XERO Technologies

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.

Applies to Type 1 & 2
Residential / Lt.
Commercial Models:

TDZR0005.0 (2 to 6 Ton)

Manual images may appear different from actual product images.

Rev 01.01.2024

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 “TROUBLESHOOTING” section regarding common operational issues as most problems can be easily resolved.
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 instructed to do so.
7. This unit has been preprogrammed. There is no user input required.

SUPPLIED CONTENTS

Recycling pan components

1 x Water recycling pan
5 x Condenser support plates
1 x Water level sensor (internal to pan)
1 x Wind straps & fastener pack
1 x Water circulation pump (internal to pan)
16 x Carbon filtration inserts
1x Insulation tape segment

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, Razor Knife, ¼" Hex-head Driver, Flat/Philips Screwdrivers, Voltage Meter.

INSTALLATION INSTRUCTIONS

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. Turn off A/C system – by switching thermostat to off or adjusting temperature setting.

Step 2. Placing Water Recycling pan (WRP):

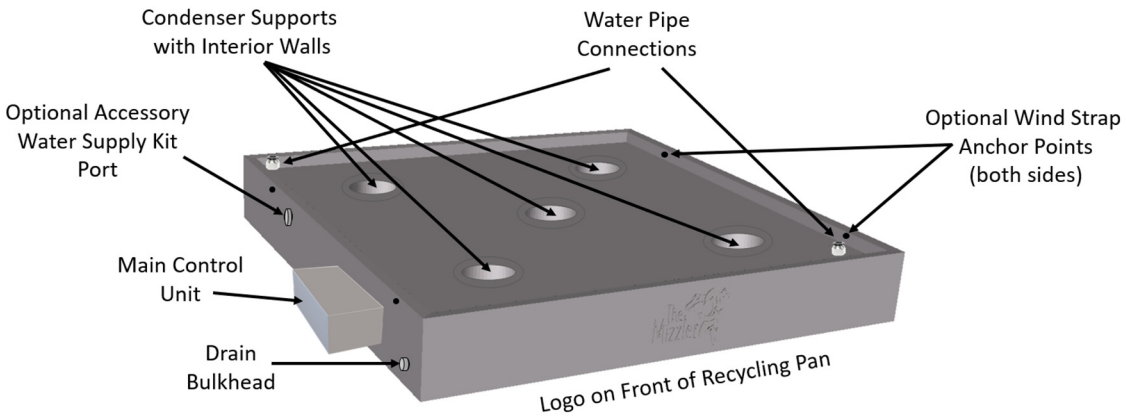
The Water Recycling Tank is specially designed to support the condenser, as well as effectively recapture as much of the Mizzled water as possible. To do that, the tank should be placed evenly, centered underneath the condensing unit.

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 support columns located as shown on Diagram 1 .
3) Carefully lift condensing unit approximately 5", ensuring adequate flexibility in copper refrigerant lines, and position the recycling pad centrally under the condenser.
4) Center the recycling pan under the condenser and onto the pad; then set condenser back down onto it.

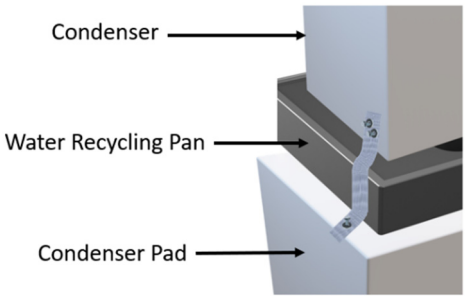
Diagram 1



5) When possible, pouring a little water into the tank at this point will verify proper water flow towards the front drain. If confirmed, proceed to fill. Try not to overflow.

No anchoring straps required? Proceed to step 2.

Diagram 2

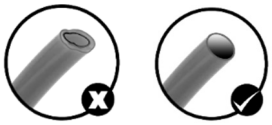


6) Attach provided new anchoring straps (see Diagram 2). The 4x wind straps have eyelets installed on one end. Use provided screws in strap hardware pack to attach through the eyelets into the condenser. Position strap to reach from condenser to the concrete condenser pad. Fold over excess strap and install anchors into concrete through both layers of strap. **Note:** If straps are cut to change length, the cut end must be heat melted to avoid fraying.

