



Cube Pro Misting System - 55 gallon



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 Battery Charger
 Louvers (2) & Screws (8)
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If you should experience any difficulties, issues or problems while assembling or operating your system, contact customer service at info@pynamite.NET or 713-955-2101 or 866-986-5586.

BEFORE INSTALLATION

1. **Pynamite Cube systems are shipped with the negative (black) battery connector disconnected Reattach the yellow connector to the negative F2 spade connector on the Battery before charging the Battery.**

2. Pynamite Mosquito Misting Systems are shipped with a charged Battery, however if the System is not installed and plugged in soon after receipt, the Battery will discharge. Attach the Battery Charger (See BATTERY/WIRE RECESS below for instructions) and plug in to a 120v outlet prior to or during the installation to ensure the Battery is charged and the System is able to operate fully when installation is complete. Allow 6-8 hours to fully charge a discharged Battery.

3. The Pynamite Cube is shipped with the Drain Valve Cap removed. Hand tighten it in place before filling the Cube. Do not discard the viton o-ring inside the cap.

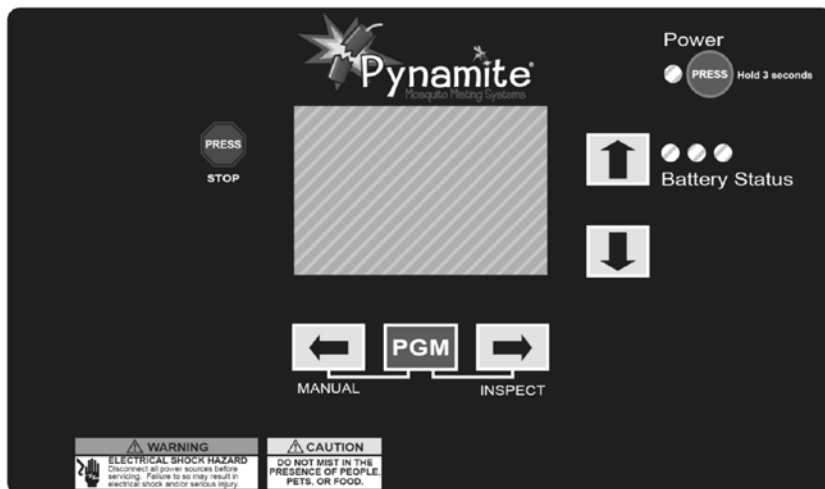
4. Opening and closing the Cube lid takes a little bit of pressure. This design keeps the lid from easily flying open or slamming closed.

PROGRAMMING THE CONTROLLER - QUICK START

For Complete Controller Instructions go to www.pynamite.NET >> CUSTOMER SERVICE >> OWNER'S MANUALS >> DIGITAL CONTROLLER INSTRUCTIONS

Front-panel Controls

- *Left Button* ⇐ used for menu navigation.
- *Right Button* ⇒ used for menu navigation.
- *Up Button* ↑ used for menu navigation and changing values.
- *Down Button* ↓ used for menu navigation and changing values.
- *PGM Button* used for parameter programming, system set-up, data viewing, maintenance.
- *Stop Button* ● used to stop any misting cycle or programming function and return to the main display screen. Pressing *Stop* will save all changed parameters.
- *Misting Power Button* is used to control Controller power.
 - *Button illuminates green when the Controller is ON*





Getting Started

- From the main display, press and hold the PGM button for 3 seconds to enter the programming mode. In that mode, various operating parameters can be set and data viewed using a series of menus and procedures.
- Press the ↑ and ↓ buttons to navigate to the different menus
- When changing values using the ↑ and ↓ buttons, a button can be held to change the value more quickly.
- Pressing the ● button will return to the main screen.
- On any display, if no button is pressed in a 3-minute period, the Controller will save the value shown and will return to the main screen.
- After 3 minutes the LED backlight will go into sleep mode to preserve the battery. The LED can still be read while in sleep mode. Pressing any button will illuminate the backlight.

TIMEDAY: is used to set the current time-of-day and day of the week.

