PolarCool Pro Evaporative Cooling System User 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.

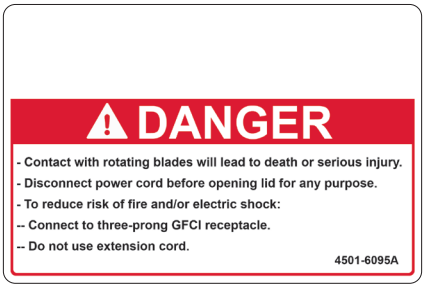
Do not operate this equipment with a damaged power cord or outlet. If the cord and/or outlet is damaged, submit the equipment to an authorized service facility for repair.

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*.

Do not place the unit near a slope or ledge, even when the casters are locked.

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

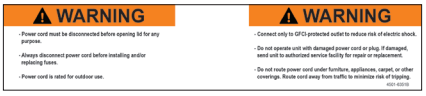


Label 4501-6095 displays the unit serial number and indicates the following:

- 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. Casters allow the unit to be moved by hand and set up anywhere with proper water and power supplies.

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 the full lifetime of the Product to the extent it is found, upon examination by factory-authorized personnel, to be defective in material and/or workmanship. The Lifetime Warranty on the Product housing 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 *polarcool.net/polarcool-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

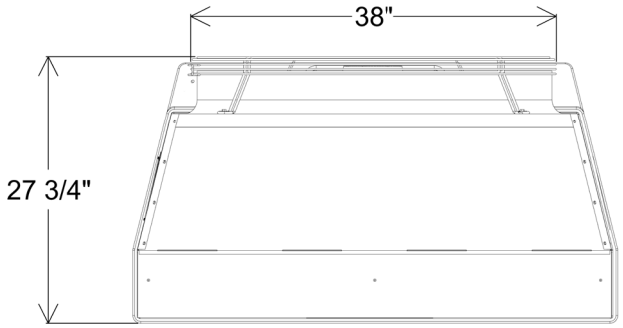
Phone: 256-287-7000

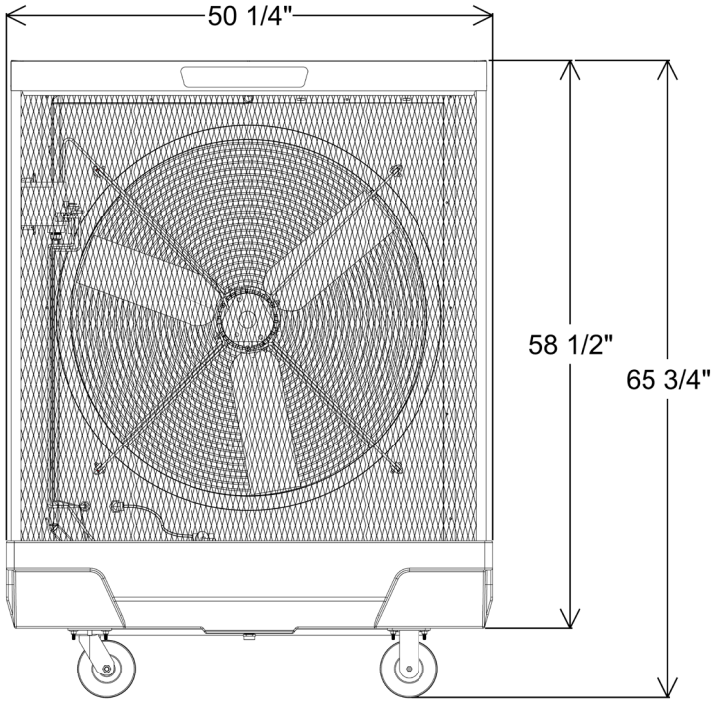
Email: *customerservice@hhtech.net*

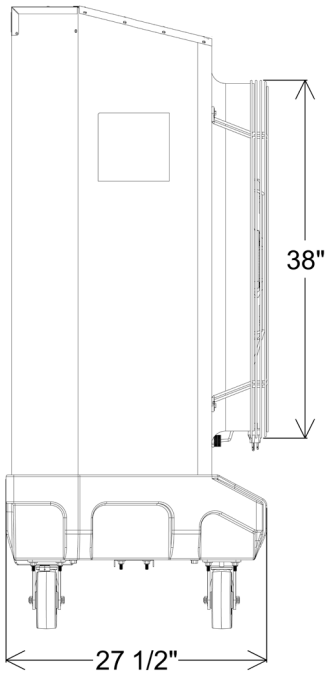
Section 1.4: Technical Specifications

Unit Dimensions	51” W x 66” H x 29” D	**Low-water Shutoff**	Equipped
Unit Weight	198 lbs (Empty); 515 lbs (Full)	**Cooling Media (x4)**	CELdek: 12” W x 48” H x 6” D
Shipping Dimensions	55” W x 74” H x 32” D	**Cooling Media Area**	16 ft^2
Shipping Weight	314 lbs	**Cooling Media Volume**	8 ft^3
Drive Type	Direct	**Casters**	4 (2 Fixed; 2 Swivel with Locks)
Speeds	10	**Caster Wheel Size**	6”
Water Consumption*	12 Gallons per Hour	**Water Output**	Adjustable
Reservoir Volume	38 Gallons	**Power Cord**	20'; 120VAC; GFCI-protected
Power Consumption	10A at 115V; 60 Hz	**Cord Wrapping Bracket**	Front of Unit
Cooling Area	3,200 ft^2	**Water Inlet Adapter**	3/4” Garden Hose
Current	8.5A	**Drain Outlet Adapter**	3/4” Garden Hose
Typical Air Movement†	10,000 CFM		
UL Certification	UL 507		

**Assuming space is ≥ 90°F. Lower temperatures will result in less water usage.*
†Depending on relative humidity, temperature, and area being cooled.