Step 3. Mizzler Head Unit Installation

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

PIPE WORK INSTALLATION



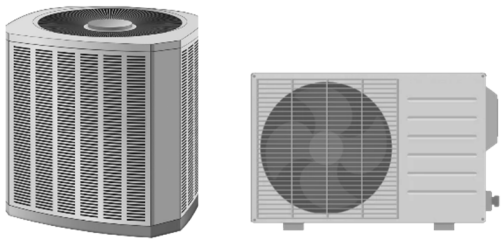
NOTE: It is important that any cut ends on pipe work are square and clean. Do not insert pipes into fittings if the pipe end has an angular cut or are dirty, as this may fail to create a complete seal. Use razor knife or supplied hose cutter.

As shown in Diagram 3, 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 4x 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 3.1.

Condenser **Type-2**, please proceed directly to step 3.2.

Image 1



Condenser Type-1 Condenser Type-2

3.1 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 3

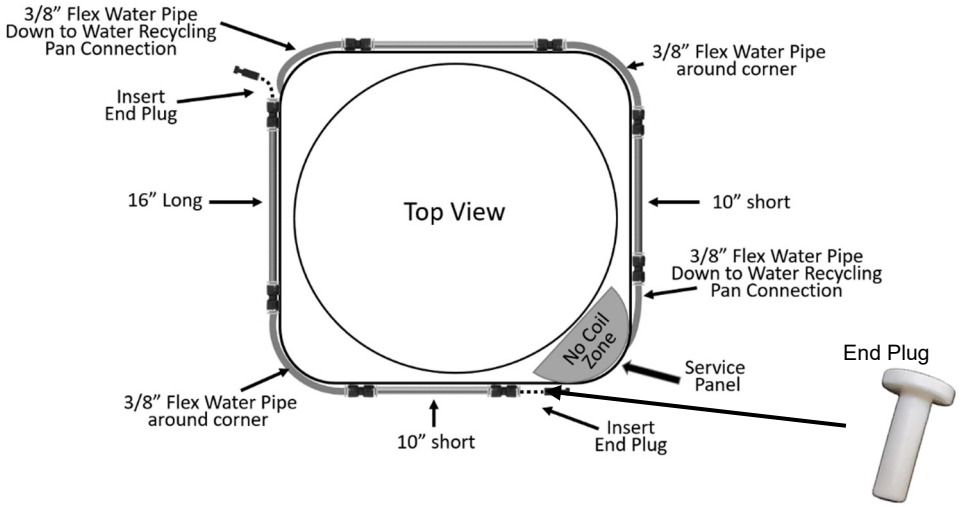


Image 2

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 head unit (see Diagram 3) on one side of the condenser, approximately 2 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 2) and around through the condenser coil grill cover. Do not fully tighten yet, to allow for a little shifting flexibility. Proceed to mount the additional mizzler head units.

4) Uncoil your 3/8" flexible water pipe.

5) Making clean cuts, start by creating the two shorter, corner-connecting lengths of flexible pipe that will interconnect each set of Mizzler head units. As shown in Diagram 3, 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 ½" insertion into both the push connectors.

6) Proceed to insert flexible piping. Press pipe straight into push connector until it stops. Do not over force.

7) Create the 2x 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 3.

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 **- r**otate The Mizzler units, pointing the spray holes slightly upward and directly into openings.

Adjust angles as appropriate, once Mizzler is active.