- From the main display, press and hold the PGM button for 3 seconds to enter the programming mode.
- Press the ↑ or ↓ button to navigate to TIMEDAY.
- Press the ⇒ button to begin editing the day of week. When day blinks, press the ↑ or ↓ button to set the correct day of the week.
- Press the ⇒ button to begin editing the time of day. When hour blinks, press the ↑ or ↓ button to set the correct hour. When the hours are being changed, the AM/PM indicator will change every time the hours digit passes "12".
- Press the ⇒ button to continue editing the time of day. When minutes blink, press the ↑ or ↓ button to finish setting the correct time.
- **Press PGM to lock-in the value and return to the TIMEDAY display.**

RECOMMENDED MIST TIMES

MOSQUITOES: 30-45 second mists at Dawn, Dusk and again about 10:00 pm

FLIES: 30-45 second mists at 8:00 am, 10:30 am, 1:00 pm, 3:30 pm, and 6:00 pm

NO-SEE-UMS: Add 15 second mists every 15-30 minutes after the sun goes down

***It will take a couple days to get control of your yard initially and again sometimes after a big rain and breeding cycle. Use the remote control to mist in between scheduled mists. ***

CYCLES: is used to schedule automatic misting time-of-day and misting duration for a cycle. The display will show CYCLES.

Note: Mist duration can be set from 0-90 seconds. Agitation durations are preset for 30 seconds. You can change the length in the programming mode. Also your new Pynamite system comes with 4 preset Stir cycles to mix the contents of the tank 4 times a day for 30 seconds to keep the insecticide in suspension.

- From the main display, press and hold the PGM button for 3 seconds to enter the programming mode or if already in the programming mode, press ↑ or ↓ button to navigate to CYCLES.



- Press the ⇨ button to begin editing the Cycles - There are 24 independent cycles available, displayed as M1 through M24. **Each cycle can have a unique mist start time-of-day and mist duration.** The first display to appear when cycles are programmed will show the first cycle, with M1 blinking and all the cycle data shown.
- The display shows cycle M1 begins misting at 8:00 AM and continues for 0 seconds.
- Press the ⇨ button to select the length of the mist cycle.
- With the field blinking, use the ↑ and ↓ buttons to change the value in that field.
- Press the ⇨ button to select the hour of the mist cycle. When the hours are being changed, the AM/PM indicator will change every time the hours digit passes “12”.
- With the field blinking, use the ↑ and ↓ buttons to change the value in that field.
- Press the ⇨ button to select the minutes of the mist cycle.
- With the field blinking, use the ↑ and ↓ buttons to change the value in that field.
- Press the ⇨ button to navigate back to the Mist Cycle Counter.
- With the field blinking, use the ↑ and ↓ buttons to change the Mist Cycle number and repeat the above instructions until all the desired Mist Cycles are set.
- **Press the PGM button to lock-in the values and return to the CYCLES display.**

INSIDE THE CUBE

NOTE: Opening and closing the Cube lid takes a little bit of pressure. This design keeps the lid from easily flying open or slamming closed.

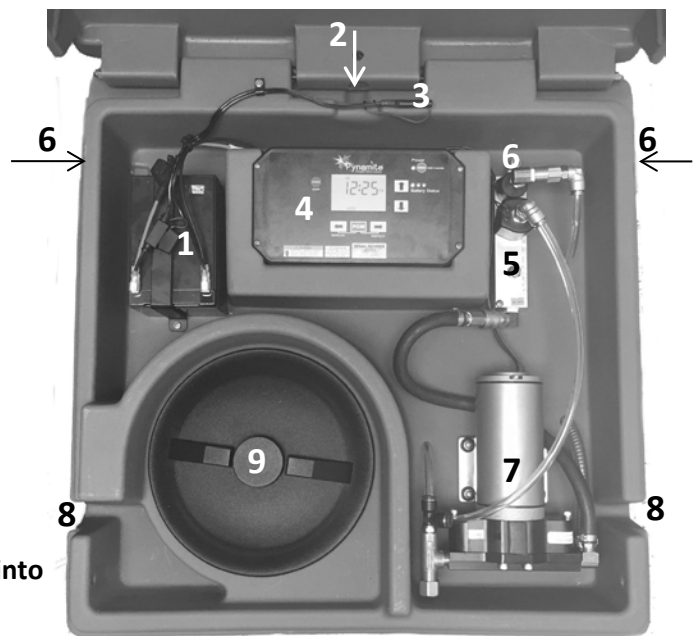
NOTE: Systems are shipped with the negative (black) battery connector disconnected. Reattach the yellow connector to the negative F2 spade connector on the Battery before charging the Battery. **DO NOT UNPLUG THIS CONNECTOR DURING WINTER STORAGE.** Battery needs to charge during the off season to preserve battery life.

