MistAway® Drum-Based Misting Unit – Gen 1.3
Operations Manual

Base Functionality

- MistAway’s Drum-Based Misting Unit, Gen 1.3, is designed to atomize a dilute botanical insecticide (typically contained in a 55 gallon drum) through an installed nozzle circuit to control mosquitoes and other annoying insects.
- The capacity of the unit is dependent on the configuration of the nozzle circuit. A practical field maximum for one zone is about 75 nozzles (some in parallel) connected by 900 feet of tubing.
- The unit may be programmed to mist up to 24 times daily, with each mist cycle having its own independent duration. A typical program will consist of 2 to 3 mist cycles per day, each with a 45 – 60 second duration, for a daily total of 90 – 180 seconds.
- The unit will also mist in response to a signal from a handheld remote transmitter for a duration programmed by the user.

Optional Equipment and Functionality

- **Agitating Valve**: Each mist (including remote mists) will be preceded by an agitation cycle that will ensure thorough mixing of the drum contents prior to misting. In addition, there is a capability to program a once-daily agitation that is independent of any programmed or remote mist. The agitating valve also eliminates the possibility of a siphon emptying the drum contents.
- **Leak Detection**: In the event of a leak in the misting nozzle circuit, this option will shut-off the unit until the leak can be repaired.
- **Electronic Anti-Siphon Valve**: For units without agitation, addition of this valve eliminates the possibility of a siphon.
- **Wind Sensor**: Sensor input will inhibit a programmed mist if the wind speed is higher than a user-defined limit for a 5 minute period following the scheduled mist.
- **Zone Kit**: Kit will enable the unit to either independently manage areas with two different application schedules or effectively double the protected area that the unit would otherwise support.
- **iMistAway Module**: Allows the unit to be remotely monitored and controlled via an Internet connection.
Section 1
WARRANTY

MistAway Systems Inc. (MSI) warrants this Product, the MistAway Drum-Based Misting Unit, Gen 1.3, to be free from defects in material and workmanship as follows:

For a period of one (1) year from the date of original installation (whether or not actual use begins on that date), MSI will repair or replace defective parts, 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.

This warranty applies solely to equipment supplied by MSI 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 MSI.

Warranty Conditions:

- This warranty is extended only to the original Purchaser and is not transferable.
- A purchase receipt or other proof of date of original 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 MSI’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 MSI not more than one year after the original purchase date.
- MSI reserves the right to inspect the equipment prior to any decision involving a warranty claim.
- MSI reserves the right to make warranted repairs at either the installed site or at MSI’s location in Houston, TX. If MSI opts for repair at its own location, the Purchaser is responsible for shipping the item to MSI’s Houston location 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, accident, vandalism, acts of God, acts of war, whether declared or undeclared, improper application, or any other contingency beyond the control of MSI
- Cosmetic damage
- Damage in transit
- Failures caused by products not supplied by MSI
- 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 MSI or in a manner inconsistent with such authorization
- Any unit that has not been maintained in accordance with the operator’s manual
- Normal wear on any item or piece of equipment
- Lost items

The foregoing is MSI’s only obligation and Purchaser’s exclusive remedy for breach of warranty. Purchaser’s failure to submit a claim as provided above shall specifically waive all claims for damages or other relief, including but not limited to claims based on latent defects. In no event shall Purchaser be entitled to special, direct, indirect, incidental, exemplary or consequential damages, expenses, injury, lost profits, lost savings, business interruption, loss of business information, or any other pecuniary loss arising out of the use of or inability to use the equipment. In any case, MSI’s entire liability shall be limited to the amount Purchaser actually paid for the item.

Except as modified in writing signed by both parties, this warranty is and shall remain the complete and exclusive agreement between the parties with respect to warranties, superseding all prior agreements, oral or written, and all other communications between the parties relating to the subject matter of this agreement.
Section 2
Important Safety Instructions

To Protect Against Accidental Exposure to Insecticide

Permitted Insecticides and Handling
- Use only insecticides that are labeled for use in automated misting systems, and use only as described in the label.
- Insecticides that state “Not for use in outdoor residential misting systems” may not be used under any circumstances.
- Once insecticide has been introduced, ensure 6” air gap between hose and drum bung is maintained when filling.
- Insecticide label and dilution statement should be securely attached to the unit reservoir in a weatherproof pouch.
- Strictly follow label instructions regarding storage and disposal of insecticide and container.

Nozzle Circuit Installation:
- The nozzle circuit should be configured and installed so that insecticide does not drift off the property.
- Nozzles should be directed to spray towards the target area and away from swimming pools, water bodies, or eating and cooking areas.