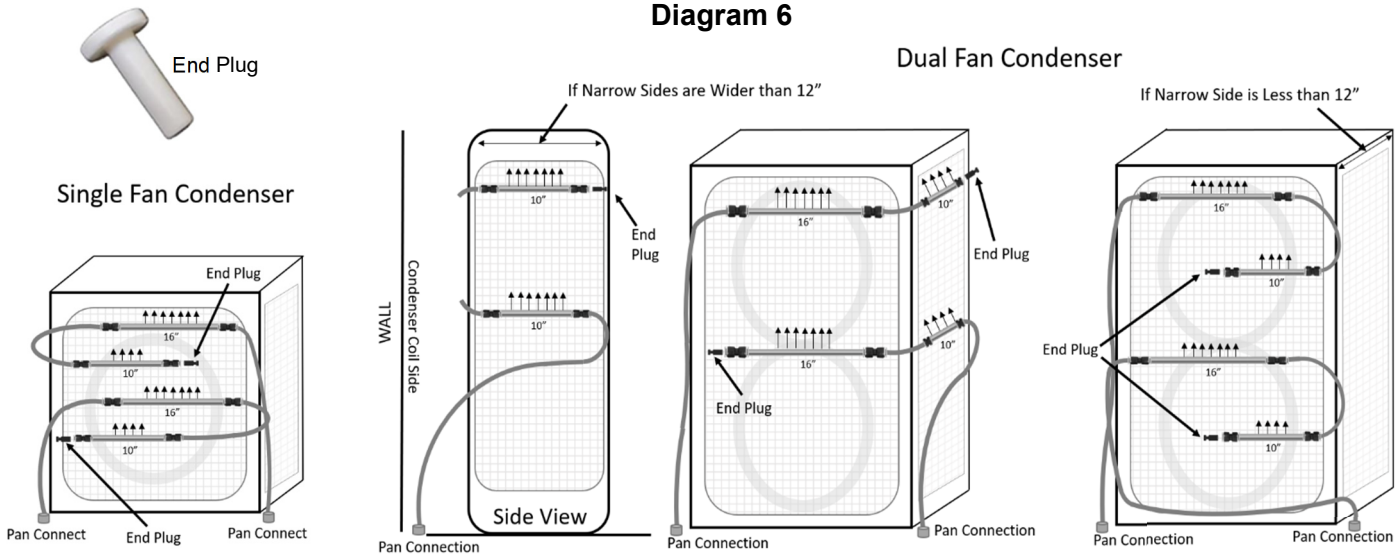
Proceed to Step 3

Step 3.2 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.

Diagram 6



3) Using the provided zip ties (see Image 2), mount the mizzling heads equally spaced apart (See Diagram 6), 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 2

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 to create a bend without any kinks. Add 1" to allow for ½" 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.

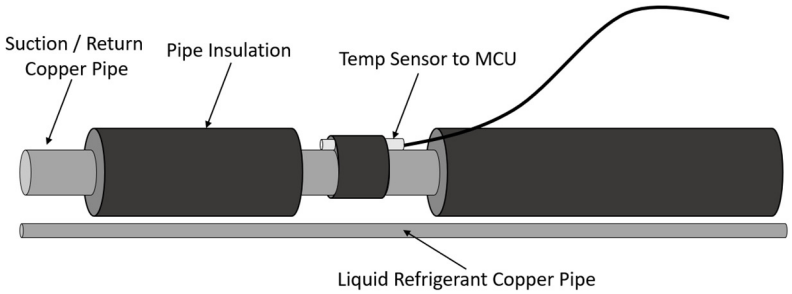
Important:

- 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 **- r**otate the mizzling units, pointing the spray holes slightly upward and directly into openings.

Adjust angles as appropriate, once Mizzler is active.

Step 4. Installing the Pipe Temperature Sensor

Diagram 7



1) Locate and extend the sensor wire that is connected to the main control unit on the side of the pan.

2) Identify the larger of the two copper pipes that connect between the condenser and the air handler. (The low-pressure suction pipe.)

3) Carefully pull back an area underneath the insulation and attach the small bulb sensor to the exterior of the suction pipe, using a zip tie or piece of tape. The sensor must be in direct contact with the copper pipe and then thermally protected by recovering with insulation. (**Note:** a piece of insulation tape has been provided to cover sensor and/or repair foam.)