1. BATTERY - Connects to the Controller and Battery Charger.

NOTE: Battery Charger (or optional Solar Panel) may be plugged into 120v outlet continuously without causing damage to the Battery.

NOTE: When unit is being stored or not in use for periods longer than 6 months, to preserve Battery capacity, keep Battery Charger or Solar Panel plugged in continuously.

NOTE: If extension cord must be used, make sure: (a) that pins on the plug of the extension cord are the same number, size, and shape as those of the plug on the charger; (b) that extension cord is properly wired and is in good electrical condition; and (c) that wire size is large enough for AC ampere rating of the charger (up to 100 foot extension, use 18AWG size cord, 101-150 foot, use 16AWG size cord).





NOTE: If a 12-volt lead-acid battery has an output voltage of less than 9 volts when it is at rest, when it is neither being charged nor supplying an electrical current to an external load, there is a good chance that the battery is defective. As a frame of reference, a fully charged 12-volt lead-acid battery will have a rest-state no-load voltage of approximately 12.9 volts. A fully discharged 12-volt lead-acid battery will have a rest-state no-load voltage of approximately 11.4 volts. That means that a voltage change of only 1.5 volts represents the full range of charge 0% - 100% on a 12-volt lead-acid battery. Depending on the manufacturer and the age of the battery, the specific voltages will vary by a few tenths of a volt. But the 1.5 volt range will still be a good indicator of the battery charge %.

2. WIRE RECESS - Insert the two pin connector from the Battery Charger in through the center top opening **from the back of the Cube**, and attach it to the mating two pin connector (#3) coming off the Battery. Plug the Battery Charger into a 120v outlet. See more about BATTERY CHARGER below.

3. TWO PIN CONNECTOR - Comes off the Battery, plugs in to the Battery Charger or Solar Charger if using the optional Solar Panel.

4. CONTROLLER - See PROGRAMMING THE CONTROLLER above for quick start instructions or go to www.pynamite.NET >> CUSTOMER SERVICE >> OWNER'S MANUALS >> DIGITAL CONTROLLER INSTRUCTIONS for complete instructions

- Power Button – must be on for system to work. Press and hold for 3 second to turn system on or off.
- Battery Status – used to determine battery status, will give a false reading when charger or solar panel is plugged in. Unplug the 2 pin connector (3) or the charger from the wall to get an accurate Battery Status reading.
 - Green – Battery is fully charged
 - Yellow – Low Battery
 - Red – Battery needs to be charged
- Up and Down arrow keys – used to program the controller
- Manual Button/↵ – holding both PGM and Manual button at the same time will initiate an agitation/mist cycle. Default is 30 seconds each, but can be changed in the programming mode. Additionally there is a default 10 second Exit to exit the area before the agitation/mist cycle begins.
- Inspect Button/⇒ – holding both the PGM and Inspect Button at the same time will initiate a 30 second agitation and 3 minute mist cycle. These lengths can be changed in the programming mode. This is used to inspect the system and check the nozzles.
- Stop – will stop any action: Mist, Agitate, Stir, etc..

5. VALVE BLOCK - Contains Agitation Valve, Anti-Siphon Valve, Pressure Maintaining/Dump Valve and the Nozzle Circuit Elbow.

6. NOZZLE CIRCUIT OUTLET - This is the beginning of the Nozzle Circuit. Into the Nozzle Circuit Elbow on the back of the Valve Block insert a piece of 1/4 inch tubing. **NOTE: To insert the tubing correctly, first make a clean straight cut with the Tube Cutter, then moisten the tubing and push it all the way in and then swiftly pull back to lock the tubing in place.** Feed the tubing out of the Nozzle Circuit Outlet to begin the Nozzle Circuit. The Cube has Outlets on both the right and left side to allow the Nozzle Circuit to go in either direction. It may be easier to feed the tubing in through the Nozzle Circuit Outlet before attaching it to the Nozzle Circuit Elbow. Attach the included In-Line Nozzle Circuit Filter to the tubing on the outside of the Cube. Refer to INSTALLING IN-LINE NOZZLE CIRCUIT FILTER below.

7. PUMP AND MOTOR – 300 psi Pump can mist up to 80 Nozzles on up to 1200 feet of tubing.



8. LOUVERS - Designed to allow air to move through the Cube while protecting the components from the elements. See direction for installation below. If liquid is exiting through the Louvers, a leak has occurred inside the Cube and needs to be inspected immediately.

NOTE: Never operate the Cube without the Louvers or with broken Louvers as water (rain, irrigation, etc...) can enter the Cube and damage the components.

