



Mi.The Mizzler

INSTALLATION AND OPERATIONS MANUAL

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IMPORTANT!

Please record the serial number of this unit in the space below.

Serial No.:

The serial number is located on the side of the Main Control Unit. Retain this Owner's Manual in a safe place for future reference.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THE INTERNAL ELECTRONICS TO RAIN OR CHEMICALS. Contains a Lithium-Ion battery power source.

Applies to Type 1 & 2

Residential / Lt.

Commercial Models:

TDZR0005.0 (2 to 6 Ton)

Manual images may appear different from actual product images.

SAFETY INSTRUCTIONS

- 1 Read Instructions – All the safety and operating instructions should be read before the unit is installed or operated.**
- 2 Retain Instructions – The safety and operating instructions should be retained for future reference.**
- 3 Heed Warnings – All warnings on the unit and in the operating instructions should be adhered to.**
- 4 Follow Instructions – All operating and other instructions should be followed.**
- 5 Water and Moisture – The control unit is water resistant. However, please take care to avoid installing areas that may submerge or are in direct line with spray irrigation.**
- 6 Wall Mounting – The control unit should be anchored to a wall or only as recommended by the manufacturer.**
- 7 Heat – The unit should be situated away from heat sources such as radiators, exhaust pipes, or other appliances that produce intensive heat.**
- 8 Power Sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.**
- 9 Cleaning – The unit should be cleaned only as recommended by the manufacturer.**
- 10 Object and Liquid Entry – Care should be taken so that objects do not fall into, and liquids are not spilled into the inside of the unit.**
- 11 Damage Requiring Service – The unit should be serviced by qualified service personnel when:
 - a) The power-supply wiring has been damaged; or
 - b) Objects have fallen, or liquid has been spilled into the unit; or
 - c) The unit does not appear to operate normally or exhibits a marked change in performance; or
 - d) The unit has been dropped, or a pump has failed.**
- 12 Servicing – The user should not attempt to service the unit beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.**
- 13 The Mizzler is not to be used as a temperature limit control device.**



CAUTION: READ THIS BEFORE OPERATING UNIT



- 1 Do not make power connections, or attempt to power the unit, until instructed to do so. Failure to follow instructions may cause damage.**
- 2 Install this unit in a place – away from threat of vandalism, accidental damage, or forceful water intrusion. To prevent damage to electronics, avoid exposing the interior of the unit to rain or chemicals.**
- 3 Do not use force on switches, controls, or connection wires. When moving the unit, first disconnect the power wires or pipework connected to other equipment. Never pull the unit itself to disconnect for removal or relocation.**
- 4 Be sure to read the separate “TROUBLESHOOTING” guide regarding common operating errors before concluding that the unit is faulty.**
- 5 The internal components of this unit operate on low voltages. Caution should still be taken to avoid personal harm.**
- 6 The Mizzler unit will not function properly, and power should not be applied until unit is fully installed.**
- 7 This unit has been preprogrammed. There is no user input required.**

SUPPLIED CONTENTS

Recycling pan components

- 1 x Water recycling pan
- 2 x Condenser support plates
- 1 x Water level Sensor (internal to pan)
- 4 x 1/4" x 1-3/4" wall anchor sets
- 1 x Air sensor switch
- 1 x Wind strap fastener pack
- 1 x Water circulation pump (internal to pan)
- 16 x Carbon filtration inserts
- 1 x Water purification tablet (optional use)


Control center components

- 1 x Main control center
- 1 x 30-watt solar panel, with 10 ft cable
- 1 x 20Ah Lithium-Ion battery (Installed)
- 1 x Solar panel mounting assembly
- 1 x Solar charge controller (Installed)
- 1 x External ambient temp sensor (Installed)

Water Distribution Components


- 1 x 8 ft. Water supply pipe – 3/8"
- 1 x Push-to-Connect cut / release tool
- 6 x each: 6" & 3" UV Zip ties
- 2 x 16" Mizzler spray head units
- 2x 10" Mizzler spray head units
- 2 x Pipe end plugs
- 1 x Bristle brush spray head cleaner

PRE-INSTALLATION CONSIDERATIONS

 Inspect for damage. Open box and look for any visible exterior damages. In the event of a broken unit, please contact distributor for replacement parts if necessary.