   Proceed to **step 4.**

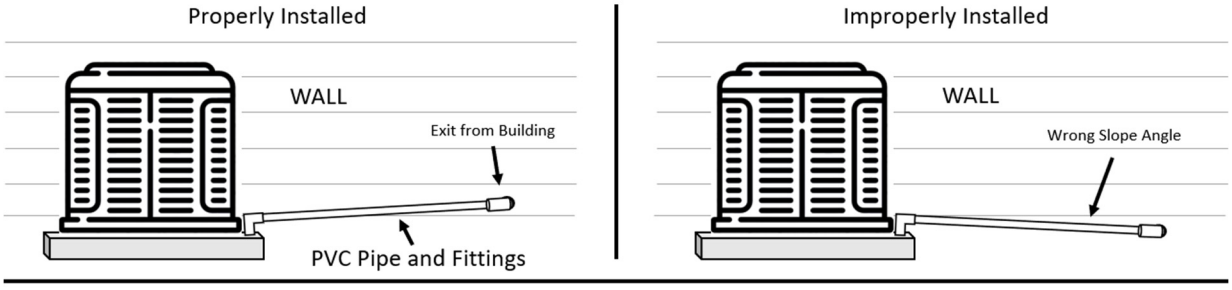
Step 5. **Condensate Water Recovery** – (Diagram 8) optional

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 8



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 wiring and sensors are installed incorrectly .

Step 6. **Connecting Power. ⚠ Avoid contact with high voltage, main power wires!**

1) Remove service panel from condensing unit and locate 24v connection terminals for the thermostat wiring. (These are very thin wires coming from indoors as a cluster.) If necessary, use a voltage meter. Identify the 24v positive (call for cooling “Y”) and negative (typically “C” for common) connection points. Refer to manufacturer diagrams if needed.

2) Extend power cable from Mizzler pan and connect cable wires to the 24v terminals.

Step 7. **Run A/C**

Turn on air-conditioning system, or lower thermostat to force on.

1) Remove cover from control unit on side of recycling pan. Power is confirmed if the display is illuminated. If not, it is possible that a wire has become loose during transport, or no power coming from thermostat. See “Troubleshooting” section.

Step 8. **Run Mizzler**

Display – Indicates current temperature reading of the suction line / low pressure pipe.

Mizzling should begin once display reads 65°F/18°C, and pump has primed itself.

Red LED on when spray pump active.

Step 9. **Inspect and Adjust**

1) Check pipe connections for leaks. Over-forced or under-inserted piping may leak. To fix, with Mizzler off, release and reseat piping if necessary, using the provided Push-to-Connect release tool.

2) Ensure all spray heads are aimed inward, aligned through the louvers as much as possible, minimizing loss of water into the environment.

Step 10.

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

The Mizzler may continue to operate for a short period of time following the condenser shut off. This is normal.

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

Programming Controller:

Controller is pre-programmed to mizzle at below 66°F/19°C and above 54°F/12°C. For HVAC/R systems that are necessary to continue to operate below such:

1) UP – sets the temperature to when the relay will close (active).
2) Down – sets the temperature to when the relay will open (cut off).
3) Long press until display flashes - engages programming mode.

Note: The Mizzler requires the “Down” temp to be higher than the “Up” temp to operate properly. Operational temperature setting below factory settings will potentially incur more runtime, and greater water storage losses. Please adjust conservatively.

MAINTENANCE PROCEDURES

I. 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.

II. 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 accessible filters from housings and spay rinse thoroughly, wringing out until water flows clear.

Do not use chemicals agents to clean filters.

III. 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® at the beginning of each cooling season to the evaporator pan. The use of any other type, or purposely adding any residual chemical agents into the Mizzler recycling pan is strictly prohibited, as this may cause staining and/or damage to the condensing unit’s coil.

IV. Mizzler Head Cleaning

Possibly, over time, a buildup of fine deposits may clog the Mizzler’s spray holes. Use provided pipe cleaning brush to clean the interior of the mizzling head. Disconnect pipe from one end of connector and run brush through until clean.

V. Coil Cleaning

If you intend to do a deep coil cleaning with detergents, please remove the pan filters first. After cleaning, remove the drain plug and empty. Place fill hose into one of the surface holes and thoroughly flush any chemicals out of the pan before restarting Mizzler. Replace plug and filters.

TROUBLESHOOTING

The Mizzler has been design-built to provide years of trouble-free operation, with limited maintenance. Additional support and tutorials are available on our website.