9. 8" MANWAY - Used to access inside the Cube for filling, maintenance, and winterization.

NOT PICTURED - Recessed Drain, located on the bottom right side.

NOTE: The Pynamite Cube is shipped with the Cap removed. Hand tighten before adding liquid.

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Battery Charger – find your version

A. Battery Tender – used from April 2018 to current

When this Battery Charger is plugged in, the LED on the Battery Charger shows charging status:

- RED LIGHT FLASHING - charger has A/C power and microprocessor is functioning properly. If the RED light continues to flash, then either the battery voltage is too low (less than 3 volts) or the output connectors on the battery are not connected correctly. The fuse in the positive battery connector may also be blown.
- RED LIGHT ON STEADY – battery is connected properly and charger is charging the battery. The RED light will remain on until the charger completes the charging stage.
- GREEN LIGHT FLASHING - battery is greater than 80% charged.
- GREEN LIGHT ON STEADY – the charge is complete, keep plugged in to maintain the battery indefinitely.
- NO LED - not plugged into a 120v outlet, reverse polarity, or blown fuse on positive side of the battery.



BATTERY CHARGER TROUBLE SHOOTING CHECKLIST

- Charger light does not turn on – check to make sure A/C outlet is supplying power by plugging in a lamp, appliance or voltage meter.
- The GREEN light goes on immediately when charging a discharged battery – the battery may be defective, take the battery to be tested
- Charger is charging but the GREEN light does not illuminate – the battery may be defective, take the battery to be tested

B. Battery Doc – used from 2015- April 2018

When this Battery Charger is plugged in, the LED on the Battery Charger shows charging status:

- RED - charger is plugged into a 120v outlet and is charging
- YELLOW - Battery is 1/2 charged
- GREEN - Battery is fully charged
- NO LED - not plugged into a 120v outlet, reverse polarity, or blown fuse on positive side of the Battery



NOTE: Battery Charger or Solar Panel may be used continuously without causing damage to the Battery.



NOTE: When unit is being stored or not in use for periods longer than 6 months, to preserve Battery capacity, keep Battery Charger or Solar Panel plugged in continuously.

NOTE: If extension cord must be used, make sure: (a) that pins on the plug of the extension cord are the same number, size, and shape as those of the plug on the charger; (b) that extension cord is properly wired and is in good electrical condition; and (c) that wire size is large enough for AC ampere rating of the charger (up to 100 foot extension, use 18AWG size cord, 101-150 foot, use 16AWG size cord).

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INSTALLING THE LOUVERS

While the Lid on the Cube is closed; center the Louver over the Air Hole on each side, **just under the lid**. Do not attach the louvers to the lid. Make sure the Louvers face downward. Attach the Louvers with the provided stainless screws. Tighten just until snug.

CAUTION: Do not over tighten the screws.



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ATTACHING THE DRAIN CAP

Hand tighten the Drain Cap on to the Drain before filling the Cube.



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INSTALLING THE IN-LINE NOZZLE CIRCUIT FILTER

The In-Line Nozzle Filter is attached to the 1/4 inch tubing coming out of the Cube before the first fitting on the Nozzle Circuit – OUTSIDE of the CUBE. The Filter only flows one way. **The tubing coming out of the Cube must be plugged into the side of the In-Line Nozzle Filter stamped IN.** Attach the tubing to the other side of the Filter and continue the Nozzle Circuit.



NOTE: To insert the tubing correctly, first make a clean straight cut with the Tube Cutter, then moisten the tubing and push it all the way in and then swiftly pull back to lock the tubing in place.

The In-Line Nozzle Circuit Filter is used to capture particles from the solution inside the Cube prior to entering the Nozzle Circuit. This will help prevent the Nozzles from clogging. The Filter contains a Sintered Bronze Filter which may be cleaned and or replaced over time.

NOTE: For optimum performance, in-line nozzle circuit filter should be checked and cleaned several times a year.

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REMOTE CONTROL

1. START MIST Button - pressing this button will initiate an unscheduled agitate/mist cycle.

NOTE: Mist will start after pre-set agitation runs.