Inspect air conditioning unit for any problems that should be identified and corrected prior or alongside the installation of The Mizzler. The Mizzler should not be understood to be a corrective measure for pre-existing mechanical conditions. Primarily, condensing coils that are not in good condition will significantly impair The Mizzler's performance. The HVAC unit that this unit is being installed on should be in good working order and properly sized. The performance and benefits of The Mizzler may be impacted by systems that are significantly undersized or oversized. Xero Technologies is not responsible for determining these circumstances. The Mizzler operates effectively when systems are properly sized, in good condition, and are mechanically within proper operating standards.

Xero Technologies makes no suggestion or guarantee (expressed or implied) that this unit will or can resolve any pre-existing component inadequacy or failure.

 Tools required, depending on installation:

Drill/Driver, Lifting Apparatus, Ladder, 3/16" Masonry bit, Hammer, Razor Knife, 1/4" Hex-head Driver, #2 Philips Screwdriver.

INSTALLATION INSTRUCTIONS

In preparation of installation, selecting the right locations for the main control and solar panel and will greatly simplify the process and ensure proper functionality.

Please fully read Steps 1 through 5 before beginning. This will help you better understand the relationship between the components, streamline your installation and avoid mistakes.

Step 1. Placing Recycling pan (WRP):

The Water Recycling Tank is specially designed to support the condenser, as well as effectively recapture as much of the Mizzled water as possible. To do that, the tank should be placed evenly, centered underneath the condensing unit.

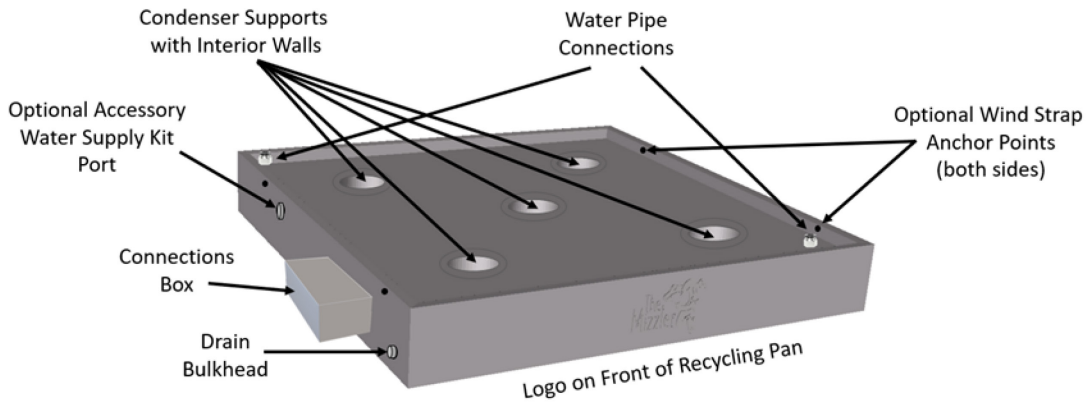
You will likely need a second set of hands to assist you with installing this component.

Important - Before placing pan underneath, first examine Diagram 1. The check the level of the pad, preferably with a spirit level, left to right, then front to back. The drain bulkhead **MUST** be positioned at the lowest point of the pad.

- 1) Now disconnect any existing wind straps between the pad and condenser.
- 2) Place the condenser support pads over the condenser supports.
- 3) Carefully lift condensing unit approximately 5", ensuring adequate flexibility in copper refrigerant lines, and position the recycling pad centrally under the condenser.
- 4) Set condenser back down onto the recycling pan.

Diagram 1

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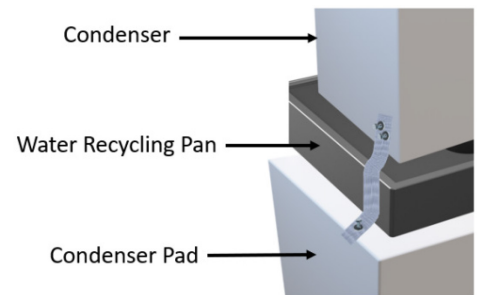


5) When possible, pouring a little water into the tank at this point will verify proper water flow towards the front. Do not fill tank until instructed.

No anchoring straps required? Proceed to step 2.

6) Attach provided new anchoring straps (see Diagram 2). There are 4x wind strap anchoring points located in the upper rim of the tank. Locate as shown in diagram 2. Use provided bolts and nuts in strap hardware pack to attach provided straps, through the anchor points. Position strap to reach from condenser pad, to Pan, to condenser. **Tip:** Affix condenser first, then pan, then pad. Trim to length.

