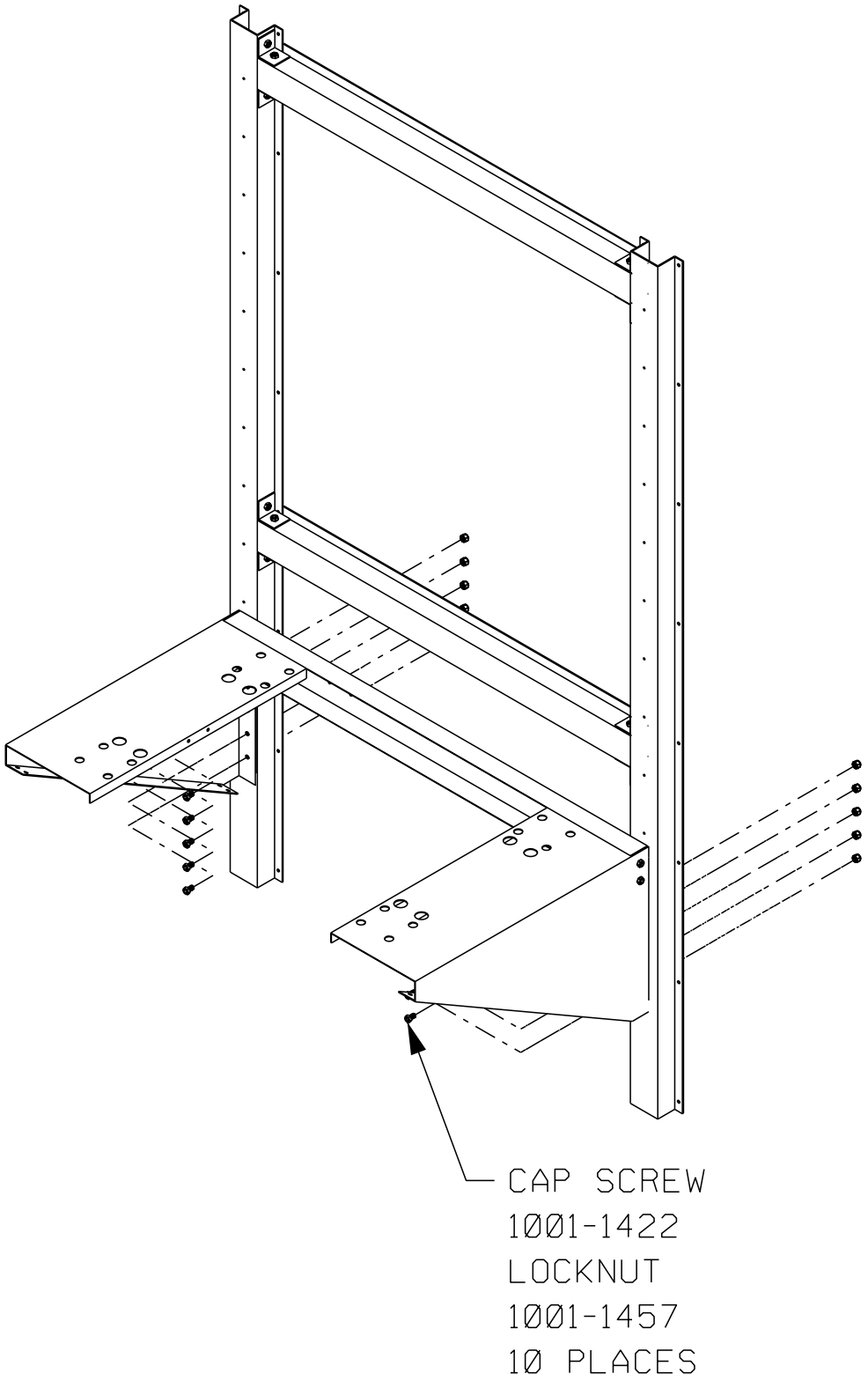
Section 5.3: Step 3 - Connect Fan Mount Structure and Fan Support Brackets

Gather parts and fasteners needed for assembly.

Section 5.3.1: Required Parts and Fasteners

Needed: Fan Mount Structure | Fan Support Brackets | (10) Cap Screws (1001-1422) | (10) Locknuts (1001-1457)

Connect the fan support brackets to the fan mount structure as shown below.



Section 5.4: Step 4 - Mount Fan Wall Mount Assembly to Building

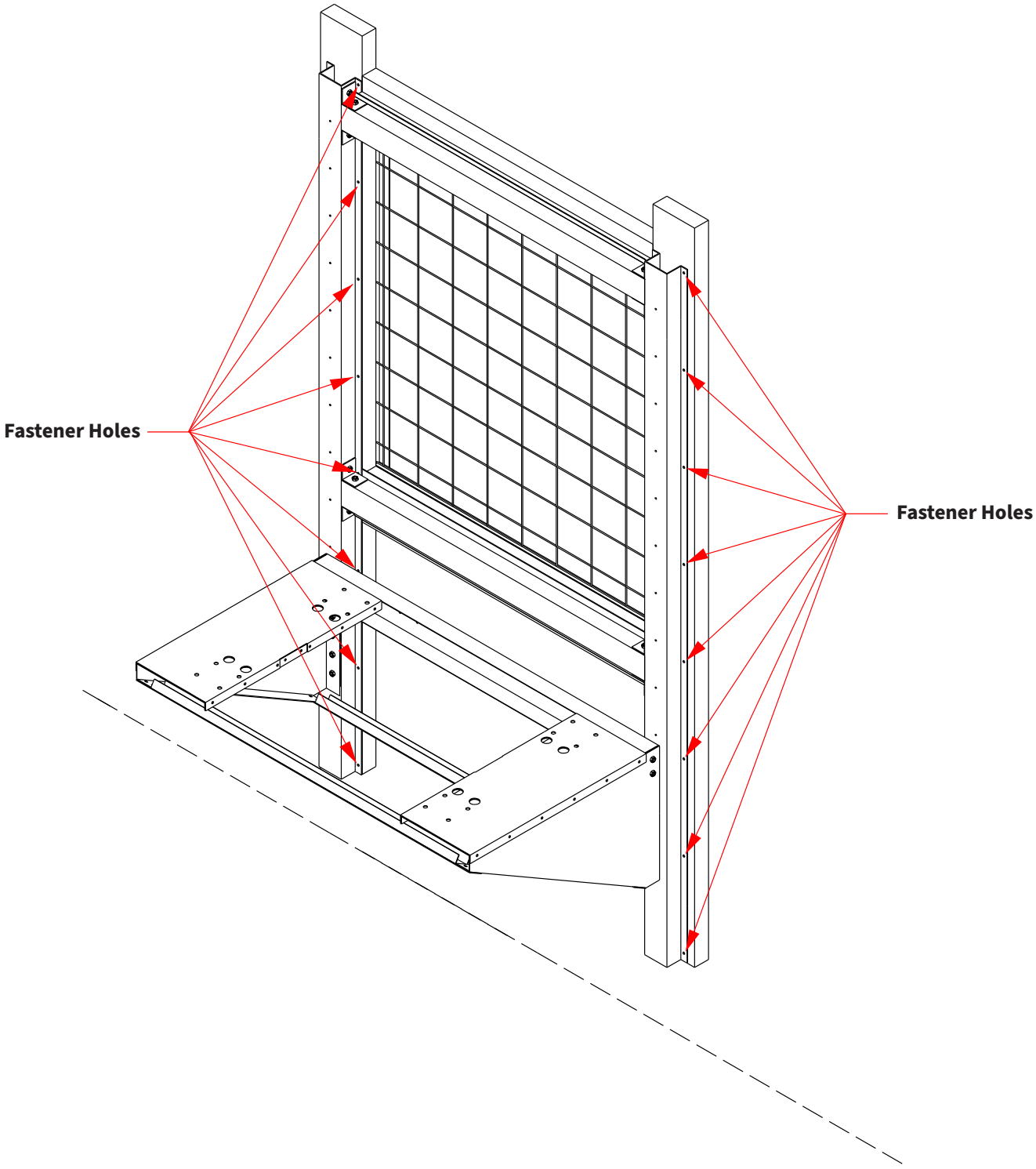
Place assembled fan wall mount assembly against framing on exerior wall of buiding. Use fasteners (not provided) to secure the fan wall mount assembly to the framing. There are (8) holes along the outside mounting flange and (7) holes along the inside mounting flange.

NOTICE

Fan Wall Mount Assembly can be mounted over the siding in some instances. Otherwise, trim out opening based on building siding present (i.e. J-trim on metal rib siding).