2. STOP MIST Button - pressing this button will stop a mist once it starts.



USING THE PRESSURE TESTER

The Pressure Tester can be used on the Valve Block (#5 inside the Cube) or in the nozzle circuit to check the pressure of the system



To attach the Pressure Tester to the Valve block, cut a 3 inch piece of nozzle circuit tubing. Insert the tubing into the fitting on the Pressure Tester. **To insert the tubing correctly, first make a clean Tube Cutter, then moisten the tubing and push it all the way in and then swiftly pull back to lock the tubing in place.** Remove the plug on the valve block by holding down the collet on the fitting and pulling the plug out. Insert the other end of the 3 inch tubing into the fitting on the valve block. The Pressure Tester will read the pressure of the system.

To attach the Pressure Tester to the nozzle circuit, remove a nozzle from the nozzle circuit and insert the other end of the 3 inch tubing into the fitting that was holding the nozzle.

SYSTEM SETUP

Once the Nozzle Circuit has been installed and connected to the Cube, the system needs to be purged and tested before filling it with insecticide.

- Fill the Cube about half way with water. **DO NOT ADD INSECTICIDE.**
- Remove the last Nozzle tip in the circuit (or Nozzles if you Tee'd off into different runs) by unscrewing from the Adapter.
- To purge the air out of the system, initiate an Inspect cycle by holding down the PGM and Inspect button at the same time, for 3 seconds. After the agitation cycle, the system will start misting. Water and air will come out of the open Nozzle(s). Initiate an Inspect cycle, as many times as it takes to get the air out of the lines so that the water runs freely without sputtering. Make sure the Suction Strainer tube is below the surface of the water.
- Once the water is running without air sputtering, either press the Stop button or wait until the current Inspect cycle has ended, replace the Nozzle(s).
- Hold down the PGM and Manual button at the same time, for 3 seconds to initiate a Manual mist cycle. After the agitation cycle ends the mist cycle will begin. You may use the Pressure Tester in the valve block to test the system pressure. Refer to Pressure Tester instructions above.
- If the pressure does not get close to 300 psi, there could be several reasons:
 - Tubing is loose – check every connection where tubing goes into a fitting making sure water is not leaking out or air is not being sucked in.
NOTE: It is imperative that the tubing has a fresh straight cut and is pushed in and swiftly pulled back to lock it in place.
 - Too many Nozzles on a linear run – the most optimum run is a looped run, it starts at the In-Line Nozzle Circuit Filter just outside the Cube and loops back around to tee into the same connection. A Tee'd circuit works well too, just make sure there is an equal number of nozzles on each of the main runs. A linear run can cause the pressure to go down if there are too many Nozzles on too long of run of tubing.
- Once the pressure is verified, pour in the insecticide and continue filling the Cube with water.
NOTE: DO NOT OVERFILL
- Remove the Pressure Tester form the Valve block and reinsert the plug tightly.

NOTE: When the Cube is full, you may notice a slight bulge. This is common with rectangular tanks and is not a functional concern.

INSECTICIDES REGISTERED FOR MISTING

Only products that are water based, approved by the EPA and labeled for use in an Automated Misting System can be used in a Pynamite Misting System. **Products containing Petroleum Distillates should never be used in an Automated Misting System regardless of labeling. Additionally do not use Natural Products containing essential oils such as wintergreen, peppermint and similar in a Pynamite Misting System. Using unauthorized products can damage your system as well as your residence and will void the warranty.**

Never mix different misting solutions inside the Cube. If you are going to use a different misting solution, completely empty the Cube, clean it out with fresh water, and run a manual mist cycle with fresh water before introducing a new misting solution. It is also a good idea to perform this clean out procedure after every 2-3 refills to keep the Cube tank clean and algae or bacteria free.

NOZZLES

Pynamite Nozzles are fully cleanable. The tip (1) can be unscrewed and soaked in a vinegar/ warm water solution to remove calcium deposits. The Nozzle also contains a stainless steel cleanable mesh filter (2) in the rear of the Nozzle. Unscrew the back of the Nozzle to locate the filter, remove and rinse the filter with fresh water to remove any debris. Hand tighten to reassemble.



NOTE: For optimum performance, nozzles should be checked and cleaned several times a year.

WINTERIZING

If possible, plan for your Cube to be close to empty as the winter season commences. You will need to empty the Cube for the winter. Be sure to dispose of any remaining liquid properly according to the instructions on the label of your misting concentrate.