Using the Unit
- Do not allow the unit to mist in the presence of people, pets or food.
- Unit must be configured, installed and operated so that any insecticide application complies with all label directions, including application rate and prohibitions against offsite drift.
- The unit reservoir and controller should be locked.
- Unit and remote transmitter should be secured against access by children.
- DIP Switches on remote transmitter should be repositioned (from factory setting) to ensure that another transmitter will not activate unit.
- If a leak or siphon in nozzle circuit is suspected, discontinue use of unit until it is repaired.
- Unit must never be used for cooling.

To Protect Against Fire or Electric Shock
- Ensure unit is positioned where it is free from flooding or exposure to irrigation system spray.
- Unit must be plugged into electrical outlet with ground fault interrupt protection. (GFI/GFCI)
- Extension cord must not be used.
- Disconnect unit from power source if replacing components.
- Replace fuses only with those of equivalent value.

\[\text{WARNING} \quad \text{DO NOT ACTIVATE SYSTEM WHEN PEOPLE, PETS, FOOD OR FEED ARE PRESENT!}\]

\[\text{WARNING} \quad \text{ELECTRICAL SHOCK HAZARD}\]
Disconnect all power sources before servicing. Failure to do so could result in serious injury or death.
Section 3
Setting Up the Unit

Using the Controller

1. Position Drum
- On firm level surface
- Free from flooding or sprinklers
- Near GFCI outlet

2. Remove Lid Assembly and verify components
- Lid Assembly in plastic enclosure
- Drum and pre-drilled lid
- Remote transmitter (remote receiver and antenna inside enclosure)
- Soft drum lid cover
- Pump suction pipe and filter
- Auto-Drain valve assembly
- Agitator j-tube and eductor (if "with Agitator")
- 4 each - bolts, flat washers, lock washers, nuts

3. Assemble Unit
- Align chassis with four holes (large bung in front of controller)
- Insert ½” pump suction line into pump
- Insert ¼” black tubing of Auto Drain valve assembly into pump discharge
- If "with Agitator" unit, insert j-tube into 3/8” agitator valve fitting
- Secure chassis to lid using 7/16” wrenches: sequence - bolt, chassis, lid, flat washer, lock washer, nut
- Position lid assembly on drum
- Note: all holes oversized to ease assembly

4. Connect Nozzle Circuit
- To bulkhead fitting
- Install optional zone kit according to instructions provided.

5. Connect Electric Power
- GFCI Outlet
- 115 volts minimum. Confirm voltage with multi-meter.
- 15 amp circuit required. Unit draws 9 amps when misting. Ensure total load of unit plus all other devices on circuit does not exceed breaker rating.

*Note: Instructions noted in italics are required for units supplied with Agitating valves.
Section 3
Setting Up the Unit

6. Program System Setup (systems without zone kit)*
   a. Set Day and Time
      • Set Day and Time. (note AM and PM)
      • Exit by pressing Menu button.
   b. Set REMOTE MIST Duration
      • SET-UP Menu, REM
      • Set duration in seconds.
   c. Orient Remote Transmitter
      • Set dip switches in remote transmitter. (See Section 4, Using the Remote)
      • SET-UP Menu, LRN
      • Depress Green ► button 5 secs, until LRN On and countdown starts.
      • Depress Remote Transmitter button until DONE is displayed.
   d. Set MANUAL MIST Duration
      • SET-UP Menu, MAN
      • Set duration in seconds.
   e. Set # of nozzles
      • SET-UP Menu, NOZ
   f. Set Independent Agitation Time and duration (if “with Agitator” Unit)
      • SET-UP Menu, AGT
      • Set duration of agitation prior to programmed mists
      • Set time of once daily off-cycle agitation
   g. Set Remote Agitation duration
      • SET-UP Menu, RAG
      • Set duration of agitation prior to remote mists
   h. Set tank size
      • SET-UP Menu, TNK
      • Set Tank size in gallons (5 – 995)

7. Set Misting Schedule
   a. Set AUTO MIST Cycles
      • CYCLES Menu.
      • 2 – 3 scheduled mists of 30 – 60 seconds in duration is common.
      • See Section 5, Managing Insecticide for field standard frequency, duration and mist times.
      • Blinking C# identifies each automatic mist cycle with current mist duration and mist time. Limit is 24 cycles per day.
      • Set mist duration and time (note AM/PM) for each desired scheduled mist.
   b. Set AUTO MIST Days
      • If you don’t want to schedule mists for every day.
      • CUSTOM PGM Menu.
      • Set selected days to ON or OFF.
      • System Mode must be set to AUTO Custom.