Section 5.4.1: Required Fasteners

Needed: Through Bolts (Not Provided) | Wood Lags (Not Provided)

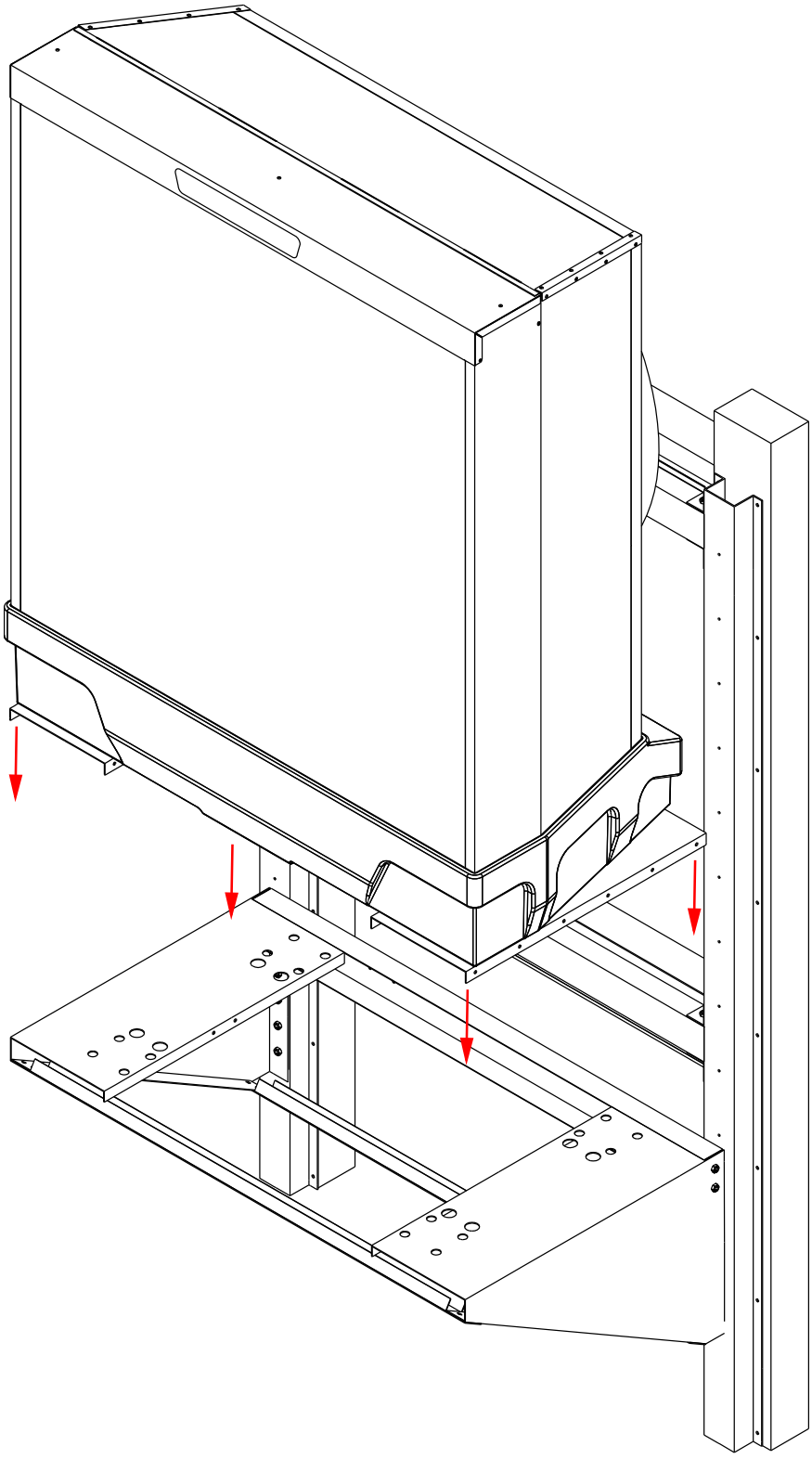


Section 6: Mount Fan on Wall Mount Assembly

Lift and lower the PolarCool Pro unit onto the wall mount fixture. Once the fan has been placed on the brackets, align the mounting channels on the bottom of the fan with the fan support brackets and fasten using provided self tapping screws.

Section 6.1: Fork Lift Recommended

Depending on the height of the mount on the building, a lift may be required to put the fan on the Wall Mount Assembly. Parts 0404-19348 and 0404-19350 (referenced on the next page) have not been installed at this point, so a fork lift can be utilized to lift and place the fan on the support brackets.

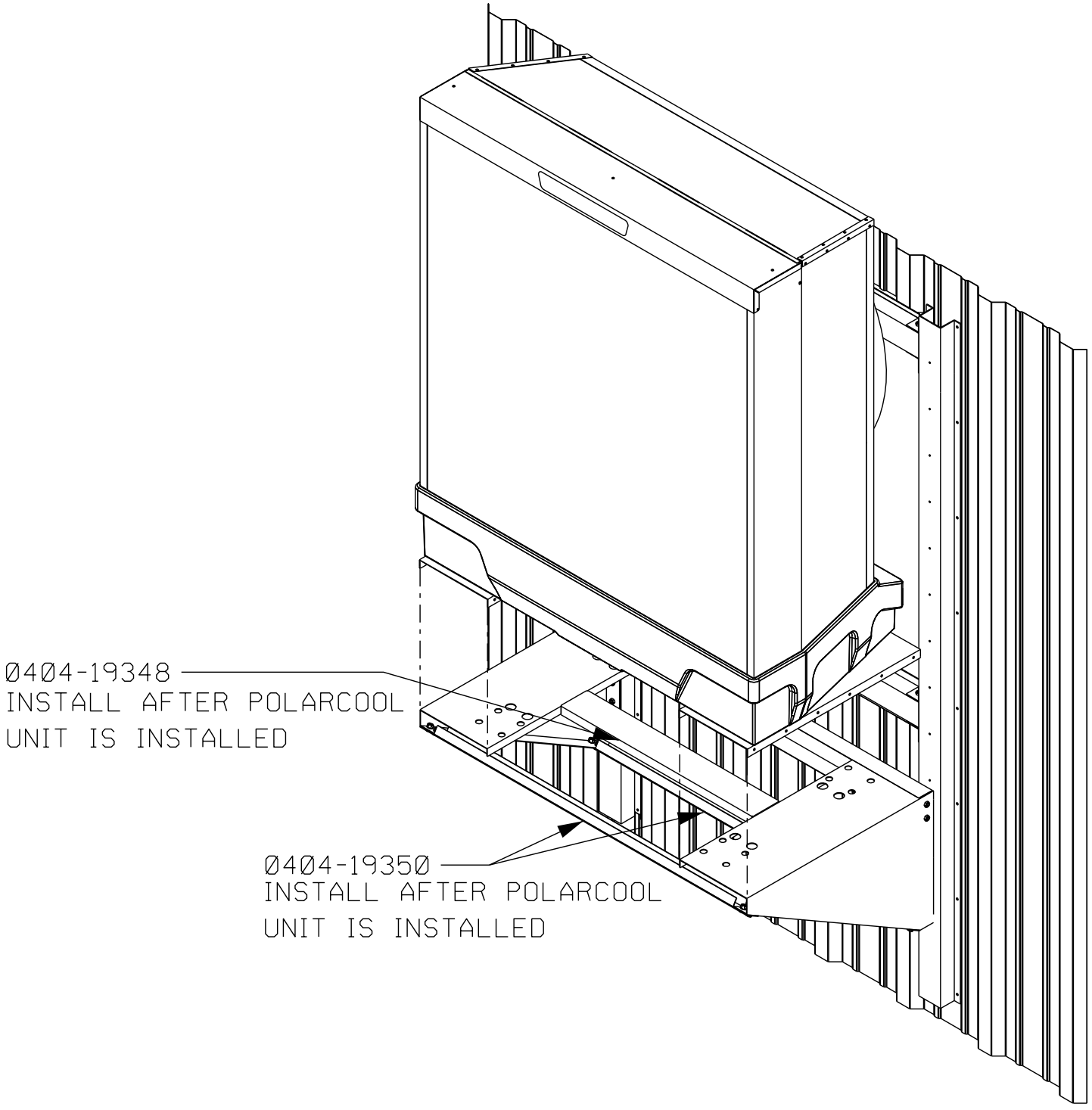


Section 7: Install (2) Horizontal Supports

Using drawing below, install the (2) horizontal supports to each side of the fan support brackets using provided cap screws (1001-1422) and locknuts (1001-1487).