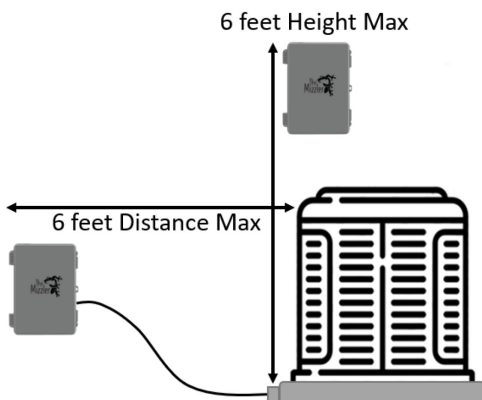
Diagram 2



Step 1. Assign Main Control Center mounting point.

Pinpoint the area you are planning to install the control panel. This can only be within a maximum of 6 ft. from the connection box of the recycling pan, and a minimum of 6" above the pad. The closer, the better—but ensuring you avoid interfering with condenser maintenance operations or airflow. See Diagram 3 for reference below.

Diagram 3



Important – Please DO NOT mount the control panel at this stage. First designate the mounting point for the solar panel. See Step 3.

Step 3. Mounting Solar Panel & Main Control Center.

Locate the area on the building where you intend to mount the solar panel with the best sun exposure. This should be within 10ft of the control panel. If this is not possible, further extension cables of 12ft. are available from the manufacturer.

1) Mount the solar panel, once you have confirmed the cable length will reach your intended main control center location,

as per Diagram 1. See supplemental installation instructions for panel.

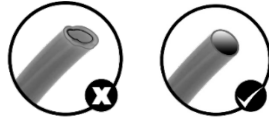
- 2) Mount the main control center using the hardware pack inside unit. The main control center contains the electronics and battery. Therefore, the control unit must be oriented with the label's lettering in the natural orientation. Do not install in any other orientation.
- 3) Route the panel wire down to where you plan to place the main control center. Do not connect until further instructed!

Step 4. Mizzler Head Unit Installation

A. Locate the 2 x 16" and 2 x 10" Mizzling Head Units, along with the blue 3/8" flexible water pipe.



PIPE WORK INSTALLATION



NOTE: It is important that any cut ends on pipe work are square and clean. Do not insert pipes into fittings if the pipe end has an angular cut or are dirty, as this may fail to create a complete seal. Use razor knife or hose cutter.

As shown in Diagram 4, there are two common condenser shapes. For our purposes, Type 1 includes standard split units. Type 2 represents mini and multi splits, and mini VRF type systems. The first will typically have 4 x sides where the condenser coil is located (Condenser Type 1), and air ejecting out the top. The second will typically have one large and one small side (Condenser Type 2), with air ejecting out the front face.

Condenser **Type-1** - please proceed directly to step 4.1.

Condenser **Type-2**, please proceed directly to step 4.2.

4.1 Mounting Mizzler Head Units – Type-1

- 1) First, locate the two push-to-connect, water pipe ports located in the two corners of the top surface of the recycling pan, as shown back in Diagram 1.

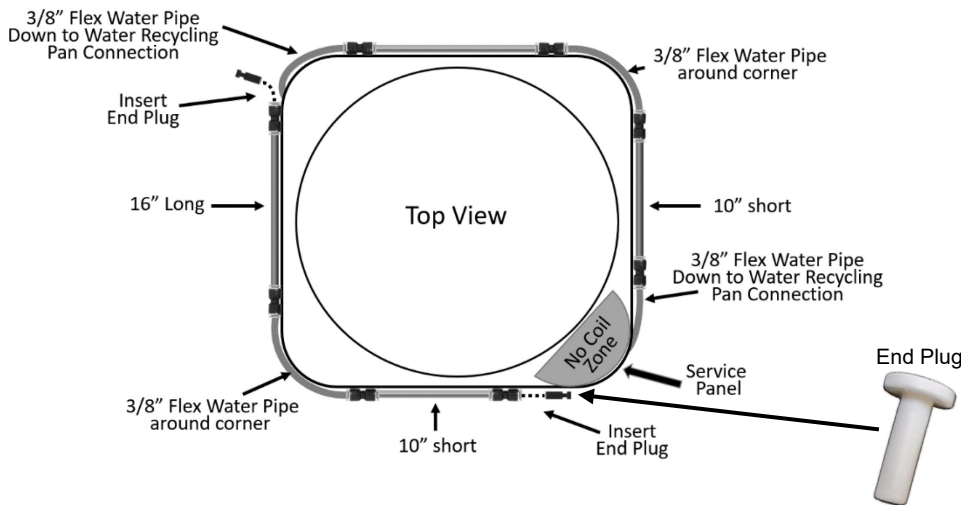
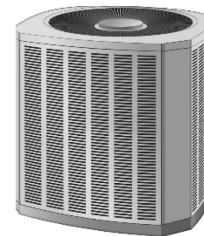
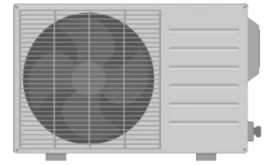