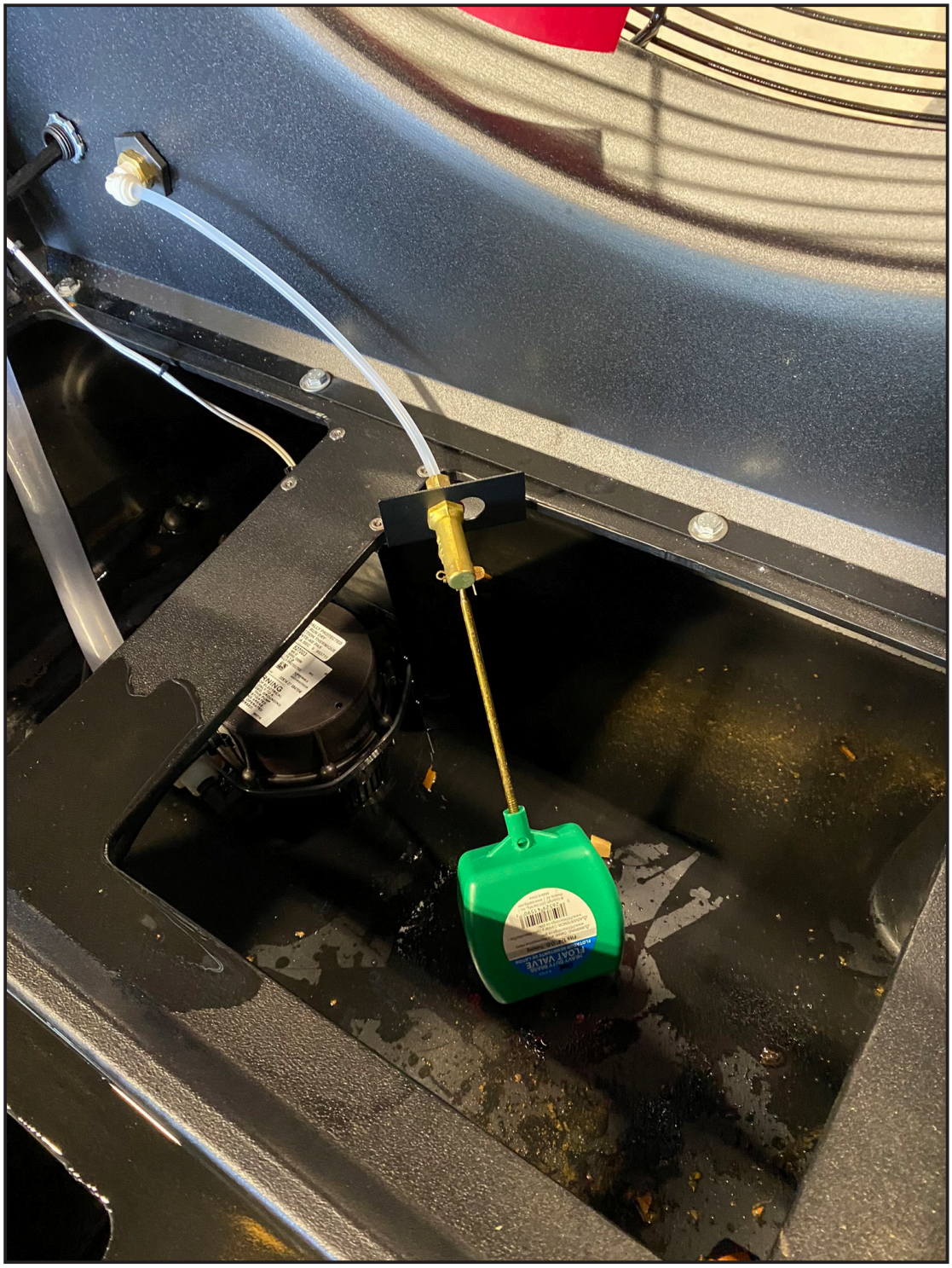






Section 2: Prepare Float Valve

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 3: Operation

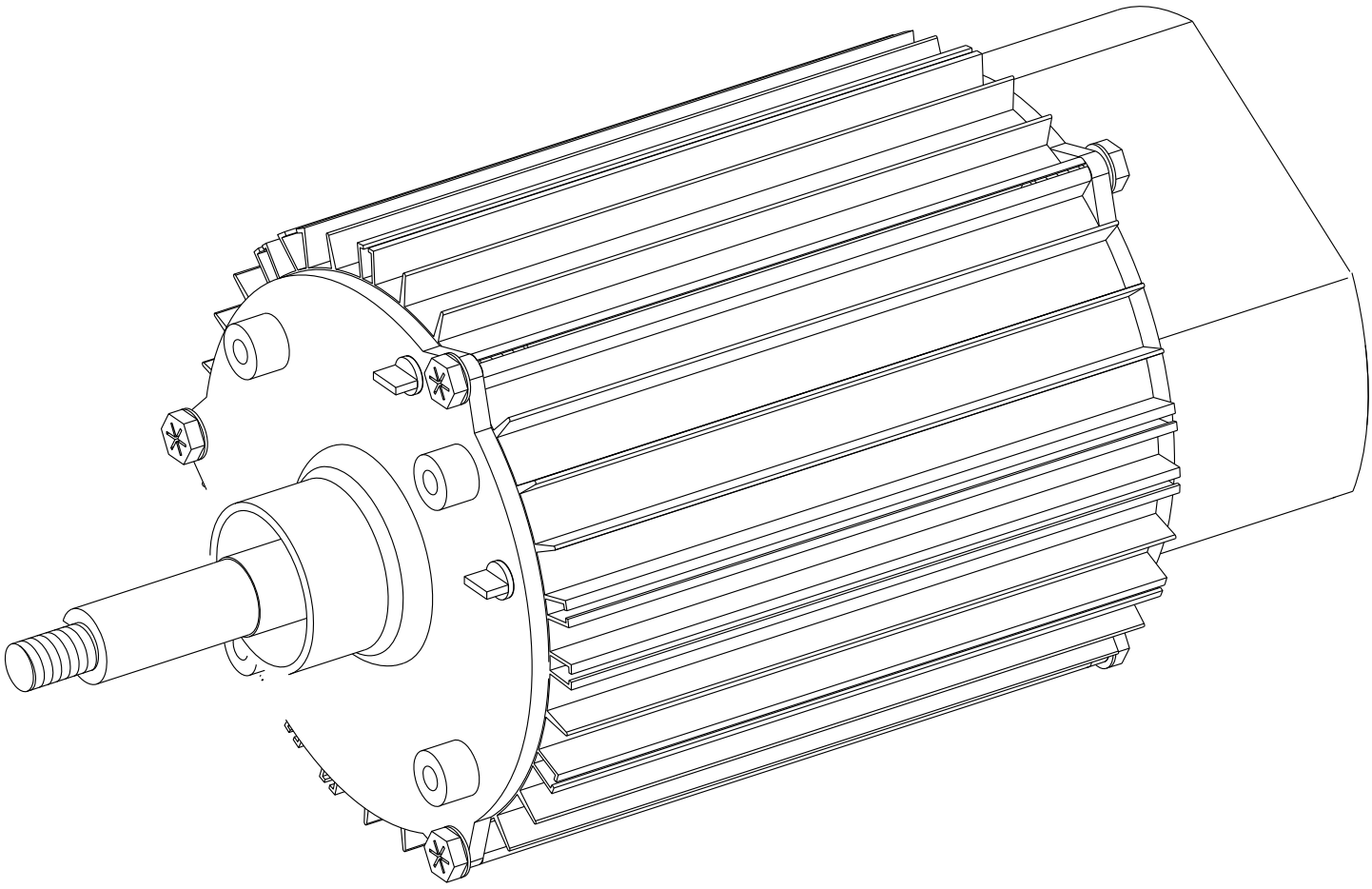
The unit operates by pumping water from the reservoir through the spray bar to soak the cooling pads. Meanwhile, the propeller draws warm air into the unit and through the pads. The water evaporates as it pulled away from the pads, dissipating the heat the water has absorbed from the incoming air and 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 3.1: Components

Section 3.1.1: Fan Motor

The 115V fan motor can be operated at various speeds using the control panel. The propeller is mounted directly to and driven by the motor shaft.



Section 3.1.2: 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 a button on the control panel. The unit control board is programmed to automatically shut down the pump if the reservoir water level is too low.

Section 3.1.3: Control Panel

The control panel, located on the right side of the unit, is the primary means of starting and stopping the fan and the pump.

The panel is connected to the control board, which handles all operational logic. In addition to enabling variable-speed operation, the board automatically shuts off the pump in case the reservoir water level is too low. The control panel has multiple buttons that control fan power, fan speed, and pump power. The panel also has several LEDs that indicate the fan status, fan speed, pump status, and water level status.

Section 3.1.4: 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 3.1.5: 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 3.1.6: Liquid Level Switch

When this switch detects that the water level in the reservoir is too low, it signals the control board to stop the pump. Shutting down prevents the pump from running dry.

Section 3.2: Controls

The control panel has the following inputs:

1. Fan ON/OFF - This button starts and stops the fan. After the fan has been turned off, pressing the button again will cause the fan to resume running at the most recent speed setting.

2. Fan Speed (+/-) - These buttons cycle the speed of the fan. The "+" button increases the speed by one increment, whereas the "-" button decreases the speed by one increment. The "-" button cannot be used to stop the fan; pressing it while the fan is already set to 1 does nothing.

   The current speed is indicated by the pattern of the five circular LEDs located between the buttons. Each LED corresponds to two speeds; starting from the bottom, flashing represents odd values (1, 3, 5, 7, 9), whereas solid green represents even values (2, 4, 6, 8, 10). For example, if the bottom LED is flashing green, the speed is set to the minimum of 1; if all five LEDs are solid green, the speed is set to the maximum of 10.