Section 7.1: Required Parts and Fasteners

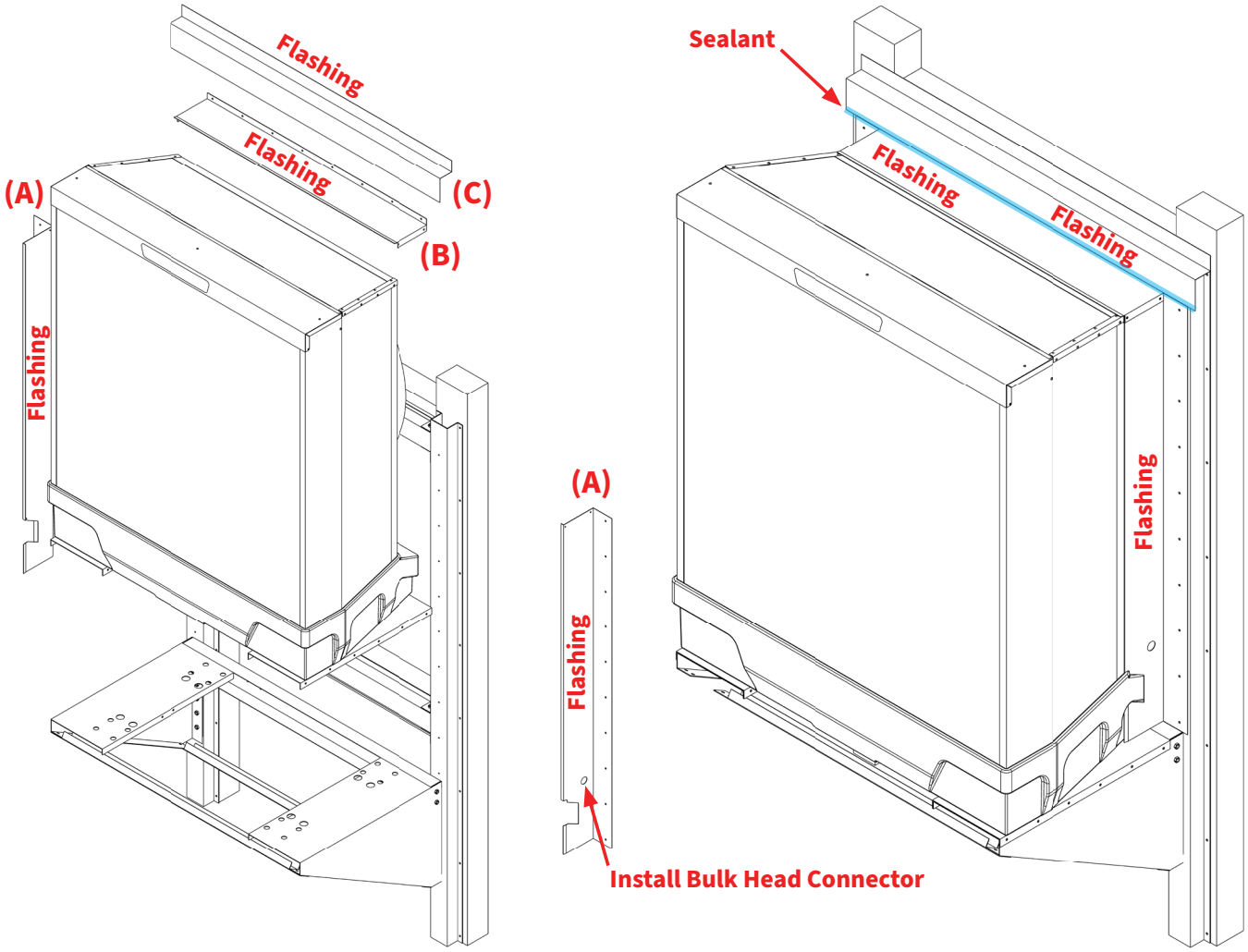
Needed: (1) 0404-19348 | (1) 0404-19350 | (8) 1001-1822 Cap Screws | (8) 1001-1487 Locknuts



Section 8: Flashing

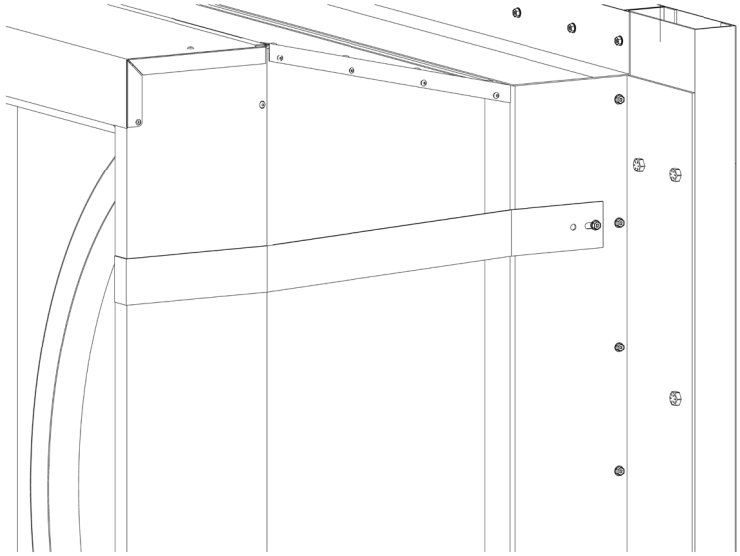
Section 8.1: Install Flashing

Install bulk head connecter on right flashing through pre-punched hole. This will be used to connect water supply. Install flashing pieces on right and left side (A) of fan and top of fan (B) using provided self tapping screws (1004-0050). Before installing top flashing (C) apply a bead of silicone sealant over flashing (B) fasteners line (Shown Below).



Section 8.2: Install Fan Support Strap

Once flashing has been installed, install the fan support strap on the right and left side of the unit with provided serrated head bolt. See drawing below for reference on mounting location. Flashing has rivnut for serrated bolt.



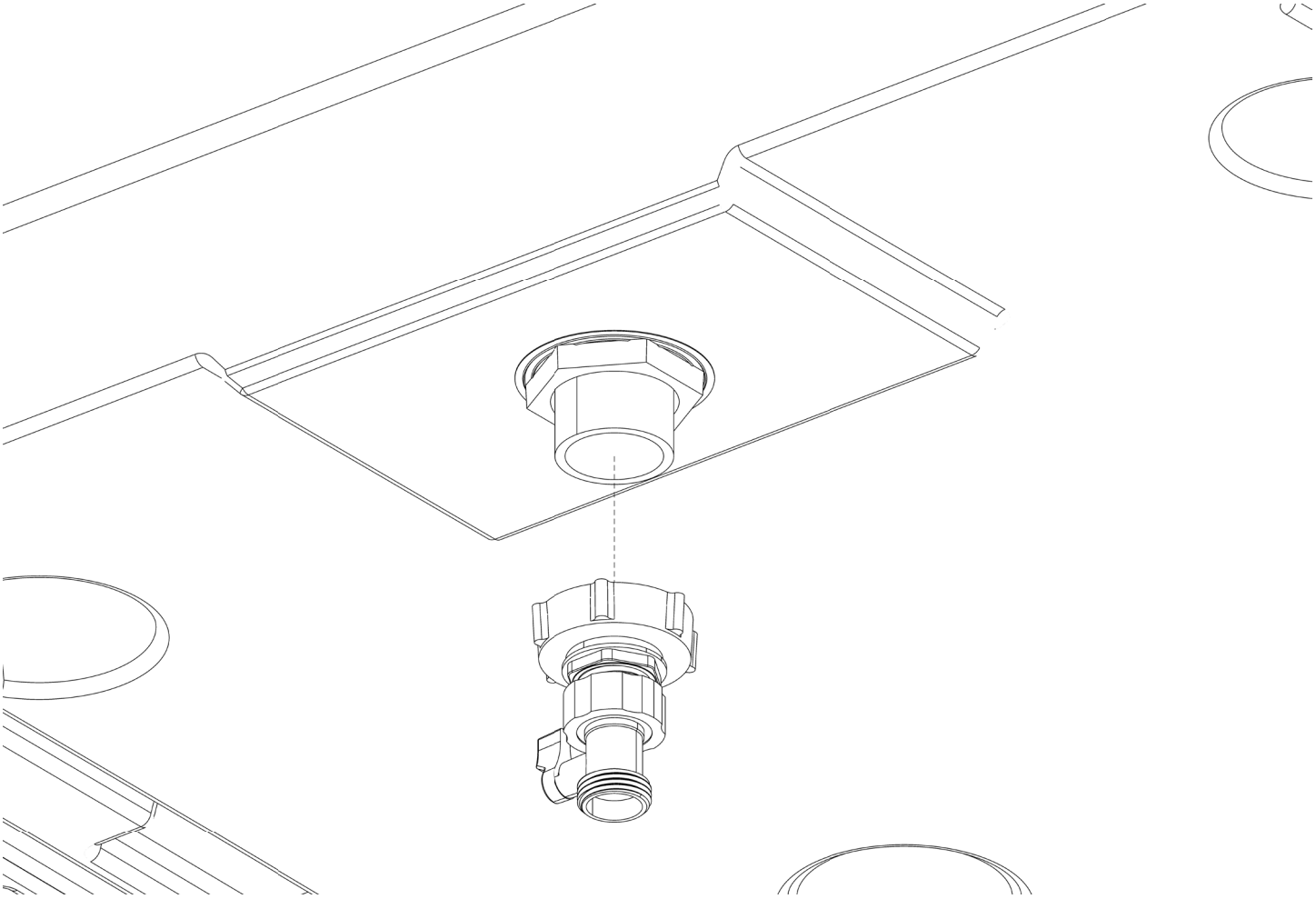
Section 9: Plumbing

Section 9.1: Drain

The drain comes preassembled.