Diagram 4



Condenser Type-1



Condenser Type-2



Image 1

- 2) Due to the service panel on most systems, the two sides of your condenser that extend away from the service panel have less exposed coil surface. For those sides, you will use the shorter, 10" mizzling head units. The other two opposite sides of your condenser will use the two longer, 16" mizzling head units. **Avoid any pipework across the service panel where possible.**

- 3) Mount the first mizzling heads (see Diagram 5) unit on one sides of the condenser, approximately 3 inches down from the top of the exposed coil, taking note to ensure the best location for coverage. Using the provided zip ties, anchor both ends of the mizzling head unit by wrapping the zip tie around the end connectors (see Image 1) and around through the condenser coil grill cover. Do not fully tighten yet, to allow for a little shifting flexibility.
- 4) Uncoil your 3/8" flexible water pipe.
- 5) Making clean cuts, start by creating the two shorter corner connecting lengths of pipes that will interconnect each set of Mizzler head units. As shown in Diagram 5, the mizzling units you will connect together will be opposite to the corners that align with the connections to the recycling pan. Hold up the hose between the two units and give yourself enough length to wrap the corner without kinking the pipe. Add 1" to allow for 1/2" insertion into both the push connectors.
- 6) Proceed to insert piping. Press pipe straight into push connector until it stops. Do not over force.
- 7) Create the 2 longer lengths of pipe that will go from the push-to-connect ports located on the pan, up and over to the closest mizzling unit. Install both as above.
- 8) Insert the provided end plugs into the remaining openings, finishing the pipe runs, as shown in Diagram 5.
- 9) Use remaining zip ties to brace loose or vertical pipework as needed.

Important:

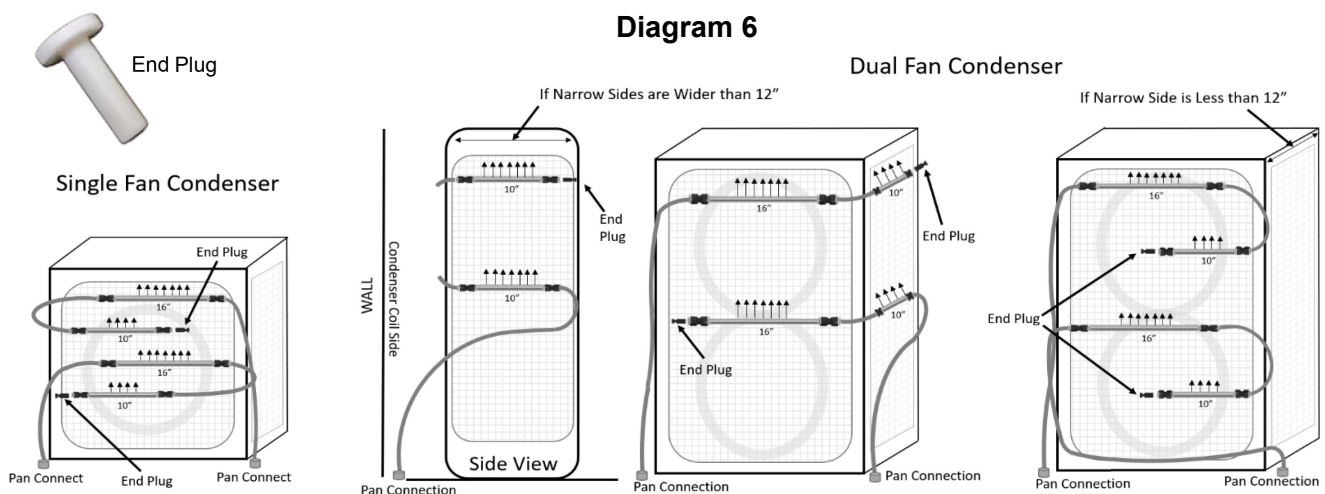
- If your condenser has smooth guards - rotate to adjust The Mizzler units, pointing the spray holes up and inward at about a 45° angle.
- If your condenser has louvered guards - rotate The Mizzler units, pointing the spray holes slightly upward and directly into openings.