3. Pump ON/OFF - This button starts and stops the water pump.

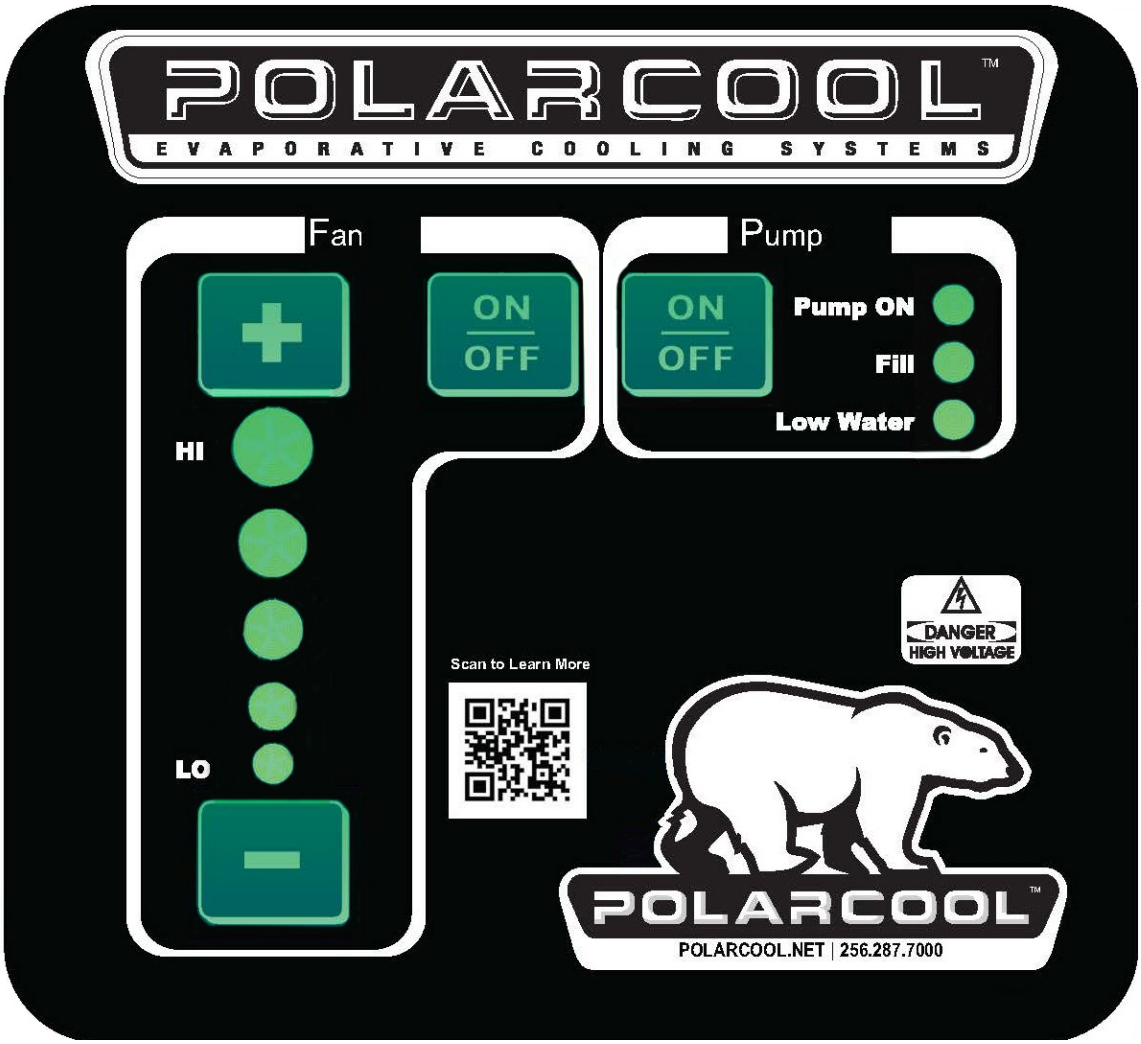
The Pump section of the control panel also has the following indicator LEDs:

1. Unit Power - This LED (located behind the polar bear logo) turns solid red when the unit is powered on.

2. Pump ON - This LED turns solid green while the pump is running.

3. Fill - This LED flashes green when the water level has remained low for more than one minute. During this time, the pump will automatically turn off, the Pump ON and Fill indicators will flash, and the Low Water indicator will turn solid red.

4. Low Water - This LED flashes red when the water has remained low for less than one minute. It turns solid red after one minute.



Section 3.3: Starting

⚠ CAUTION

Do not place the unit on a slope or near a ledge, even if the casters are locked.

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.

NOTICE

Do not run the pump without water in the reservoir. Doing so may damage the pump. The liquid level switch will cause the pump to shut down when the water level is too low.

1. Connect the water hose to the inlet adapter.
2. Plug in the power cord.
3. Wait for the reservoir to fill.
4. Once the reservoir is full, turn on the pump and let the water run for approximately 15 minutes.
5. Turn on the fan.
6. If the cooling pads are new (including those shipped with the unit), saturate them with water according to Section 4.2.1.

Section 3.4: Shutting Down

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

Section 4: Maintenance

Section 4.1: Regular Preventive Maintenance

1. Ensure the cooling pads receive adequate water.
2. Ensure the unit is used in an open environment with unobstructed airflow.
3. Ensure the unit is clear of dust, fumes, and other contaminants.
4. Before shutting down the unit, run the fan with the pump off for approximately 15 minutes to allow the cooling pads to dry.
5. Turn off the water supply when the unit is not in use.
6. Do not run the pump without water in the reservoir. Doing so may damage the pump.
7. Do not use harsh cleaners.
8. Do not add chlorine, bleach, or phosphate treatments to the water supply.
9. 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*.
10. Clean the pump filter at least once per week.
11. Routinely inspect the spray bar for residue that may cause clogs.
12. Routinely inspect the unit for leaks. Correct any leaks as soon as they are found.
13. Inspect all electrical insulation on the internal harness and the power cord for signs of wear at least once per month.
14. Inspect the motor seal for damage at least once per month. Gaps may allow water to contact the electrical circuits.
15. Clean and disinfect the entire system at least once per quarter.
16. Drain the system completely prior to extended periods of disuse.
17. If you must use an extension cord, ensure the wire is 12AWG or larger.

Section 4.2: 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:

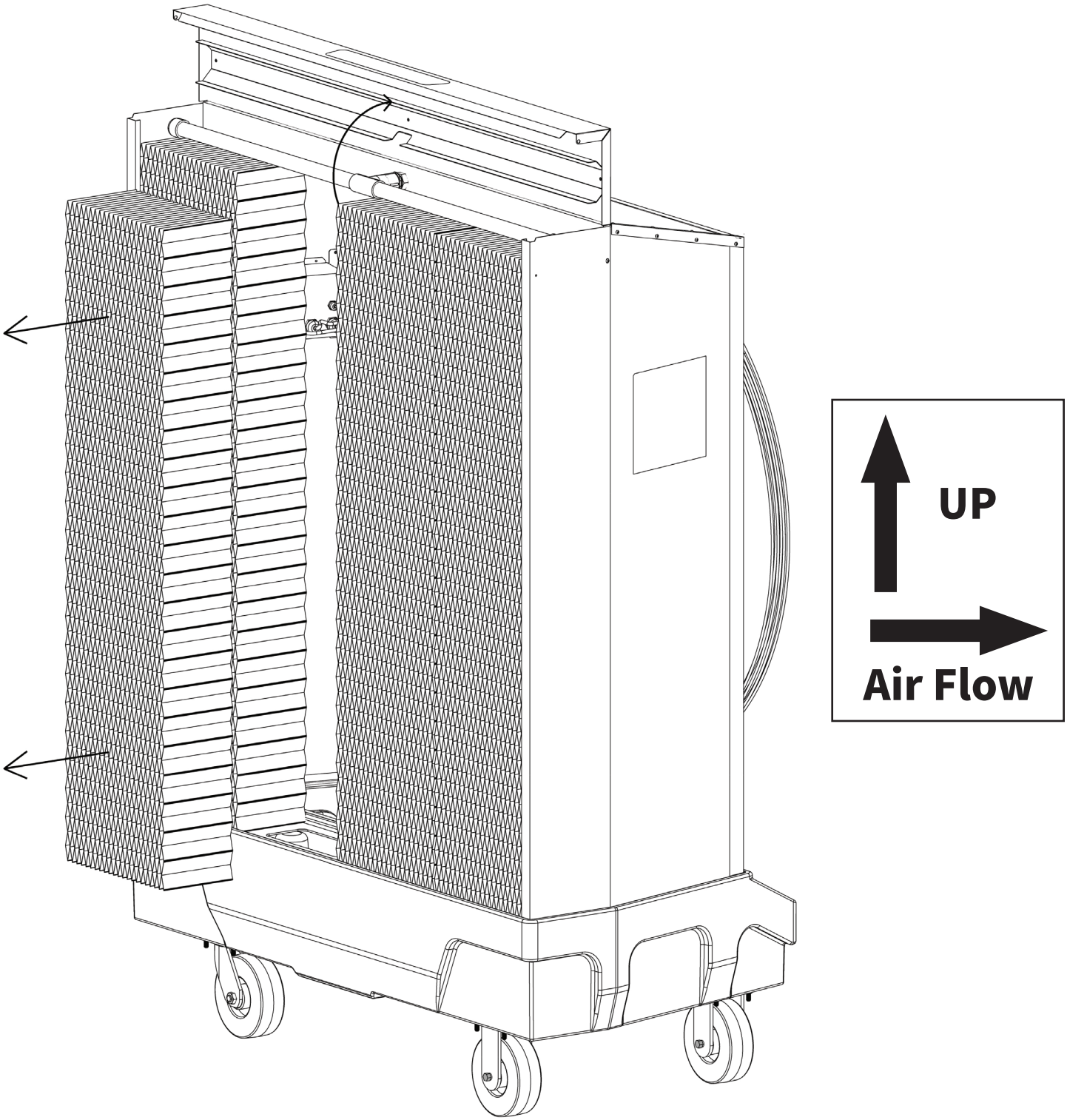
- Dust.
- Algae, which can be prevented by running the fan with the pump off for approximately 15 minutes until the pads are completely dry.
- Scale, which can be prevented by using water with a pH between 6 and 9, and with silica contamination below 150 ppm.