Section 9.2: Connecting Drain Assembly

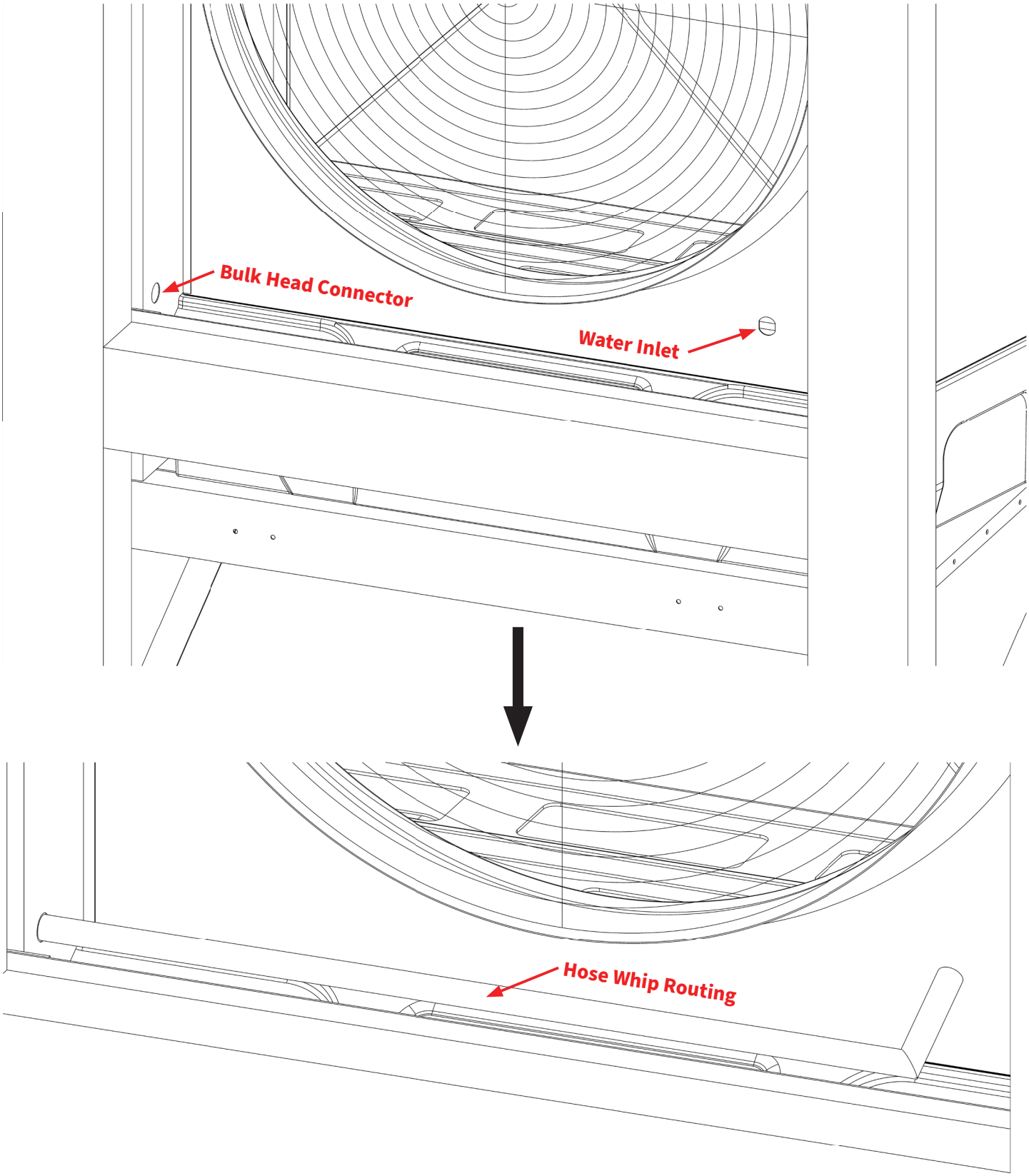
Access the bottom of the fan (outside the building). If drain cap is on, you can remove it. Thread provided drain assembly on to drain outlet at the bottom of the unit. Drain assembly steps down from 2" to 3/4" and includes a shut off valve. A standard 3/4" garden hose can be connected for a drain line.



Section 9.3: Connecting Water Supply

Access the front of the fan (inside the building). Connect the provided hose whip to the water inlet and bulk head connector. The hose whip should be routed below fan guard avoiding any kinks in the hose.

Building water will be connected on the outside of the fan on the opposite end of the bulk head connector.



Section 10: Shutter Installation

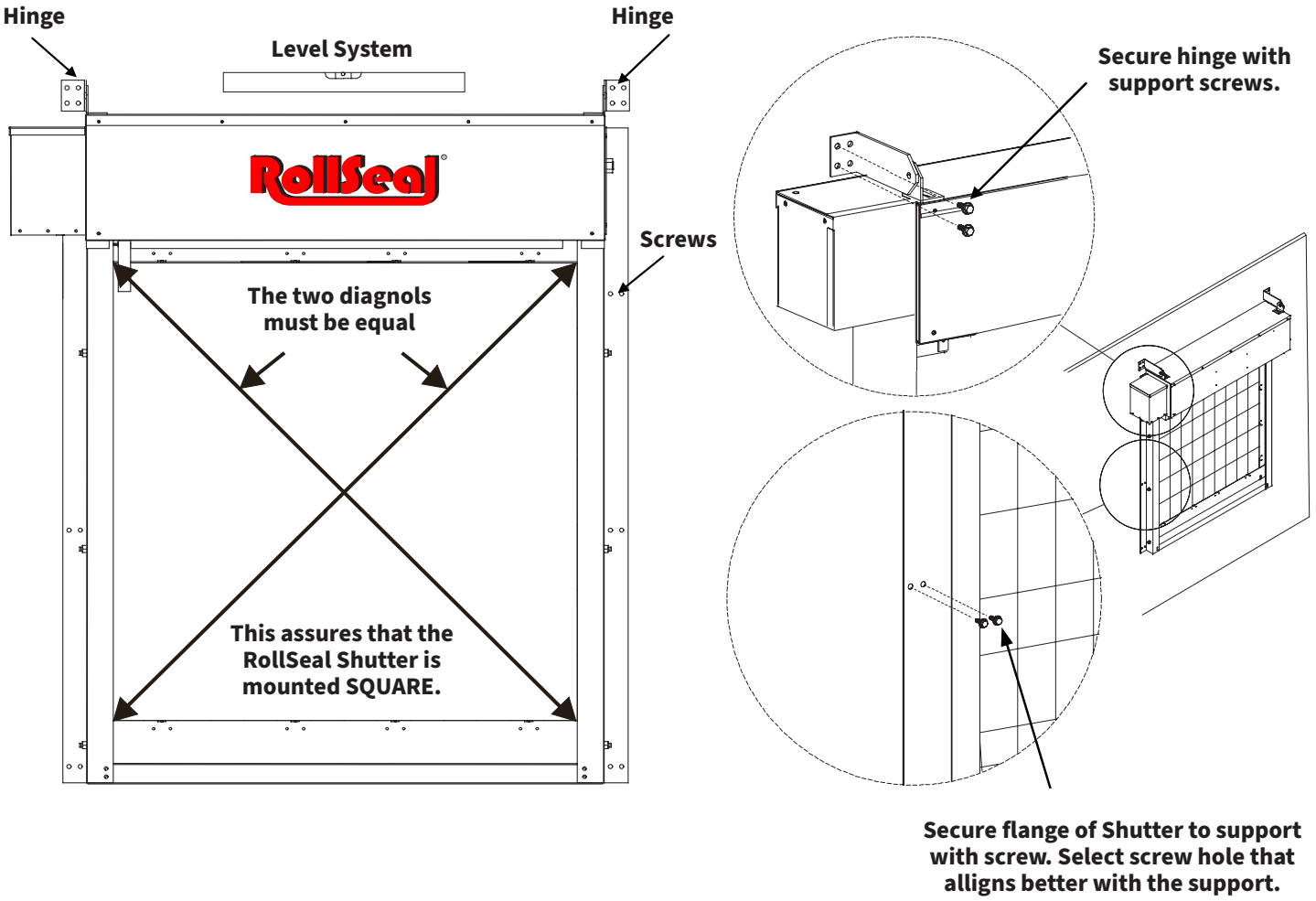
1. When mounting the RollSeal Shutter, the frame of the curtain should fit the opening of the fan as closely as possible to prevent blocking air flow. When the openings are matched, level the top and the sides (leveling is very important, as the curtain may bind if not leveled properly).