Flush pump and agitation valve with clean water:

1. Open the Drain Cap on the bottom right side of the Cube, drain and rinse inside the Cube with fresh water, replace the Drain Cap.
2. Remove the Nozzle Circuit tubing from the outlet side of the In-Line Nozzle Circuit Filter by pushing in on the collet and pulling out the tubing. **Make sure the Nozzle Circuit Tubing remains outside of the Cube.**
3. Fill a 5 gallon bucket with fresh water and position it next to Cube.
4. Open the Cube and remove the Suction and Agitation lines and rinse thoroughly with fresh water.
5. Submerge the Suction line in the 5 gallon bucket of fresh water.
6. Initiate a Manual Mist cycle by pressing and holding the PGM and Manual button at the same time, for three seconds or using the Remote Control. The agitation cycle will flush the Agitation Valve with fresh water and the mist cycle will flush the Pump with fresh water.
7. Remove the Suction line from bucket, and activate a dry Manual Mist cycle by pressing and holding the PGM and Manual button at the same time for three seconds or using the Remote Control to clear the water from Agitation Valve and Pump.



8. Replace the Suction and Agitation lines back in the now empty Cube and close the Lid.
9. Press and hold the Power switch for 3 seconds to turn the system OFF and keep the system plugged in to maintain the Battery.
10. Open the In-Line Nozzle Circuit Filter and inspect and clean or replace the Sintered Bronze Filter.

Purge fluid remaining in the Nozzle Circuit with compressed air.

1. Remove the Nozzle(s) from the Adapter(s) on the end of each run.
2. Using a portable air compressor with adapter (adapter can be purchased from Pynamite) purge fluid from Nozzle Circuit by connecting the air compressor to the tubing that was removed from the In-Line Nozzle Circuit Filter at the beginning of the Nozzle Circuit.
3. Once the fluid has been purged from the lines, replace the Nozzle(s).

NOTE: Winterizing is a great time to check and clean the nozzles and in-line nozzle circuit filter. For optimum performance, nozzles and in-line nozzle circuit filter should be checked and cleaned several times a year. See nozzle cleaning instructions above. Contact us to purchase replacement filters for the in-line nozzle filter.

NOTE: If you live in an area that does not freeze and you do not plan on performing a complete winterization process, the Cube should either be emptied and cleaned or kept agitating and running throughout the winter. If the liquid sits stagnate over several months, slime and bacteria will naturally grow in the tank. When the system starts up again, that slime will be drawn up into the suction filter, though the pump and out through the nozzle circuit causing damage.

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WARRANTY

Lovett Industries, LLC dba Solar Insect Systems (SIS) warrants this Product, to be free from defects in material and workmanship as follows:

- For a period of three (3) years from the date of purchase (whether or not actual use begins on that date), SIS will repair or replace defective electronic parts, and for a period of one (1) year SIS will repair or replace defective Battery and Battery Charger with new or refurbished parts, at its option, at no charge. This warranty does not include labor or other costs incurred for diagnosing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts. Additionally warranty does not apply to Nozzle Circuit or Fittings.
- This warranty applies solely to equipment supplied by SIS and is in lieu of all other warranties, expressed or implied. No person, agent, dealer, or distributor is authorized or empowered to give any other warranty or to assume any other liability on behalf of Solar Insect Systems.

Warranty Conditions:

- This warranty is extended only to the original Purchaser and is nontransferable.
- A purchase receipt or other proof of date of purchase will be required before warranty service is rendered.
- Installation, use, care and maintenance must be normal and in accordance with instructions contained in the operating manual and Solar Insect’s service information. Failure to do so shall void this warranty.
- All claims for failure to conform to specifications or defects in material or workmanship under this warranty must be made promptly after discovery and, in any event, must be received by Solar Insect Systems not more than three years after the original purchase date.
- SIS reserves the right to inspect the equipment prior to any decision involving a warranty claim.



- SIS reserves the right to make warranted repairs at either the installed site or at SIS's location in Navasota, TX. If SIS opts for repair at its own location, Purchaser is responsible for shipping the item to SIS at its expense.

Manufacturer's obligation under the warranty shall not apply to:

- Any equipment, which has been damaged by negligence, misuse, abuse, neglect and/or improper adjustment (including running the pump over 200 psi), misting products not labeled for misting systems or that contain Petroleum Distillates, accident, vandalism, acts of God, acts of war, whether declared or undeclared, improper application, or any other contingency beyond the control of Solar Insect Systems.
- Cosmetic damage
- Damage in transit
- Failures caused by products not supplied by SIS
- Failures, which result from faulty installation, set-up adjustments, improper operation, power line surge, improper voltage supply or damage from lightning
- Any equipment that has been repaired or altered without authorization from SIS or in a manner inconsistent with such authorization
- Normal wear on any item or piece of equipment
- Lost items

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