The cooling pads are accessed as follows:

1. Turn off the pump and the fan, unplug the power cord, and disconnect the 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. Hose 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 4.2.1.
14. Close the lid, then reinstall the screws.


UP
Air Flow

Section 4.2.1: 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, unplug the power cord, and disconnect the 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 4.3: 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, unplug the power cord, and disconnect the 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 4.4: 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 4.5: 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, unplug the power cord, and disconnect the 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 4.6: 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, unplug the power cord, and disconnect the 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.

NOTICE

A drain hose and shutoff valve (neither is supplied) can be attached to the drain pan outlet below the unit.

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, unplug the power cord, and disconnect the 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 4.7: 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, unplug the power cord, and disconnect the 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 4.8: Long-term Storage

The following steps must be performed before the unit is stored for longer than one week, such as during the off season:

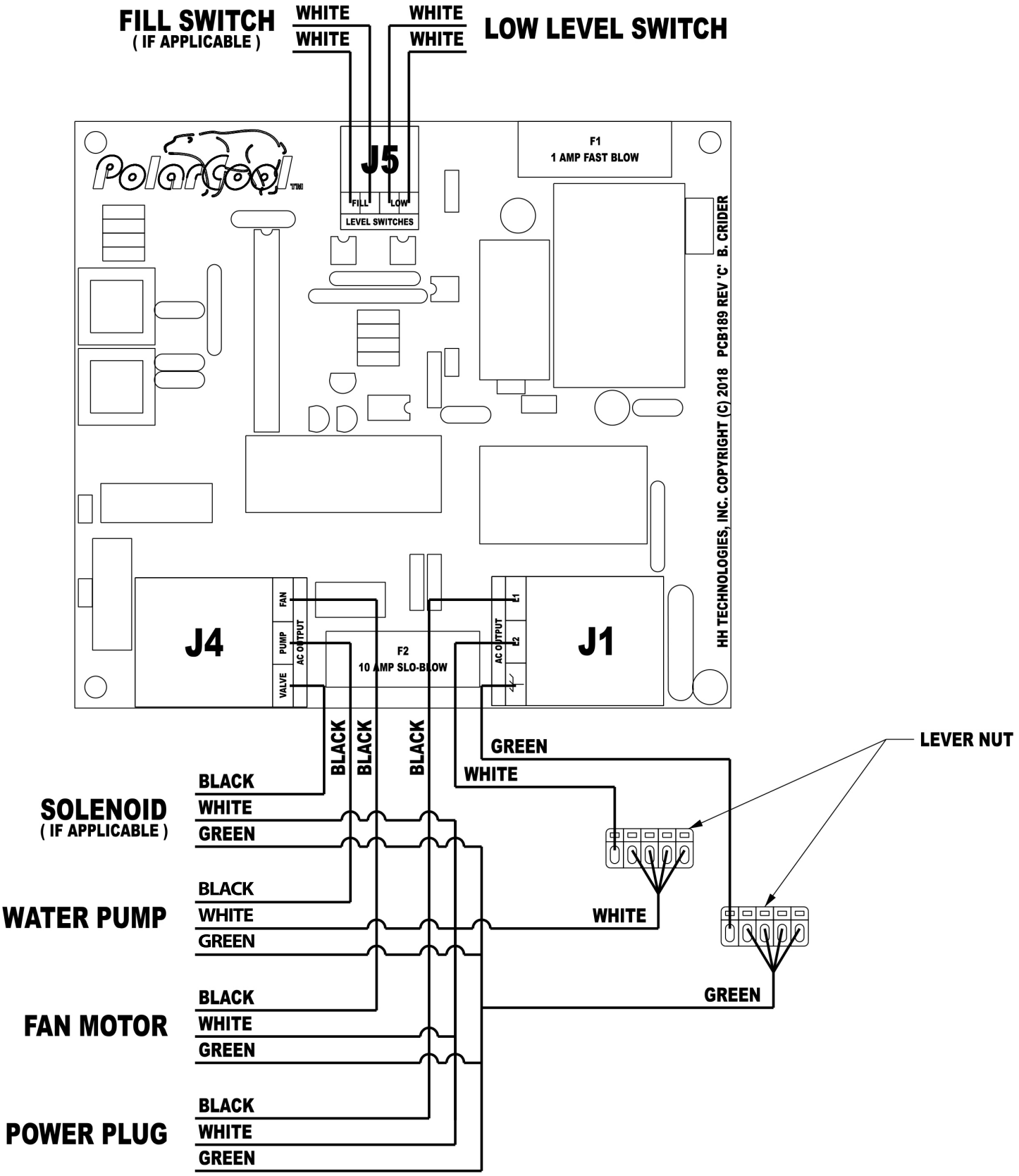
1. Clean the cooling pads and dry them thoroughly according to Section 4.2.1.
2. Flush and clean the reservoir according to Section 4.6. Ensure no water remains in the reservoir.
3. Leave the drain outlet cap off (storing it in a secure location) to prevent water from accumulating in the reservoir.
4. Cover the unit, then store it in a dry, secure location.

NOTICE

Specialized covers are available at *polarcoolstore.com*.

Section 5: Troubleshooting

Problem	Action(s)
The swiveling casters do not turn.	• Ensure the casters are not locked. • Ensure the casters are installed correctly.
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 buttons, the power cord, the electrical outlet, and the circuit breaker for damage.
The motor overheats and shuts off, then restarts minutes later.	• Ensure the unit receives unobstructed airflow. • Use an extension cord of a larger gauge.
The pump does not work.	• Check the Low Water and Fill indicators. • Check the pump filter for obstructions.


FILL SWITCH
(IF APPLICABLE)
WHITE
WHITE
WHITE
WHITE
LOW LEVEL SWITCH
J5
FILL
LOW
LEVEL SWITCHES
F1
1 AMP FAST BLOW
HH TECHNOLOGIES, INC. COPYRIGHT (C) 2018 PCB189 REV 'C' B. CRIDER
J4
FAN
PUMP
VALVE
AC OUTPUT
F2
10 AMP SLO-BLOW
AC OUTPUT
L1
L2
J1
BLACK
BLACK
BLACK
GREEN
WHITE
LEVER NUT
SOLENOID
(IF APPLICABLE)
BLACK
WHITE
GREEN
WATER PUMP
BLACK
WHITE
GREEN
WHITE
GREEN
FAN MOTOR
BLACK
WHITE
GREEN
POWER PLUG
BLACK
WHITE
GREEN