2. There are three pairs of holes pre-drilled down each side of Shutter flange as shown in diagram below. For each pair of holes, select hole that lines up better with support structure (fan or wall). Secure flange of Shutter to support structure with sheet metal screws (provided) or wood screws (not provided).

3. There are two hinges at the top of the assembly. Each hinge has (4) pre-drilled holes. Use lag bolts provided. Attach hinge to support structure. Secure (2) of (4) holes on each hinge. At this point, fan can be accessed by simply removing the screws from the sides and lifting the entire frame on the hinges.

4. Connect cord from rolling Shutter to controller as shown in Figure 1. Match wire colors to colors on terminal block label.

Figure 1:



NOTICE

Shift bottom of Shutter right or left until both diagonal measurements are equal. At that point the Shutter is square.

Section 11: Wiring

Section 11.1: Shutter Wiring

Section 11.1.1: Locating Control Boxes

See Figure 2.

Section 11.2: Control Mount and Wiring

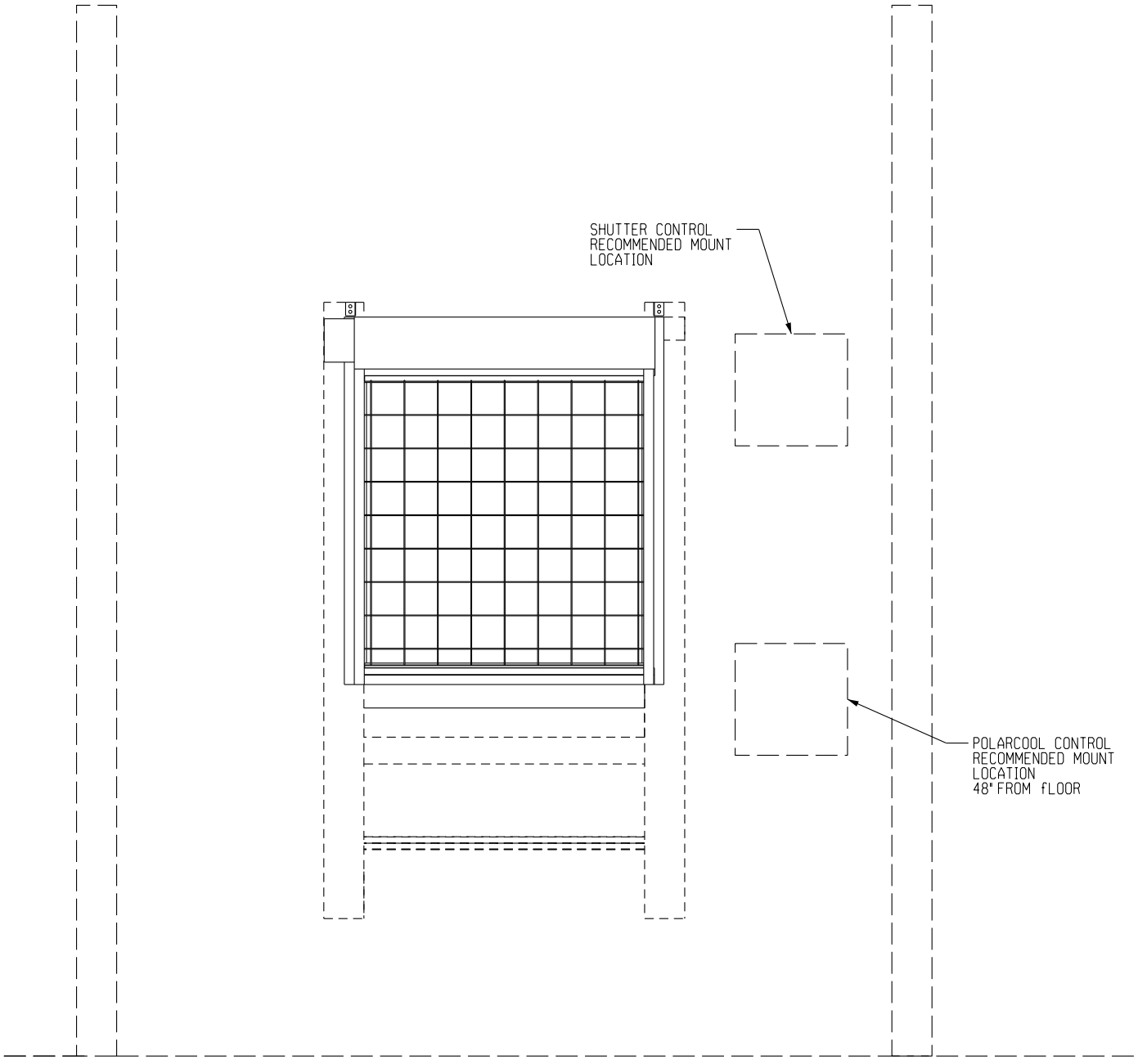
Section 11.2.1: RollSeal Shutter Control

RollSeal Shutter Control should be located at the top right corner of the Shutter. The Shutter comes with approximately 6' of cord. Virify cord will reach mounting location prior to mounting control box to wall.

Section 11.2.2: PolarCool Controller

PolarCool Controller should be mounted approximately 48" from the floor or another location that provides safe and easy access to operation fan controls. To limit the lenth of wiring and conduit runs, we recommend mounting on the right side as well (See Figure 2).

Figure 2:



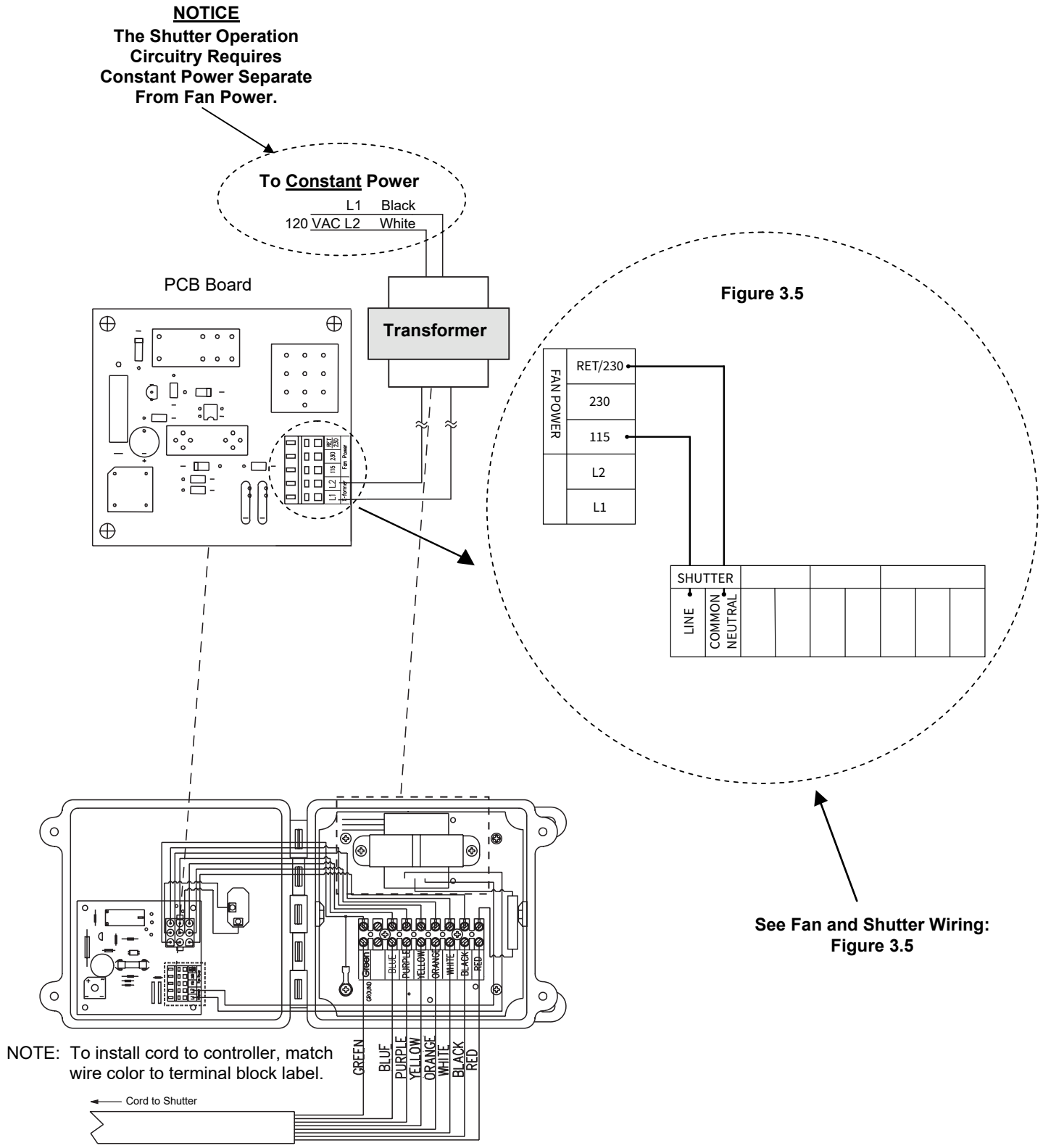
Section 11.2.3: Shutter to Shutter Controller

Use the provided cord to wire the Shutter to Shutter controller. Match wire colors to terminal block callouts (See Figure 3).