Adjust angles as appropriate, once Mizzler is active.

Proceed to Step 6

Step 4.2 Mounting Mizzling Head Units – Type-2

- 1) First, locate the two push-to-connect, water pipe ports located in two corners of the top surface of the recycling pan, as shown back in Diagram 1.
- 2) There may be one or two sides of your condenser that have exposed coil surface. If narrow sides measure less than 12", all 4 heads should be installed on the larger surface area as shown in Diagram 6,



- 3) Using the provided zip ties (see Image 1), mount the mizzling heads equally spaced apart (See Diagram 7), starting with a 16" head at the top, then a 10", then a 16", then the final 10" covering as much of the coil as possible. Do not fully tighten yet, to allow for a little shifting flexibility.



Image 1

- 4) Uncoil your 3/8" flexible water pipe.
- 5) Making clean cuts, start by creating the obtaining the two shorter lengths of pipes that will interconnect each set of Mizzler head units. Hold up the hose between the two units and give yourself enough length create a curve with any kinks. Add 1" to allow for 1/2" insertion into both the connectors. Proceed to insert piping. Press pipe straight into connector until it stops. Do not over force.
- 6) Create the two longer lengths of pipe that will go from the push-to-connect ports located on the pan, up and over to the closest mizzling unit. Install both as above.
- 7) Locate and insert the provided end plugs into the remaining openings, finishing the pipe runs, as shown in diagram 7.
- 8) Use remaining zip ties to brace loose or vertical pipework as needed.

Important:

- If your condenser has smooth guards - rotate to adjust The Mizzling units, pointing the spray holes up and inward at about a 45° angle.
- If your condenser has louvered guards - rotate The Mizzling units, pointing the spray holes slightly upward and directly into openings.

Adjust angles as appropriate, once Mizzler is active.

Step 5. Installing the Air Sensor Switch (Image 2):

Type 1 condensing units – the air sensor switch is mounted on the top, on the outer perimeter surrounding the fan grate, to react to the upward wind flow. This sensor is responsible for telling The Mizzler that the condenser has turned on, and that if other parameters are met, to start mizzling!

Type 2 condensing units - that eject wind out horizontally, the air sensor switch is mounted on the outward face.

Note: Before affixing the air sensor switch, locate the best position by moving it slowly above the condenser fan, while it is active, to ensure the fan blades respond adequately. You are seeking the fastest blade spin response. Once location is selected, use included mini grill grab cords to clamp it down firmly.

Image 2



Image 3

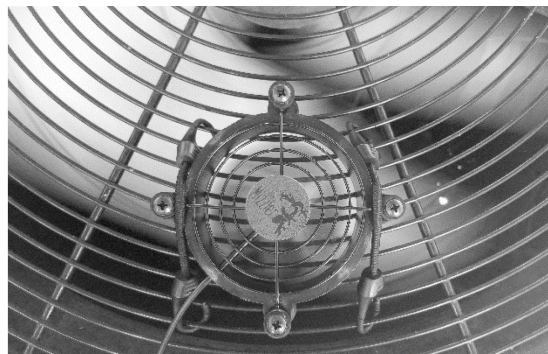
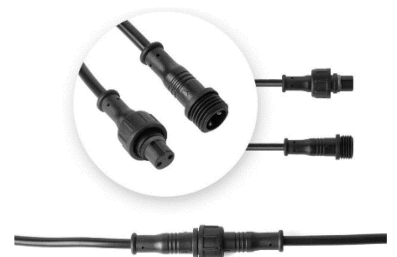