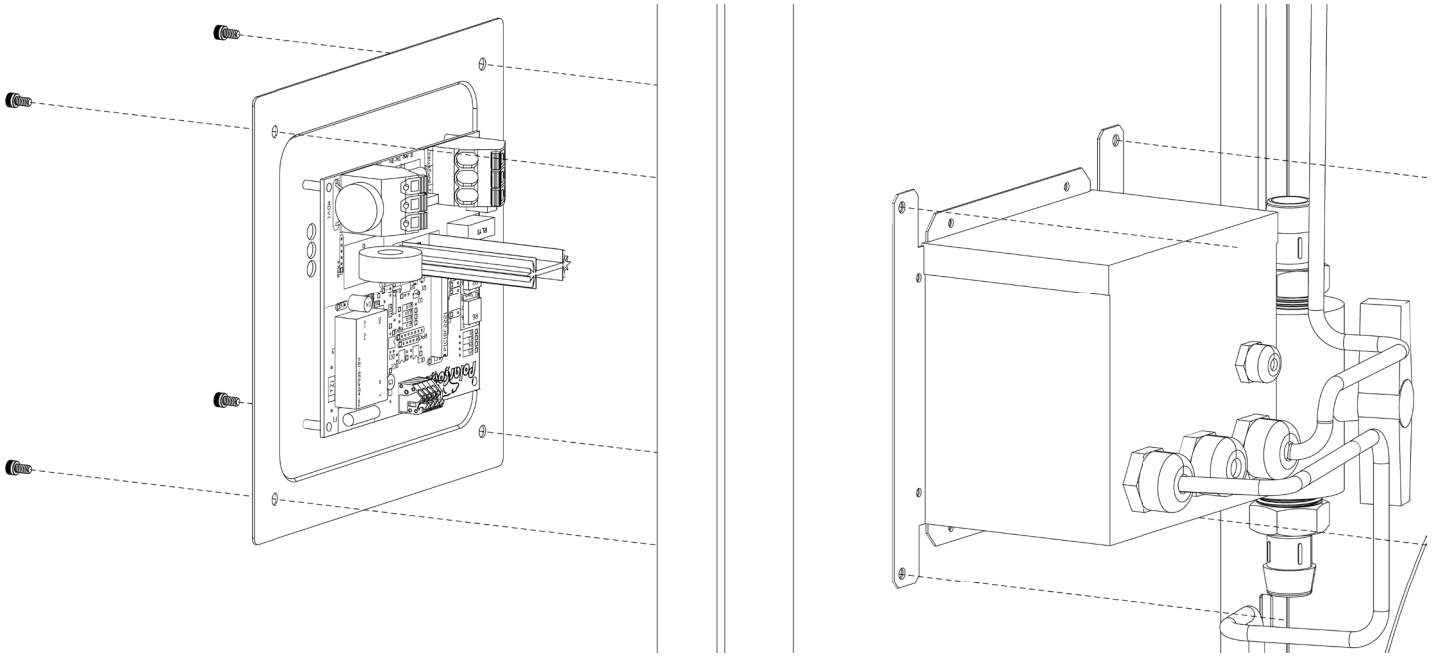
Section 7: Replacement Parts

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.

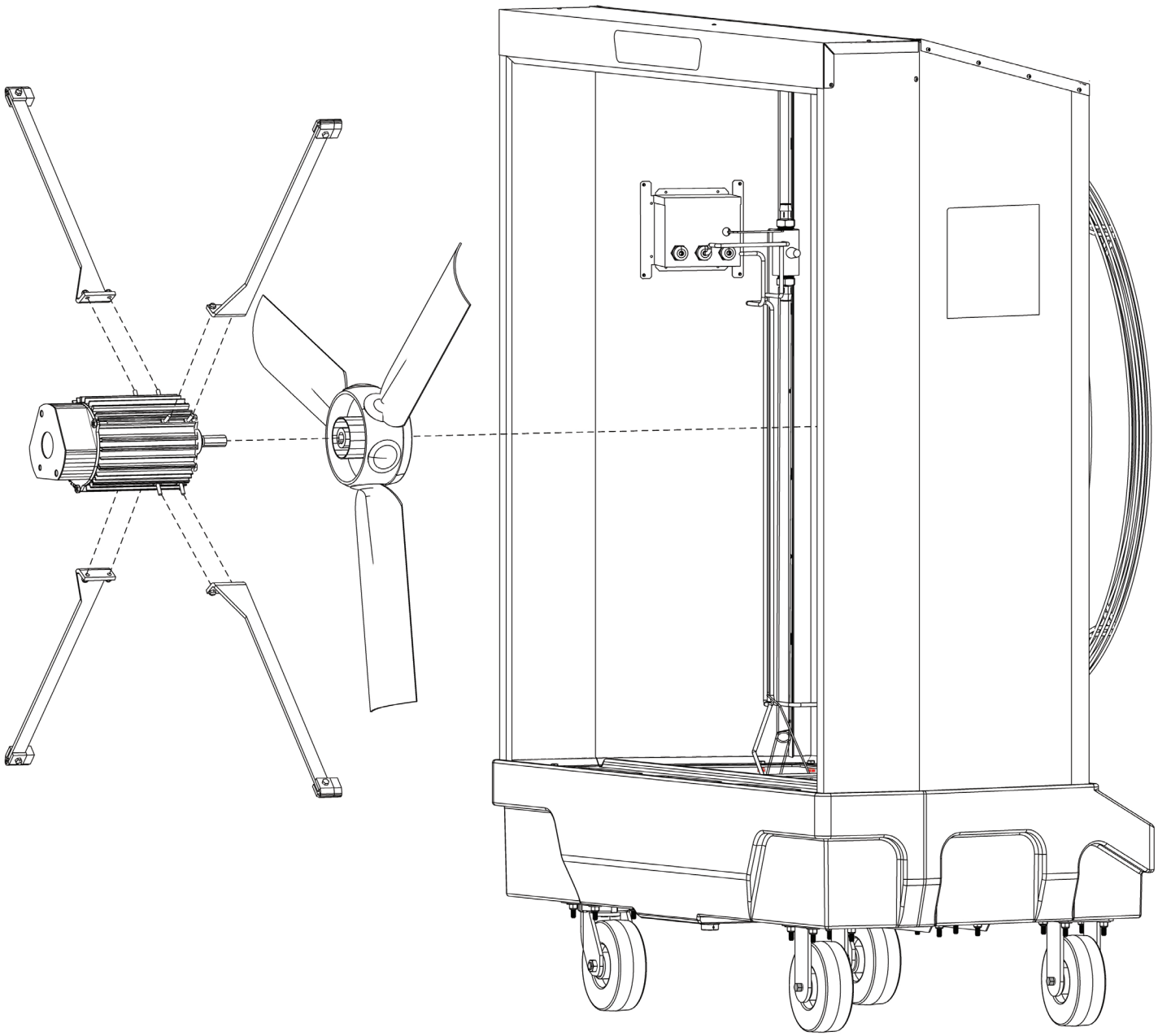
Description	Part Number
120V; 60 Hz Water Pump	6422-6015
115V; 1/2 HP Variable-speed Fan Motor	3017-6023
36" 3-blade Fiberglass Propeller	6403-5605
Control Panel	6450-6060
12" W x 48" H x 6" D Cooling Pad	x1: 6450-6070
	x4: 6450-6014
Float Valve Assembly	6422-6016
Liquid Level Switch Assembly	3001-0050
Drain Plug Assembly	0006-0722
Water Inlet Assembly	6422-6018
Water Inlet Swivel Adapter	1021-1104
Single Rigid Caster	6422-6021
Single Swivel Caster	6422-6020
3-Position Terminal Block	3006-5082
2-Position Terminal Block	3006-5107
10A Fuse	3010-3011
1A Fuse	3010-2999
Electronics Enclosure Seal	1028-3500
Control Panel Nut	1001-0110