Section 11.2.4: Shutter Controller to Power

Use white and black wires from transformer. Orange wire will not be used (tape or wirenut orange wire; See Figure 3).

Figure 3:



Section 11.3: Fan and Pump Wiring

Section 11.3.1: PolarCool Controller to Shutter Control

Using 18 Gauge cable or wire, connect shutter and PolarCool Controller from Shutter terminal block on PolarCool Control to RET and 115 on Shutter Controller (See Figure 3 on Page 24).

Section 11.3.2: PolarCool Controller to PolarCool Fan

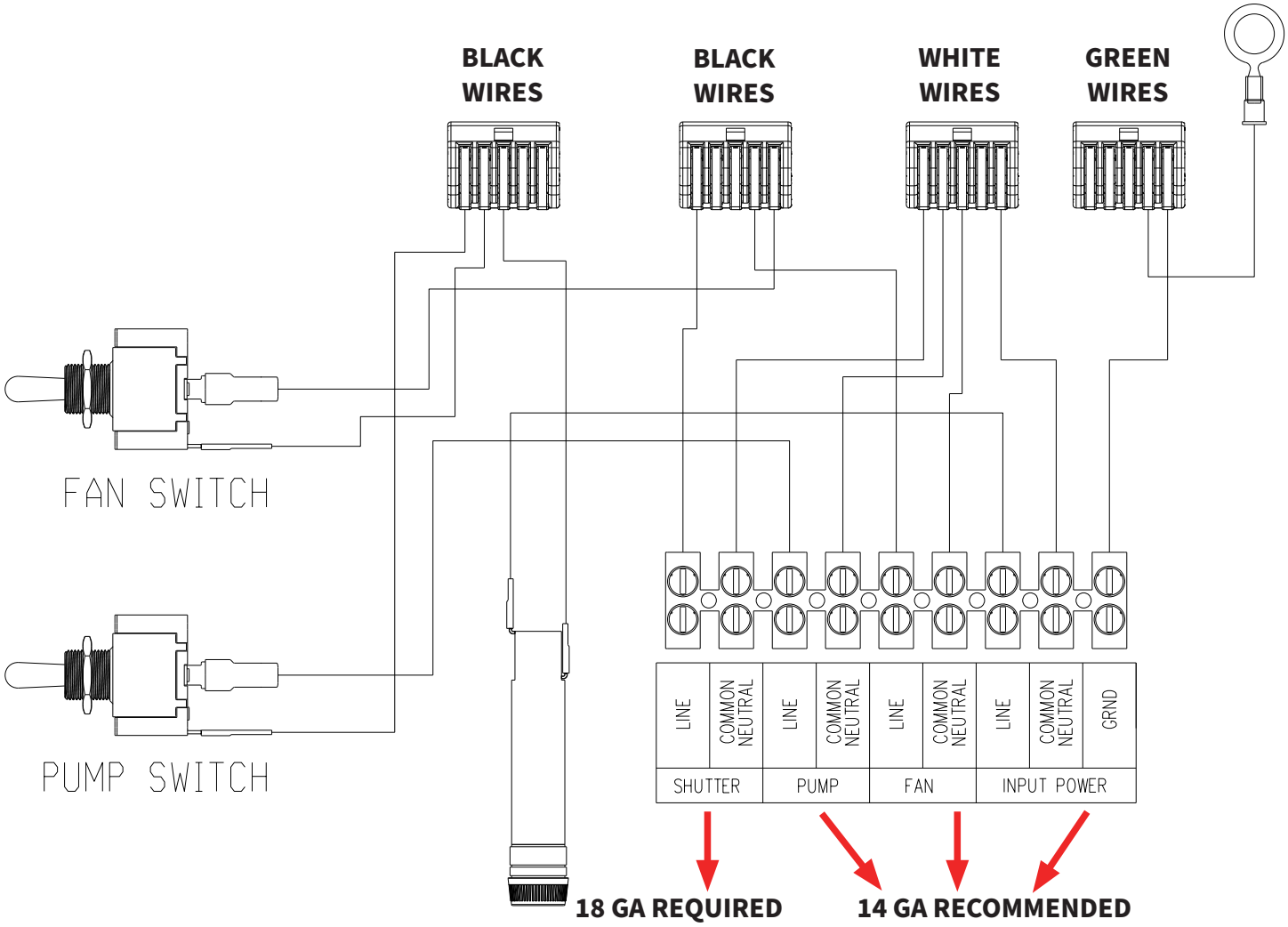
Using 14 Gauge cable or wire, connect PolarCool Controller to the PolarCool Fan and Pump wiring inside junction box on side of PolarCool Fan. (This will require a hole(s) through building wall). Connections inside PolarCool Junction Box will be made with lever nut connectors. Ground wires in controller will go directly into lever nut connector with other green wires.

Section 11.3.3: PolarCool Controller to Power

Using 14 Gauge cable or wire, connect power supply from building using "Input Power" terminal in PolarCool Controller.

NOTICE

Cable, Wire, Conduit, and Conduit Fittings for the follwing connections are not provided. Gauge recommendations have been made based on terminal block sizes. Follow all applicable local and national electrical codes when wiring these components.



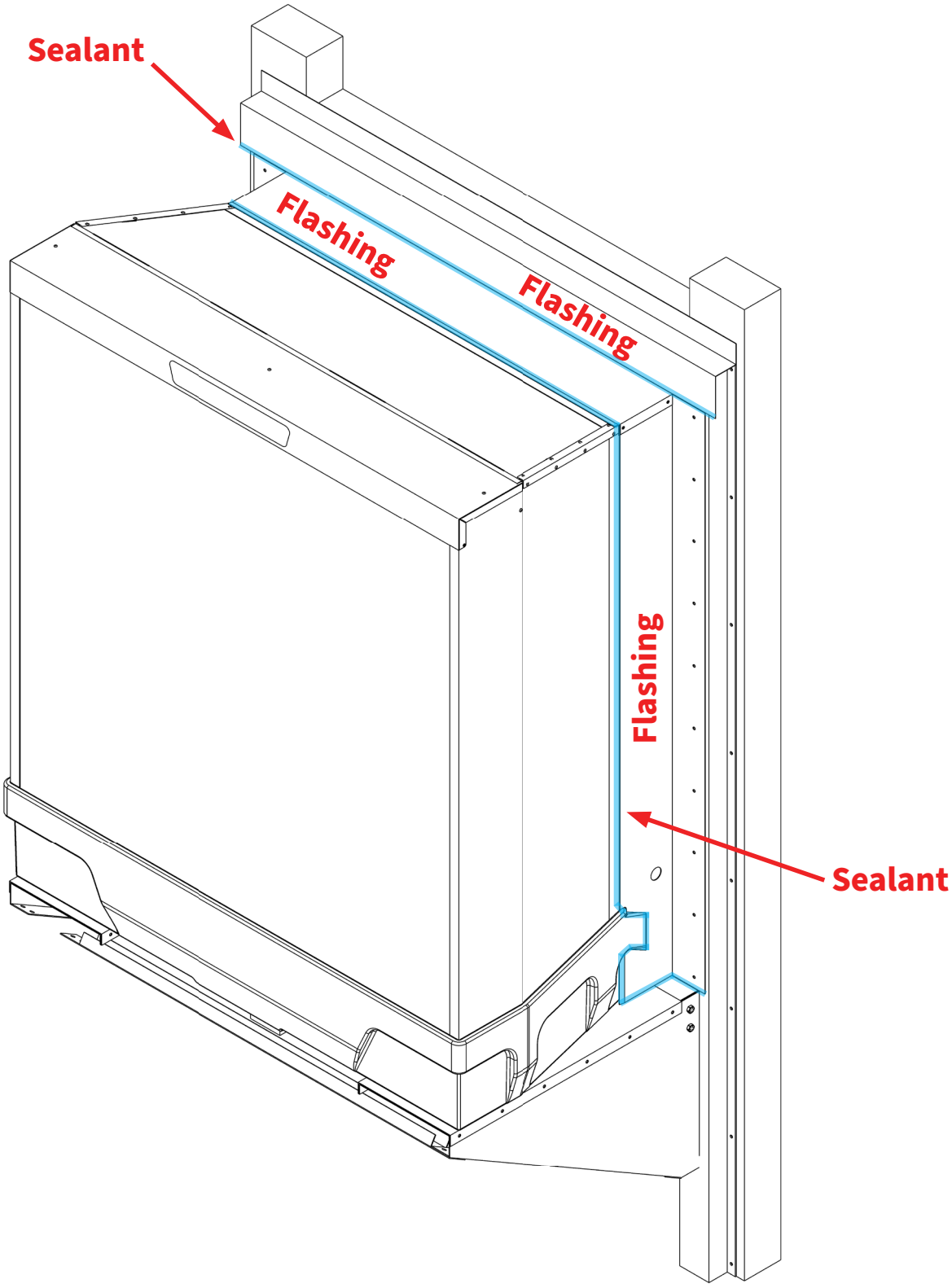
Section 12: Seal Metal Seams and Wiring Penetrations

Section 12.1: Sealing Flashing

Using UV/outdoor rated silicon to seal the metal seams around the fan and flashing as detailed below.