8. Partly fill drum and Set Level
   • Fill drum 1/2 full through large bung with water only
   • MAINTENANCE Menu, LEVEL
   • Press green ► button and use arrows to set level to full (8 bars)

* For systems with zone kit installed, refer to system setup instructions included with zone kit hardware.
9. Run Inspection Cycle
- MAINTENANCE Menu, scroll to INS
- Depress Green ► button 5 seconds
- Unit will mist for 5 minutes or until stopped.
- Confirm no leaks in nozzle circuit.
- Confirm pump pressure is 240 psi. If not, insert flat head screwdriver into port on back left and adjust pump bypass until pressure is 240 psi. Reinsert plastic plug into port.
- If zone valve installed, repeat using INS2. (Set pressure so that it does not exceed 240 psi in either zone.)

10. Add insecticide, top off drum, Reset LEVEL to full
- Add insecticide through large bung with a funnel.
- Top off drum with water. Maintain air gap of 6" between hose and fluid level.
- Do not overfill. Stop filling when level is 4" from the top.
- MAINTENANCE Menu, LEVEL
- Press green ► button and use arrows to set level to full (8 bars)

11. Set System Mode
- With the display showing day, time and level, press Green ► button to position the ▲ at top of display pointing to the active System Mode:
  - OFF - daily agitation cycle only
  - REM or ON – remote and manual, but no programmed mist
  - AUTO Everyday – program runs daily. This is the usual mode.
  - AUTO Custom – program runs on days configured in CUSTOM PGM

12. Test by Activating Remote Mist
- Clear area
- Press MIST button on transmitter
- Unit will MIST.
- If Remote Agitation (RAG) is set to a value greater than 0, system with Agitate (AGT) prior to MIST.

13. Cover Unit
- Close lid
- Fit elastic at waterproof cover bottom under lip along edge of drum.

Optional Leak Detection
Leak Detection is a factory-installed option that enables the unit to detect a leak in the nozzle circuit.
- Determine whether leak detection is installed on the unit by navigating to the DATA Menu and cycling through the variables by pressing the green ► button. If you see values labeled FL, TL, AFR and TOL, then the option is installed.
- Adjust the tolerance for leak detection to be either more or less forgiving in recognizing a problem.
  - The default tolerance is 75% That is, Gen 1.3 will not detect and annunciate a leak until the Actual Volume is more than 175% of the Calculated Volume.
  - Setting the TOL value in the DATA Menu to a higher number makes the unit more tolerant of a leak. Setting the TOL value lower makes the unit more sensitive. 100% is the allowed maximum.
  - To change the value, go to the DATA Menu, TOL. Press Green ► button for 5 seconds, then use the arrow keys to adjust the value.
- Disable leak detection by 1) unplugging the unit from the electrical socket, 2) unplugging the 6 pin connector on the back of the controller, and 3) plugging the unit back into the electrical socket.
- NOTE: Leak Detection may not function properly on systems with less than 20 nozzles and/or mist durations less than 30 seconds.
Orienting the Remote Transmitter

- The unit must be programmed to recognize a specific remote transmitter.
- Prior to this step, the DIP Switches on the transmitter should be repositioned (from factory setting) to ensure that another transmitter will not activate unit.

In the LRN Menu, under SET-UP, hold down Green ► button for 5 seconds and wait for countdown to begin. Press and hold any button on the remote transmitter. When DONE flashes in the display, the transmitter is programmed.
Section 5
Managing the Insecticide

Conventional Insecticide Formulations

• Use only insecticides that are labeled for use in automated misting systems and use only as described on the label. Insecticides that state “Not for use in outdoor residential misting systems” may not be used under any circumstances.
• There are only a few insecticide formulations that contain label language specific for use in automated misting systems.
• The active ingredients found in these formulations are either natural pyrethrins or permethrin, which is a closely related synthetic. They also contain a synergist, piperonyl butoxide, which makes them more effective than they would otherwise be.
• These formulations have been designed for misting and are suitable in MistAway’s systems because 1) they are water-based and contain only trace amounts of hydrocarbons, 2) they have been engineered to disperse evenly throughout the batch tank or drum when diluted with water, and 3) they have been formulated to avoid or minimize plant burn.

Exempt or “Green” Insecticide Formulations

• There are also a small number of insecticide formulations that are applied in misting systems that are exempt from registration with the U.S. EPA.
• Generally, the ingredients found in these formulations are essential oils from plants. In order to dilute and disperse them in a volume of water, an emulsifying agent must be added.
• Be aware that these concentrates are very chemically aggressive, particularly to plastics. Their use in misting systems significantly increase maintenance requirements and maintenance frequency.