Section 7.1: Controller Assembly

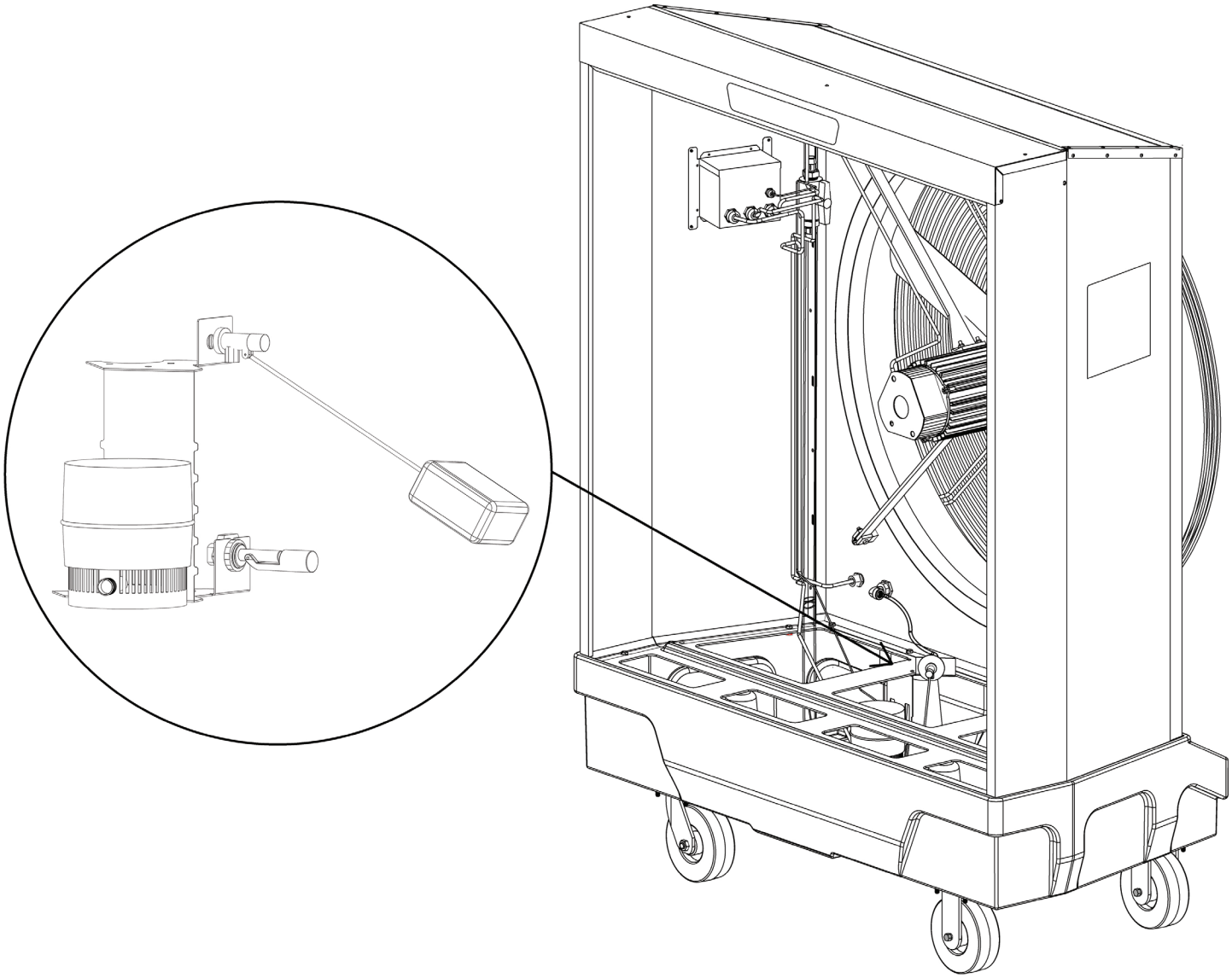


1. Detach the controller faceplate by removing the [4] screws. Set the screws aside.
2. Disconnect all wires from the control board.
3. Connect the existing wires to the same locations on the new control board.
4. Reinstall the faceplate using the original screws.

Section 7.2: Motor and Propeller

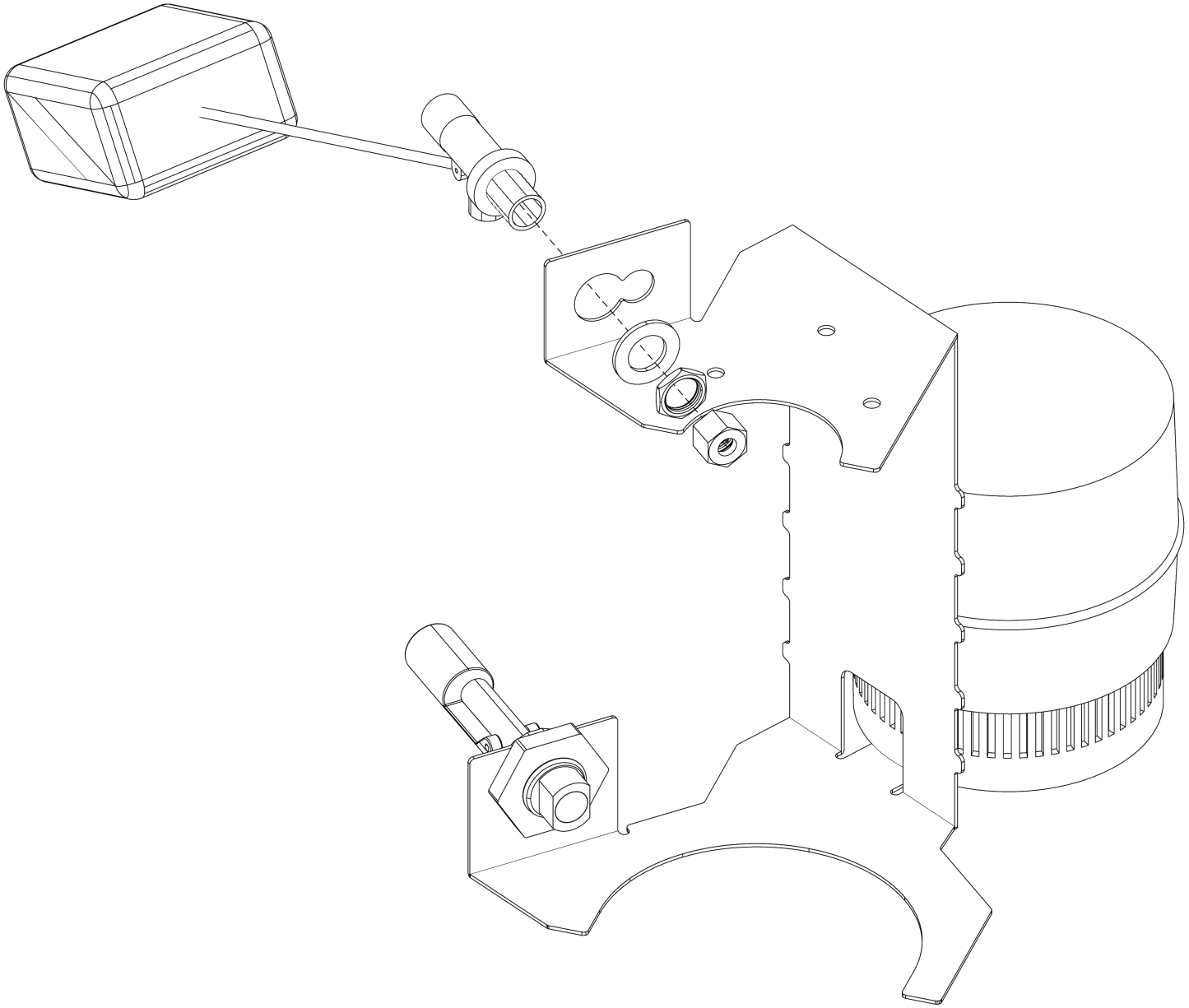


Section 7.3: Pump



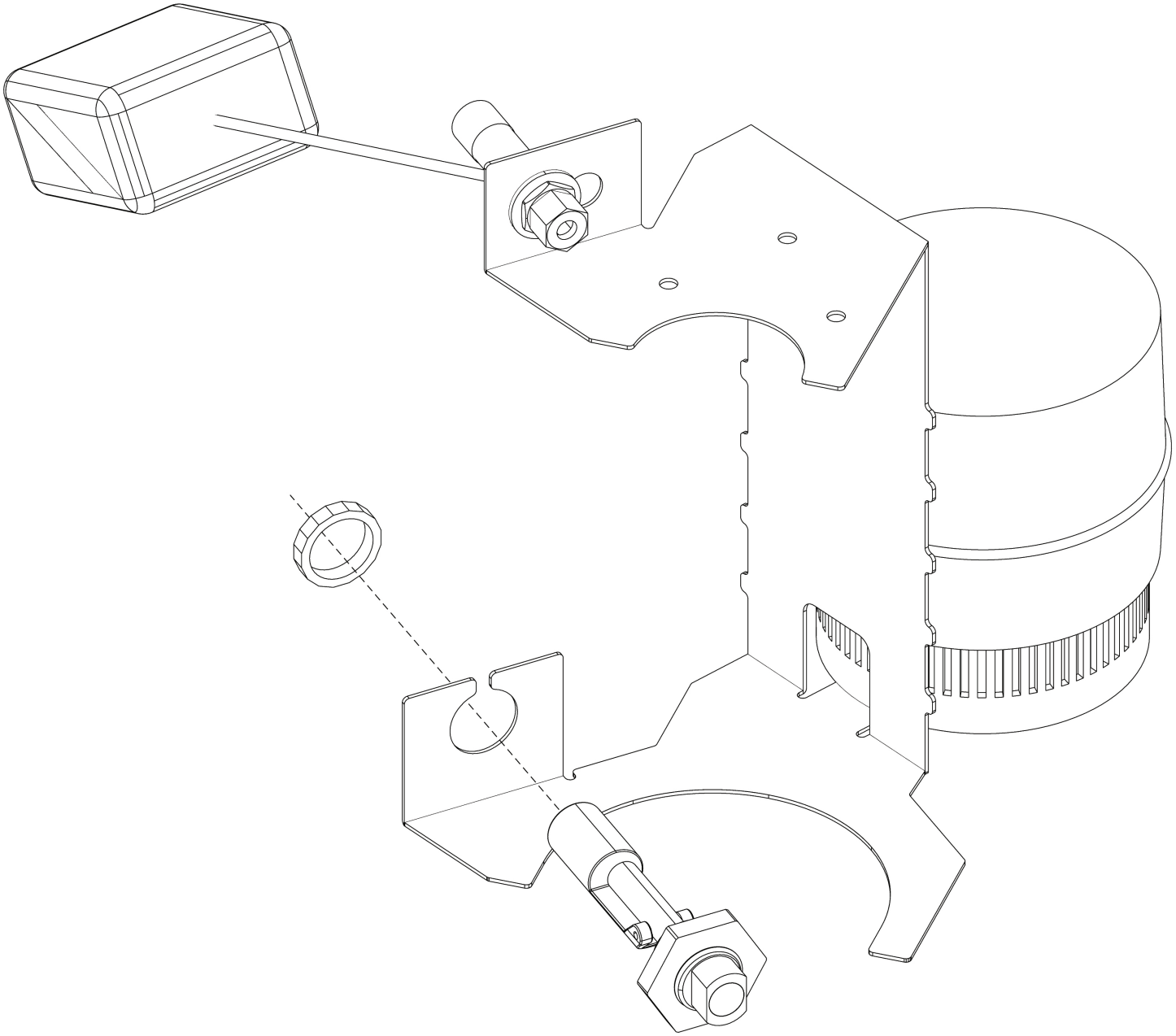
1. Detach the controller faceplate by removing the [4] screws. Set the screws aside.
2. Disconnect the pump wires from the control board.
3. Disconnect the hose from the barb on the pump.
4. Remove the zip tie that connects the pump to the bracket, then remove the pump.
5. Secure the new pump to the bracket using a zip tie.
6. Connect the hose to the barb on the new pump.
7. Connect the pump wires to the control board according to the diagram in Section 6.
8. Reinstall the controller faceplate using the original screws.