Section 12.2: Sealing Wiring Penetrations

Use UV/outdoor rated silicon to seal any wire penetrations through the building wall that do not use conduit or water tight fittings.



Section 13: Setup and Operation

Section 13.1: Shutter Set Up

The RollSeal has a switch on the control box that allows the curtain to operate automatically or manually. When the RollSeal is mounted and power is installed, check the operation of the RollSeal by pressing the switch to "OPEN". The curtain should open to within one to three inches from the top. Place the switch in the "AUToMATIC" position, and the curtain should return to the closed position. touching the frame at the bottom. If all checks well, your RollSeal is now ready for use and should be placed in the "AUToMATIC" position for normal operation. When set to automatic, the fan on and off switch on the PC Controller will control the operation of the shutter. When fan is switched "ON" the shutter will open. When fan is switched "OFF" the shutter will close.

Section 13.2: Fan Set Up

Section 13.2.1: Prepare Float Valve

1. Remove the screws from the sides of the lid, then set them aside.
2. Lift the lid to access the cooling pads.
3. Remove the cooling pads.
4. Remove the tape while holding the float valve in place. Be careful not to bend the float valve arm.
5. Reinstall the cooling pads, ensuring the "UP" and "Air Flow" arrows are oriented properly.
6. Close the lid, then reinstall the screws.

Section 13.3: Operation

The unit operates by pumping water from the reservoir through the spray bar to soak the cooling pads. Meanwhile, the propeller draws warm air into the unit and through the pads. The water evaporates as it pulled away from the pads, dissipating the heat the water has absorbed from the incoming air and cooling the outgoing air. Excess water returns to the reservoir to be recirculated.

Evaporative cooling reduces the difference between the area's dry-bulb temperature (regular air temperature) and wet-bulb temperature (temperature at 100% relative humidity) at approximately 75% efficiency. For example, at a dry-bulb temperature of 85°F and a wet-bulb temperature of 65°F, the temperature on the outlet side of the unit would be reduced to approximately 70°F.

Section 13.4: Components

Section 13.4.1: Fan Motor

The 115V motor is a single speed motor. Operated by the ON and OFF toggle switch on the PolarCool Controller. The propeller is mounted directly to and driven by the motor shaft.

Section 13.4.2: Water Pump

The 115V pump moves water from the reservoir through the spray bar and onto the cooling pads. It is turned on and off using the ON and OFF toggle switch on the PolarCool Controller. This unit is not equipped with an automatic low water shut off. Do not run pump without water in reservoir. Doing so will cause the pump to over-heat.

Section 13.4.3: Cooling Pads

These cellulose blocks are a key part of the evaporative cooling process. As they are saturated with water, warm air is drawn through them to dissipate the absorbed heat. They are coated for protection against both physical impact and algae formation. The pads must be installed in the labeled orientation to allow proper airflow.

Section 13.4.4: Float Valve

This brass valve, connected to the water inlet inside the unit, shuts off the inlet when the water in the reservoir reaches the depth to which the valve has been set. This prevents the reservoir from being overfilled.

Section 13.5: Starting

NOTICE Do not run the pump without water in the reservoir. Doing so may damage the pump.

1. Turn on the water supply to fan.
2. Wait for the reservoir to fill.
3. Once the reservoir is full, turn on the pump and let the water run for approximately 15 minutes.
4. Turn on the fan.
5. If the cooling pads are new (including those shipped with the unit), saturate them with water according to Section 13.6.3: Breaking in New Cooling Pads.

Section 13.5.1: Shutting Down

1. Turn off the pump.
2. Turn off the water supply.
3. Wait approximately 15 minutes to allow the cooling pads to dry. This helps prevent algae from growing.
4. Turn off the fan.

Section 13.6: Maintenance

1. Ensure the cooling pads receive adequate water.
2. Ensure the unit is clear of dust, fumes, and other contaminants.
3. Before shutting down the unit, run the fan with the pump off for approximately 15 minutes to allow the cooling pads to dry.
4. Turn off the water supply when the unit is not in use.
5. Do not run the pump without water in the reservoir. Doing so may damage the pump.
6. Do not use harsh cleaners.
7. Do not add chlorine, bleach, or phosphate treatments to the water supply.
8. Flush the system and wipe the reservoir clean at least once per week. PolarCool recommends using specialized Evap-O-Matic tablets, which are available at *polarcoolstore.com*.
9. Clean the pump filter at least once per week.
10. Routinely inspect the spray bar for residue that may cause clogs.
11. Routinely inspect the unit for leaks. Correct any leaks as soon as they are found.
12. Inspect all electrical insulation on the internal harness and the power cord for signs of wear at least once per month.
13. Inspect the motor seal for damage at least once per month. Gaps may allow water to contact the electrical circuits.
14. Clean and disinfect the entire system at least once per quarter.
15. Drain the system completely prior to extended periods of disuse.

Section 13.6.1: Cleaning and Replacing Cooling Pads

With proper maintenance, the cooling pads should provide between three and five years of trouble-free operation. Take care to avoid build-ups of the following substances, which can generally be removed by spraying the pads with a water hose:

- Dust.
- Algae, which can be prevented by running the fan with the pump off for approximately 15 minutes until the pads are completely dry.
- Scale, which can be prevented by using water with a pH between 6 and 9, and with silica contamination below 150 ppm.

The cooling pads are accessed as follows:

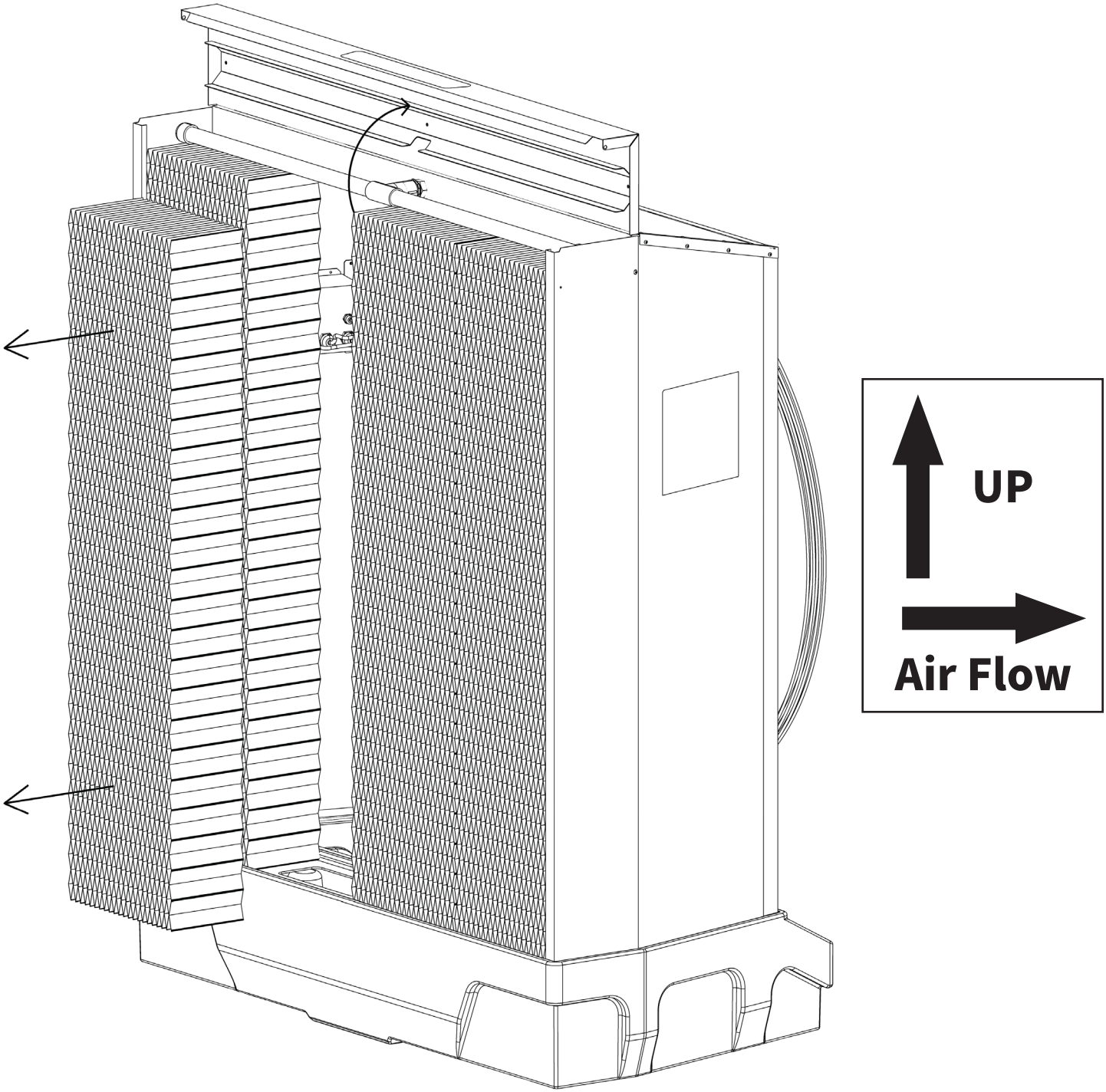
1. Turn off the pump and the fan; disconnect power and water supply.
2. Open the lid by removing the screws from the sides. Set the screws aside.
3. Remove the pads.
4. Spray each side of the pads with a water hose.
5. Drain the reservoir.
6. Clean the pump filter.
7. Reinstall the pads (or replace them if necessary), ensuring they are oriented according to the "UP" and "Air Flow" arrows.
8. Reconnect the unit to the water and power supplies, then run the pump for approximately 20 minutes. Use as much water as possible.