I. Quick Checklist

A. Remove lid from the main control center and re-check all terminals for loosened connections during transport / install.
B. Is recycling pan filled with water?
C. Has the sensor or power wire been damaged, or the sensor come detached or exposed?
D. Remove cover of control center and check to see if both the Mizzler's number display and "OUT" bulb are active.
If NO, proceed to (**II.A**). If YES, proceed to (**II.B**).

II. Failure to Mizzle

If the temperature display is not illuminated, proceed directly to (**III.**)

A. Is the temperature of suction pipe at sensor below 66°F/19°C and above 54°F/12°C?
- If YES**,** proceed to (**II.B**).
- If NO, Mizzler is outside temp parameter to operate. When temperature is between programmed settings, continue through.

B. If Spray pump **inactive**:
- Check to see that float switch mechanism moves vertically, easily, and is not obstructed. (Located inside pan, on interior wall behind control box.) With float switch raised, does the "OUT" bulb now illuminate?
- If YES, proceed to (**II.C**).
- If NO, contact support.

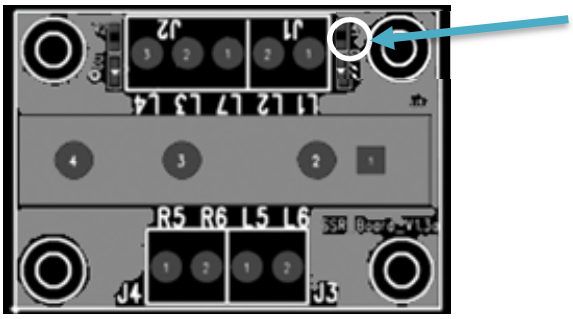
Bulb is lit when mizzling is being called for.

Image 1

C. Check to see that pump is active.
- Do you hear and/or feel the pump functioning and water being distributed?
- If YES, problem resolved.
- If NO, proceed to (**III.B**).

III. Power Failure - Advanced

⚠ **Note: When performing tests, ensure voltage probes are positive to positive and negative to negative. Be careful to not cross contact probes while simultaneously contacting equipment connections, as this may cause damage.**



LED illuminates here when active

L1 - Positive 12v
L2 - Negative 12v constant
L5 - Negative 12v
L6 - Positive 12v constant
L3 – Negative to Pump
R5 – Positive Jumper from L4
R6 – Positive to Pump

Image 2

A. If Mizzler controller temperature display is not illuminating (Image 1):

When A/C condenser is operating, power should be supplied.
Test to see if there is 24v at condenser connection terminals. If yes:

1. Check that the main wires entering the blue/orange, 2 x 4 distribution connector have not come loose.
2. Check that the wires leading out to the temp controller have not come loose.
3. Check that there hasn't been a break in the wires between the condenser and the control unit.

B. Is 24v confirmed coming into control unit?

If NO: Mizzler will fail to operate. Resolve wiring in condenser and proceed.
If YES:
1. Test L2 and L6 for 12v constant power.
- If NO: the 24v to 12v step down transformer has failed. Contact support for replacement.
- If YES: Controller has failed. Contact support for replacement.

C. If Mizzler controller temperature display is illuminated, is "OUT" illuminated?

If YES: Is red LED lit on circuit board? (Image 2)
- If YES: Test L3 and R6 for 12v. If 12v found, pump has failed. Contact support for replacement.
- If NO:
1. Check that the wires exiting the blue/orange, 2 x 4 distribution connector have not come loose.
2. Check all the wire contacts on the circuit board.
3. Test L5 and L6 for 12v. Test L1 and L2 for 12v. If both yes, circuit board has failed. Contact support for replacement.
4. If L1 and L2 show 12v, but L5 and L6 do not, Float Switch has failed. Contact Support for replacement.

IV. All Readings Correct – Still not Mizzling

If pump **active** - but not draining recycling pan, check for pump or pipe obstructions. Clean and reattempt.

SPECIFICATIONS

Mizzler Control System 12V <25 mA
IP Rating 65

Mizzler Recycling Pan
(35” x 35” x 5” / 890 x 890 x 127)
High Density Polyethylene
15 Gallon Reservoir

Spray Pump 12V, 25 watt

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

XERO Technologies

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