Section 7.4: Float Valve



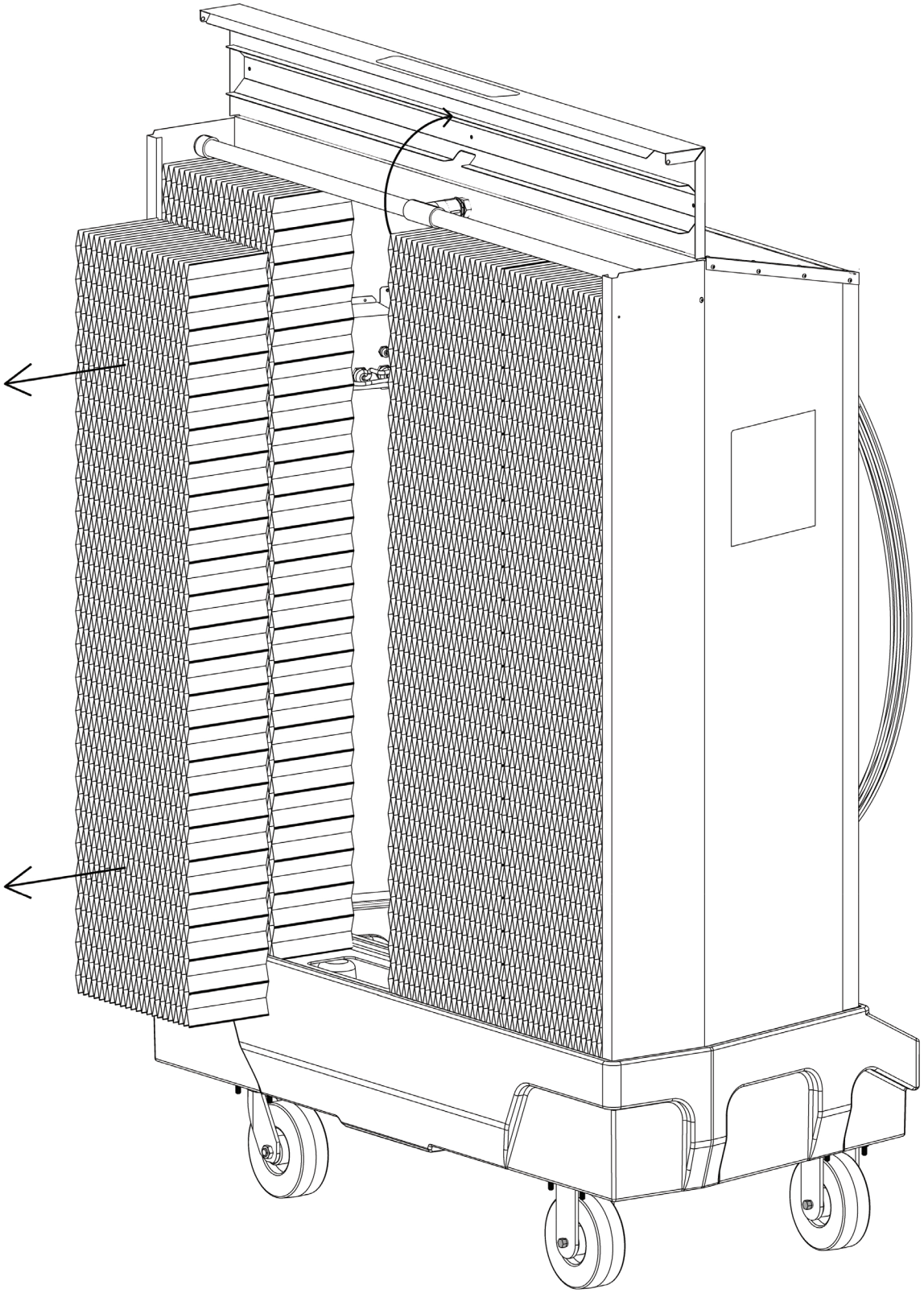
1. Remove the inlet hose from the water inlet quick-connect fitting.
2. Disassemble the float valve and remove it from the bracket.
3. Connect the new float valve to the bracket.
4. Place the nut over the hose, then place the UHMW collar over the hose.
5. Place the brass insert inside the hose.
6. Insert the hose into the water inlet adapter and the float valve.
7. Finger-tighten the nut, then give it another full turn to ensure it is fully seated.

Section 7.5: Liquid Level Switch



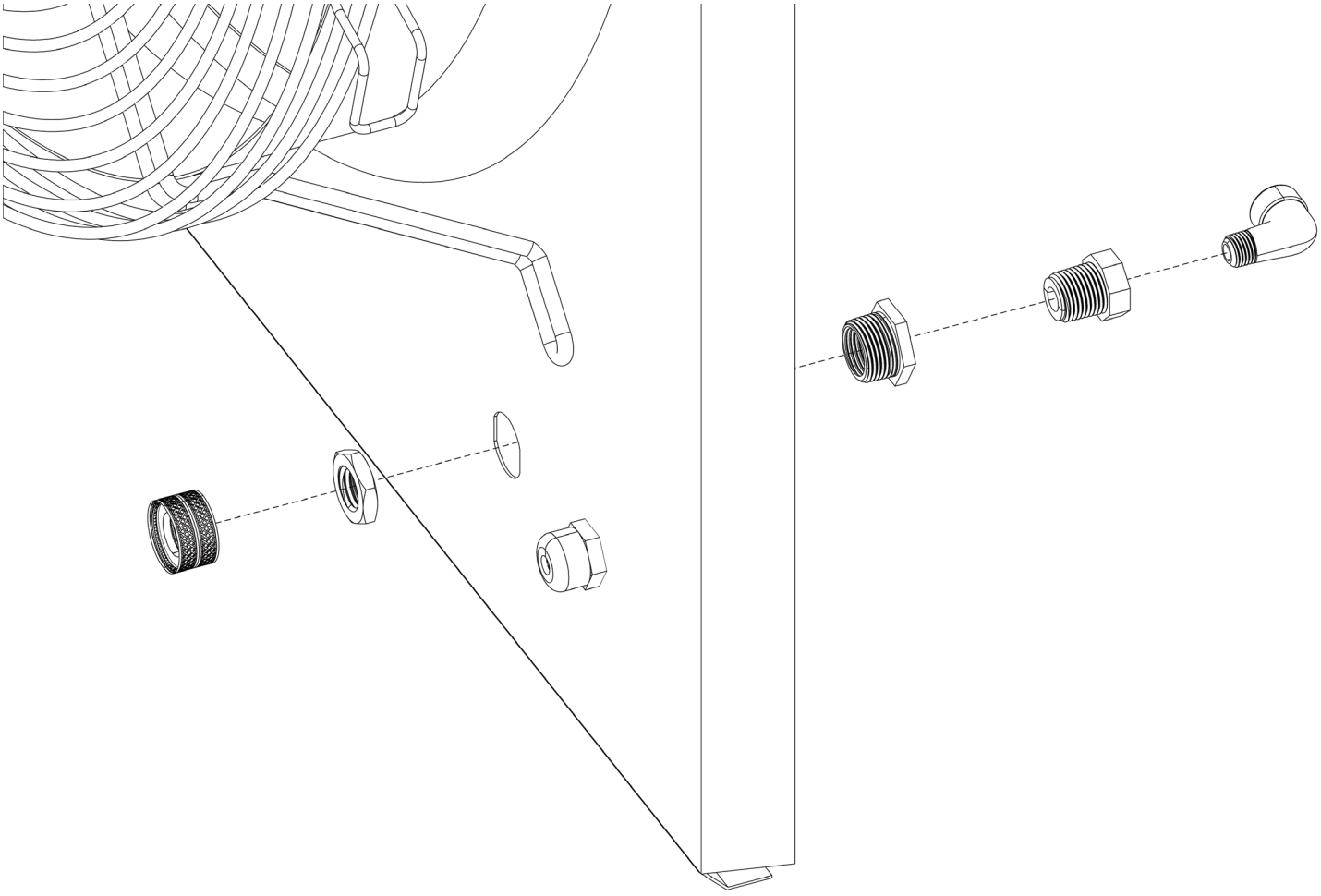
1. Detach the controller faceplate by removing the [4] screws. Set the screws aside.
2. Disconnect the liquid level switch wires from the control board.
3. Remove the nut and slide the switch out of the hole in the bracket.
4. Install the new switch as shown in the diagram above.
5. Wire the new switch according to the diagram in Section 6.
6. Reinstall the controller faceplate using the original screws.