NOTICE Do not run the pump without water in the reservoir. Doing so may damage the pump.

10. Spray down any deposits remaining on the pads.
11. Empty the reservoir to remove any residue that seeps from the pads.
12. Refill the reservoir.
13. If you have installed new cooling pads, break them in according to Section 13.6.3: Breaking in New Cooling Pads.
14. Close the lid, then reinstall the screws.

Section 13.6.2: Pad Removal and Installation

- Pads are removed as shown below.
- Pads are monodirectional; ensure they are installed with the arrows pointed in the same directions as shown below.



Section 13.6.3: Breaking in New Cooling Pads

The slick surface of new cooling pads prevents them from absorbing water at full effectiveness. Therefore, new cooling pads (those shipped with new units as well as replacements) must be broken in by saturating them with water for several hours.

1. Allow the pump to run for two to three hours. Chemical residue will gradually seep from the pads.

NOTICE If the residue causes excessive foaming, reduce the water pressure.

2. Turn off the pump and the fan; disconnect power and water supply.
3. Drain the reservoir to eliminate any residue.
4. Empty the reservoir to remove any residue that seeps from the pads.
5. Refill the reservoir.
6. If necessary, repeat Steps 1-5 until the foaming stops.

NOTICE Do not run the pump without water in the reservoir. Doing so may damage the pump.

Section 13.6.4: Cleaning Spray Bar

NOTICE The spray bar can be tilted to ease access when cleaning, but it must be leveled before the unit is used again.

If the spray bar becomes clogged, the cooling pads may not absorb enough water, leading to dry spots or streaks which can degrade cooling efficiency. The spray bar can be cleaned as follows:

1. Turn off the pump and the fan; disconnect power and water supply.
2. Open the lid by removing the screws from the sides. Set the screws aside.
3. Remove the cooling pads.
4. Remove the caps from the ends of the spray bar.
5. Run a pipe cleaner through the outflow holes at the top of the spray bar.
6. Run a dowel from one end of the spray bar to the other.
7. Flush the interior of the spray bar with a water hose.
8. Reinstall the end caps.
9. Level the spray bar, ensuring the outflow holes face upward.
10. Reinstall the cooling pads. Ensure the "UP" and "Air Flow" arrows are oriented properly.
11. Close the lid, then reinstall the screws.
12. Reconnect the unit to the water and power supplies.

Section 13.7: Adjusting Water Pressure

The valve that controls water flow from the pump to the spray bar is intended to operate at partial pressure (approximately halfway open) and is shipped accordingly. However, if too much water is drawn from the cooling pads, forming mist, the pressure can be manually reduced. Excessive restriction of the valve may cause premature wear on the pump; do not operate the pump when the valve is closed.

1. Turn the knob clockwise to decrease the pressure. The valve is closed when the knob is perpendicular to the hose.
2. Turn the knob counterclockwise to increase the pressure. The valve is fully open when the knob is in line with the hose.

Fully Open

Partially Open

Closed

Section 13.8: Changing Reservoir Water Level

The water level in the reservoir can be changed by adjusting the float valve as follows:

1. Turn off the pump and the fan; disconnect power and water supply.
2. Open the lid by removing the screws from the sides. Set the screws aside.
3. Remove the cooling pads.
4. Loosen the thumbscrew on the float valve.
5. Move the arm downward to decrease the water level or upward to increase it.
6. Retighten the thumbscrew.
7. Reinstall the cooling pads, ensuring the "UP" and "Air Flow" arrows are oriented properly.
8. Close the lid, then reinstall the screws.
9. Reconnect the unit to the water and power supplies.

NOTICE

The water level is normally 2.25" (± 1"), or 1" below the bottoms of the pads. Do not allow the water in the reservoir to contact the cooling pads.

Section 13.9: Cleaning Reservoir

At least once per week, the entire water system must be flushed and the reservoir must be wiped clean. This is done as follows:

1. Turn off the pump and the fan; disconnect power and water supply.
2. Open the lid by removing the screws from the sides. Set the screws aside.
3. Remove the cooling pads.
4. Drain the reservoir using the drain outlet.
5. Wipe the reservoir clean of debris using warm water and mild soap.

NOTICE

Do not use bleach, ammonia, or other harsh cleaners such as bathroom spray. PolarCool recommends using specialized Evap-O-Matic tablets, which are available at *polarcoolstore.com*.

6. Reconnect the unit to the water and power supplies.
7. Refill the reservoir.
8. Run the pump for at least 15 minutes to saturate the cooling pads with water.

NOTICE

Do not run the pump without water in the reservoir. Doing so may damage the pump.

9. Turn off the pump, disconnect power and water supply.
10. Drain the reservoir again.
11. Reconnect the unit to the water and power supplies.
12. Refill the reservoir.
13. Reinstall the cooling pads, ensuring the "UP" and "Air Flow" arrows are oriented properly.
14. Close the lid, then reinstall the screws.

Section 13.10: Cleaning Pump Filter

The water pump filter must be cleaned at least once per week as follows:

1. Turn off the pump and the fan; disconnect power and water supply.
2. Open the lid by removing the screws from the sides. Set the screws aside.
3. Remove the cooling pads.
4. Cut the zip tie that secures the pump to the bracket.
5. Remove the pump from the reservoir.
6. Remove the filter from the bottom of the pump.
7. Scrub and spray the filter until all debris is removed.
8. Reinstall the filter.
9. Secure the pump to the bracket using a new zip tie.
10. Reinstall the cooling pads, ensuring the "UP" and "Air Flow" arrows are oriented properly.
11. Close the lid, then reinstall the screws.
12. Reconnect the unit to the water and power supplies.
13. Run the pump for at least 15 minutes to saturate the cooling pads with water.

NOTICE Do not run the pump without water in the reservoir. Doing so may damage the pump.

Section 14: Troubleshooting

Problem	Action(s)
Water overflows during setup of a new unit.	• Remove the tape from the float valve.
Water splashes off the cooling pads instead of soaking in.	• Ensure the pads are oriented according to the "UP" and "Air Flow" arrows.
Water sprays out of the top of the unit.	• Ensure the holes in the spray bar point toward the spray deflector.
No water sprays out of the spray bar.	• Ensure the pump is turned on. • Ensure there is enough water in the reservoir. • Check the pump filter for obstructions.
Water sprays out of some holes in the spray bar but not all.	• Adjust the water pressure using the flow control valve. • Clean the spray bar. • Check the pump filter for obstructions.
The pads have dry spots or streaks.	
Water overflows at any point after initial setup.	• Adjust the float valve to a lower position.
The fan motor does not turn on.	• Inspect all switches, the power cord, the electrical wiring, and the circuit breaker for damage.
The motor overheats and shuts off, then restarts minutes later.	• Ensure the unit receives unobstructed airflow.
The pump does not work.	• Check the pump filter for obstructions.

NOTICE

Before replacing any of the following components, disconnect the unit from the power and water supplies; remove the screws from the lid and set them aside; and drain the reservoir. After replacing the component(s), close the lid and reinstall the screws.

Item	Description	Part Number
1	120V; 60 Hz Water Pump	6422-0645
2	115V; 1/2 HP Variable-speed Fan Motor	6422-6023
3	36" 3-blade Fiberglass Propeller	6403-5605
4	12" W x 48" H x 6" D Cooling Pad	x1: 6450-6070
		x4: 6450-6014
5	Float Valve Assembly	6422-6016
6	Water Inlet Assembly	6422-6018
7	Flow Control Valve Assembly	6422-0250