Image 4



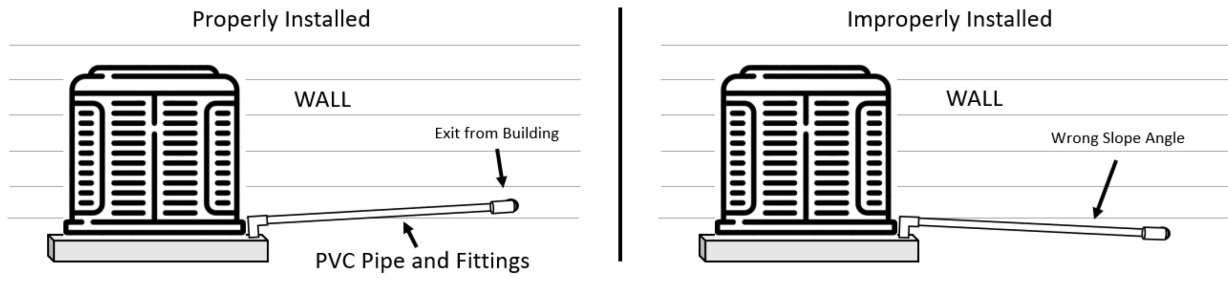
- 1) Connect air sensor switch wire to pan connection box as per Image 4. Connector ends will join easily when properly aligned (align arrows on connectors.) **Note: Do not overtighten** – A lightly snug fitment is all that's necessary.

Proceed to **step 6**.

Step 6. Condensate Water Recovery – (Diagram 7) optional

- 1) Attach appropriate pipe connector to building's condensate pipe, to enable extending pipework over to the recycling pan. *Not provided.*
- 2) Run PVC pipe work as needed to reach to and slightly over the pan's edge. Finish pipe work with 90°elbow turned downward into collector pan.
- 3) Support pipework as needed. Avoid wrong slope angle or water will back up and not flow freely. A low-slope level will also work.

Diagram 7



Note: The condensate water recovery option is encouraged and may be used in conjunction with the accessory Supplemental Water Supply kit, should you find that your rain / condensate collection volume is inadequate to maintain supply. See website for details.

START UP COMMISSIONING

The Mizzler will fail to operate properly if all wiring ports are not plugged in and connected.

⚠ Note: Please, you must **strictly follow the below sequence** for connection order, otherwise the controller may be damaged. Disassembly sequence is opposite to the wiring one.

Step 8. Add Water

- 1) Fill recycling pan with clean water.

The recycling tank stores recovered mizzled water, collected condensate water, as well as natural rainwater to be used for mizzling water onto your condenser's coils. The tank is equipped with a sensor that informs the main control center if it has run dry, keeping the pump from running unnecessarily.

Step 9. Connecting Power.

- 1) Open the Mizzler main control center top cover to access internal components. Leave cover detached for now. Carefully allow to hang by the extended switch wires.
- 2) Identify and connect single, black wire labeled "**To battery**" to open battery **negative terminal**.
- 3) **Connect solar panel** cable to exterior main control center port.
- 4) Loosen cable gland on side of Mizzler control center, extend and connect power cable out to water recycling pan connection box. Connect as per (image 3). Retighten cable gland.

- 5) Push main power switch on front of panel to turn on and confirm power. Displays should light. Once power is confirmed, depress power again to turn back off. If power is not confirmed, it is possible that a wire has become loose during transport. See Troubleshooting.

Step 10. Run A/C

Turn on air-conditioning system, or lower thermostat to force on. The Mizzler's air sensor switch should react once condenser fan begins to blow.

Step 11. Run Mizzler

Cycle Mizzler power switch back on.

- You will see two numbers displayed on Mizzler controller:
- Top red line is temperature probe value (PV).
- Bottom blue line is the programmed set value (SV).



Red LED on when spray pump active.

Programming Controller:

Mizzling should begin if red temperature reads above blue number - Once pump has primed itself.

Controller is pre-programmed to mizzle at 80°F / 26°C ambient. For HVAC/R systems that are necessary to continue to operate below such:

- 1) Press SET button alone, to show current set temperature. Temperature will flash. Relay will disconnect. In 3 seconds, it will reset.
- 2) Before reset, press + / - to adjust "stop mizzling" temp. It will confirm and reset in 3 seconds.

Note: Reducing the set point allows the system to work in colder temperatures. Increasing the set point restricts operation to higher temperatures. Operational temperature setting below factory settings will potentially incur more runtime, longer battery recharge cycles, and greater water storage losses. Please adjust conservatively.

Step 12. Inspect and Adjust

- 1) Check pipe connections for leaks. Over-forced or under-inserted piping may leak. To fix, switch Mizzler off. Release and reseal piping if necessary, using the provided Push-to-Connect release tool.
- 2) Ensure all spray heads should be aimed slightly inward, minimizing loss of water into the environment.

