



Cube Basic Misting System - 55 gallon





CONTENTS:

- Battery Charger
- Louvers (2) & Screws (8)
- In-line Nozzle Circuit Filter
- Remote Control

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. 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 TIMER

Buttons on Timer

1. LED: To indicate ON/OFF status
2. CLOCK: To adjust current DAY and TIME
3. TIMER: To Review & Set Programs
4. DAY: To adjust Day of Week
5. HOUR: To adjust Hour
6. MIN: To adjust Minute
7. MANUAL: To select ON, AUTO or OFF (see more on MANUAL button below)
8. : Reset Timer's Settings

NOTE: Press button to reset Timer before programming



1. Adjusting CLOCK

Press and hold CLOCK and then press DAY, HOUR, MIN, respectively to adjust clock of Timer to accurate DAY, HOUR & MINUTE. The 24-Hour Format LCD screen shall indicate 0:00-23:59.

2. Programming the Timer

- A. Press TIMER. LCD screen shows $1 \text{ --:--}^{\text{on}}$.
Press DAY to select any of the preset 15-combinations. Continuing to press DAY, the LCD alternates between the 15-combinations.
- B. Press HOUR, MIN respectively to set desired Hour and Minute for 1 ON.
- C. After finished setting 1 ON, Press TIMER again, $1_{\text{off}} \text{ --:--}$ will appear on LCD screen to set 1 OFF.
- D. Press DAY to select the same Day combination as 1 ON.

NOTE: DAY-combinations chosen in each of ON/OFF program-period must be consistent

- E. Press HOUR, MIN respectively to set desired Hour and Minute for 1 OFF.

CAUTION: AN "OFF" SETTING OF 1 MINUTE LATER MUST BE PROGRAMMED FOR EVERY "ON" SETTING. For example, if 8:00 is scheduled for ON, then 8:01 must be scheduled for OFF. IF THIS IS NOT DONE, SCHEDULED MISTING CYCLES WILL NOT INITIATE. At any time entire clock can be reset by pressing the grey button next to P .

- F. When finished setting 1 ON & 1 OFF, Press TIMER $2_{\text{on}} \text{ --:--}$ will appear on the LCD screen.
- G. Repeat programming procedure above to complete additional ON/OFF misting cycles if desired.
- H. When finished programming mist cycles, press CLOCK.

NOTE: To disable a scheduled misting cycle, set the OFF time to the same as the ON time and the system will not mist that cycle.

At any time entire clock can be reset by pressing the grey button next to P

MANUAL Button on Timer – is to select the ON, AUTO or OFF mode of the timer, not to initiate a mist. The recommended mode is AUTO.

- When in AUTO mode, the timer will function as programmed above.
- When in OFF mode, the programmed misting cycles will not initiate. However pressing the START MIST button on the controller while the timer is in OFF mode will initiate a manual misting cycle.
- When in ON mode, a mist cycle will initiate after a 2 second delay. Timer must be returned to AUTO mode for the programmed mist cycles to continue

NOTE: The Cube Basic Controller is preset for 15 second Agitation cycles and 45 second Mist cycles

INSIDE THE BASIC 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 so that the Low Level Light will not illuminate during shipping. 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 may be plugged into 120v outlet continuously without causing damage to the Battery.

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 coming off the Battery. Plug the Battery Charger into a 120v outlet.

When the system is plugged in continuously, the LED on the Battery Charger shows battery 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 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 plugged in continuously, if not utilizing a Solar Panel, and turn Main Power toggle to OFF.

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).

3. Controller/Timer – see PROGRAMMING THE TIMER above

4. VALVE BLOCK – contains the **Liquid Filled** Pressure Gauge, Agitation Valve, Anti-Siphon Valve, Pressure Maintaining/Dump Valve and the Nozzle Circuit Elbow. The Pressure Gauge should read 200 psi when misting.



5. 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.

6. PUMP AND MOTOR – 220 psi Pump can mist up to 40 Nozzles on up to 600 feet of tubing.

7. 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.

8. 8" MANWAY – used to access inside the Cube for filling, maintenance, and winterization.

NOT PICTURED – Recessed 3/4 inch GHT Drain, located on the bottom right side. **NOTE: Hand tighten before adding liquid**

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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.
CAUTION: Do not over tighten the screws.



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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. 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.

REMOTE CONTROL

1. ON Button - pressing this button will initiate a 1 minute unscheduled mist cycle.
2. OFF Button - pressing this button will stop a remote mist once it



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 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, press the MANUAL button to the ON position. After a 2 second delay the system will agitate for 15 seconds and then mist indefinitely. Water and air will come out of the open Nozzle(s). Allow it to run as long 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, press the MANUAL button to the AUTO position to stop the misting and replace the Nozzle(s).

NOTE: You must press the MANUAL button to the AUTO position to stop the system from misting or it will mist indefinitely.

- Press the MANUAL button again to the ON position and after a 2 second delay and 15 second agitation cycle ends the mist cycle will begin. The Pressure Gauge should read between 175-200 psi.
- If the pressure does not get to 175-200 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, press the MANUAL button to the AUTO position to stop the misting and pour in the insecticide and continue filling the Cube with water. **NOTE: DO NOT OVERFILL**

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.**

MISTING TIMES

The Cube Basic is preset to Agitate for 15 seconds and Mist for 45 seconds. Mist at dusk and at dawn, and then an additional mist around 10 pm. It will take a couple days to get control of your yard initially and sometimes after a big rain and breeding cycle.

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 and Agitation lines in the 5 gallon bucket of fresh water.
6. Press the MANUAL button to the ON position. After a 2 second delay the system will agitate for 15 seconds and then mist indefinitely. Press the MANUAL button to the AUTO position after about 45 seconds to stop the mist cycle. **NOTE: You must press the MANUAL button to the AUTO position to stop the system from misting or it will mist indefinitely.** The agitation cycle will flush the Agitation Valve and the mist cycle will flush the Pump.
7. Remove the Suction and Agitation lines from bucket, and activate a dry agitation/mist cycle by pressing the MANUAL button to the ON position. Press the MANUAL button to the AUTO position again after about 45 seconds of misting. This will 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. Turn the Main Power switch to OFF and keep the system plugged in to maintain the Battery. **NOTE: Turning the Main Power to OFF will not turn off the Exterior Low Level Indicator Light. It will always illuminate if the solution in the Cube is low, even if storing the Cube for winter.**
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/or Battery Charger and standard Pump 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 Richmond, 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

Manufactured by:

19840 FM 1093 #G7
Richmond TX 77407



866-986-5586
info@pynamite.NET

www.pynamite.NET