Section 7.6: Cooling Pads



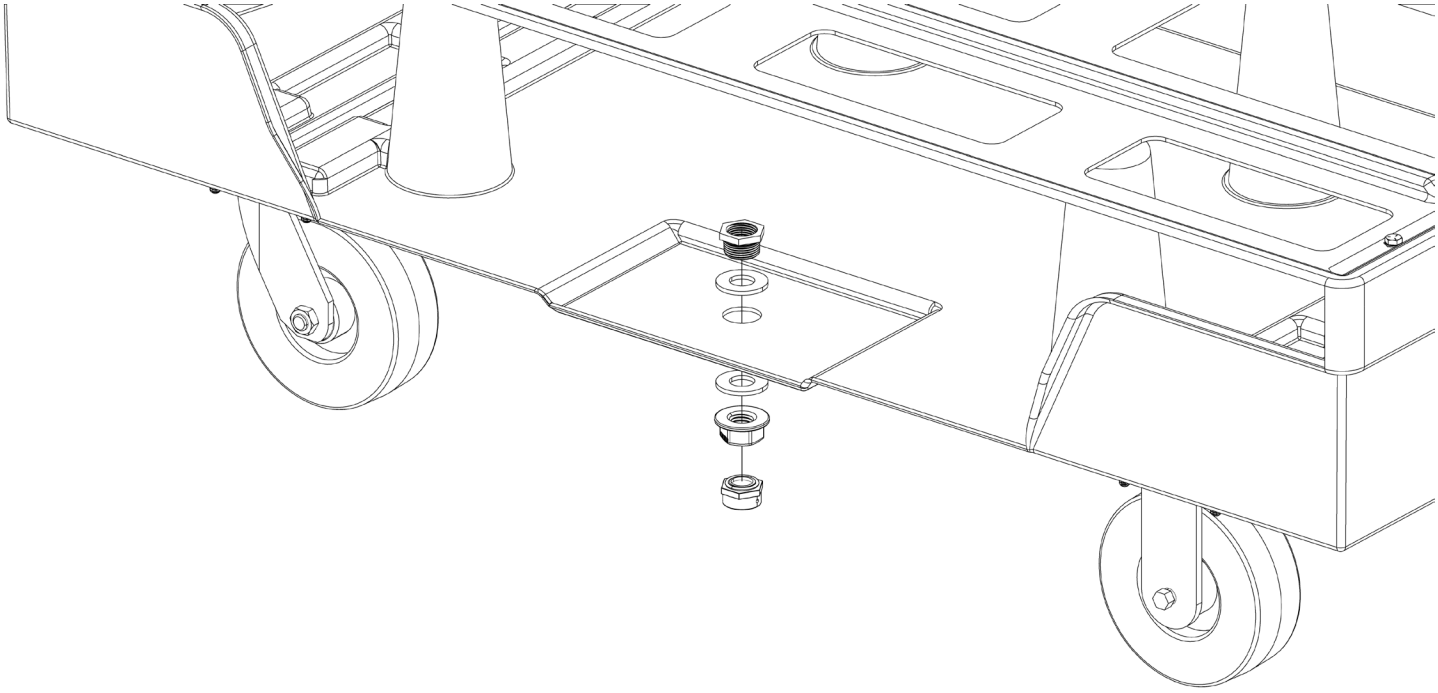
See Section 4.2 for details.

Section 7.7: Water Inlet Adapter



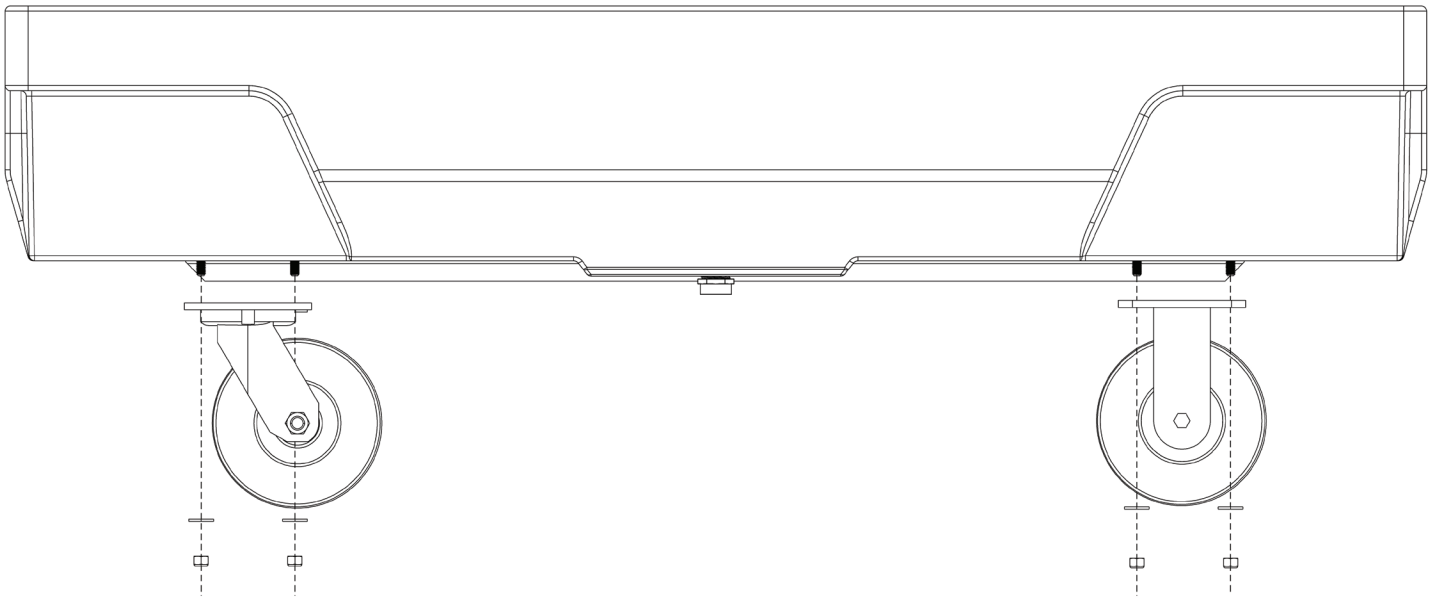
1. Disconnect the inlet hose from the inside of the inlet adapter.
2. Remove the existing adapter.
3. Install the new adapter according to the diagram. Be careful not to overtighten it, as doing so may strip the threads.
4. Reconnect the inlet hose.

Section 7.8: Drain Plug



1. Remove the existing drain plug.
2. Install the new drain plug according to the diagram. Do not overtighten it, as doing so may strip the threads.

Section 7.9: Casters



1. Remove the existing caster assemblies.
2. Install the new casters using the original nuts and washers. Ensure the swiveling casters are on the same side as the controller.