Step 13.

Turn off the AC or readjust thermostat back to preferred temperature. Check to ensure that mizzling ceases once condenser fan turns off.

Congratulations! You have successfully installed your Mizzler. Frogs are celebrating everywhere!

MAINTENANCE SCHEDULE

V. Weatherization

Upon discontinuance of use of seasonal air-conditioning, a few easy steps need to be taken to ensure a smooth start up for the next season.

1. Drain pan. Locate bulkhead cap on bottom of water recycling pan. Slowly remove cap in counterclockwise direction until water begins to drain. Allow water to flow until empty. Reseal drain cap.
2. Keep solar panel connected, as battery maintenance should continue year-round for maximum lifespan.

VI. Filter / Screen Maintenance

1. Check water collection pan for debris and blockage around pan filters, intermittently during yard maintenance. Note: Condenser manufacturers typically recommend 18" of clearance on all sides, for maximum airflow. If you have surrounding shrubbery or plants that shed leaves excessively, you may need to check the pan for debris more often.
2. Filter Cleaning – As needed, remove filters from housings and spray rinse thoroughly, wringing out until water flows clear.

Do not use chemicals to clean filters.

VII. Cleaning Tablets

At the stage of manufacture, antimicrobial additives are infused into the recycling pan that make it resistant to microbial growth. The antibacterial and anti-mold properties have an expected lifespan of 15-years+. These properties are therefore present on both the outside and the inside of the recycling pan. For AC systems whereby the evaporator coil produces excess levels of 'slime' (i.e., aluminum coils), it is recommended that the owner adds one Calgon Purcool Green® every 12-months. One of these tablets has been included (if necessary.)

SPECIFICATIONS

Mizzler Control System 12V <25 mA

Main Control Housing
11.8"L x 7.9"W x 6.7"H

Spray Pump

12V, 24 watt

30W 12V Monocrystalline Solar Panel kit

CN (Origin)
Maximum Power: 30W
Nominal voltage: (Vmp) 18V
Nominal current: (Imp) 1.4A
Open-circuit voltage: (Voc) 21.8V
Short-circuit current: (Isc) 1.6A
Cell efficiency: 19.5%
Dimension: 23.6 x 13.4 x 1 inch
Weight: 9 lbs.

Battery

Nominal Voltage: 12.8v
Energy: 256Wh
Charge Current: Up to 7A
End of Charge Voltage: 14.6V
Operating temp: 0°C~+45°C / 32°F~+113°F
Capacity: 20Ah
Discharge Current: 20A
Peak Discharge Current 30A(5sec)
End of Discharge Voltage: 9.2V
*Charge battery every 6 months or when voltage drops below 12.8V

Lithium Battery Warning

SAFETY HAZARD WARNINGS FOR LITHIUM-ION BATTERIES

Rechargeable Lithium-Ion batteries are potentially hazardous and can present a serious FIRE HAZARD if damaged, defective, or improperly used.

Celsius to Fahrenheit Conversion Chart

°C	°F	°C	°F	°C	°F
5.0	41.0	16.0	60.8	27.0	80.6
5.5	41.9	16.5	61.7	27.5	81.5
6.0	42.8	17.0	62.6	28.0	82.4
6.5	43.7	17.5	63.5	28.5	83.3
7.0	44.6	18.0	64.4	29.0	84.2
7.5	45.5	18.5	65.3	29.5	85.1
8.0	46.4	19.0	66.2	30.0	86.0
8.5	47.3	19.5	67.1	30.5	86.9
9.0	48.2	20.0	68.0	31.0	87.8
9.5	49.1	20.5	68.9	31.5	88.7
10.0	50.0	21.0	69.8	32.0	89.6
10.5	50.9	21.5	70.7	32.5	90.5
11.0	51.8	22.0	71.6	33.0	91.4
11.5	52.7	22.5	72.5	33.5	92.3
12.0	53.6	23.0	73.4	34.0	93.2
12.5	54.5	23.5	74.3	34.5	94.1
13.0	55.4	24.0	75.2	35.0	95.0
13.5	56.3	24.5	76.1	35.5	95.9
14.0	57.2	25.0	77.0	36.0	96.8
14.5	58.1	25.5	77.9	36.5	97.7
15.0	59.0	26.0	78.8	37.0	98.6
15.5	59.9	26.5	79.7	37.5	99.5



www.XeroTechnologies.com

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