Visit www.mistaway.com for a list of approved insecticides and mixing guidance.
Section 5
Managing the Insecticide

Replenishing Insecticide Concentrate in Gen 1.3

• The Gen 1.3 controller stores a “virtual volume” representing the amount of dilute insecticide remaining in the drum. Each time the unit mists, this “virtual volume” is reduced by a calculated estimate of the volume of dilute insecticide that was misted through the nozzle circuit. When the “virtual volume” equals 0, EMP (Empty) is displayed on the controller, and it is time to replenish the insecticide.

• **Follow these steps to replenish the dilute insecticide in the drum:**
  1. *Remove the waterproof fabric cover from the drum top and remove the 2” cap on drum bung.*
  2. *Fill the drum half full with water, add insecticide concentrate, and then top off the drum.*
     • Maintain an air gap of 6” between the tip of hose and the fluid level in the drum at all times.
     • Stop filling when the fluid level is 4” from the top. Replace cap on drum bung.
  3. *Reset level indicator in the controller.*
     • EMP (Empty) continues to appear in the display. Navigate to MAINTENANCE Menu, scroll to LEVEL. Depress Green ► button 5 seconds to enter routine.
     • Use ▲ or ▼ buttons to set level to full (8 bars)
     • Ensure the ▲ icon at top of display, indicating System Mode, is pointing to the desired mode, usually, AUTO Everyday.
  5. *Dispose of the empty bottle:* Strictly follow label instructions regarding disposal of the empty bottle. Most will require triple rinsing and puncturing the bottle.

Replenishment Frequency

• There are a number of factors that influence consumption of the insecticide and timing for replenishment:
  • Number of nozzles installed
  • Minutes of scheduled misting per day
  • Number and duration of remote mists
  • Volume of the drum

• The replenishment frequency for a common misting program can be read from the table below. Locate the row that most closely corresponds to the number of nozzles that are installed and locate the column that most closely reflects the average daily mist duration (including remote activated mists.) The value in the table where the selected row and column intersects reflects the number of days the insecticide will last.

• By example, a 40 nozzle system misting an average of 2 minutes per day would consume the drum in 55 days.

• To change assumptions about any of these variables, please visit [http://www.mistaway.com/product-support-center.html](http://www.mistaway.com/product-support-center.html) to utilize the online Replenishment Frequency Calculator.

### Days Until Empty Table

<table>
<thead>
<tr>
<th>Nozzles</th>
<th>90sec per day</th>
<th>2 min per day</th>
<th>3 min per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>151</td>
<td>109</td>
<td>73</td>
</tr>
<tr>
<td>30</td>
<td>101</td>
<td>73</td>
<td>49</td>
</tr>
<tr>
<td>40</td>
<td>76</td>
<td>55</td>
<td>36</td>
</tr>
<tr>
<td>50</td>
<td>61</td>
<td>44</td>
<td>29</td>
</tr>
<tr>
<td>60</td>
<td>50</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>70</td>
<td>43</td>
<td>31</td>
<td>21</td>
</tr>
</tbody>
</table>

55 Gallon Drum
Nozzle Flow Rate: 45 ml/min
**Troubleshooting and Error Codes**

**Unit not automatically misting**

**Potential Causes**
- System Mode is set to OFF or ON and should be set to AUTO-EVERYDAY or AUTO-CUSTOM. See Section 3, Setting Up the Unit.
- No AUTO MIST cycles defined. See Section 3, Setting Up the Unit.
- Unit expecting input from wind sensor, but no wind sensor is installed. Set SEN to OFF. See Section 3 Setting Up the Unit.
- GFCI is tripped or there is no power to the unit.

**Cause**
- Nozzle count (NOZ) in SET-UP Menu is set to 0. See Section 3, Setting Up the Unit.

**Unit will not respond to remote**

**Potential Causes**
- System Mode is set to OFF. Reset System Mode to an AUTO mode or ON. See Section 3, Setting Up the Unit.
- Remote mist duration is set to OFF. See Section 3, Setting Up the Unit.
- Unit does not recognize remote transmitter. See Orient the Remote Transmitter in Section 3, Setting Up the Unit.
- Dead batteries in remote transmitter. Replace batteries and retry.
- Other signals are interfering with reception. Change DIP switches in remote transmitter (see Section 4, Using the Remote.)
- Remote transmitter or receiver has failed. Replace.

**Unit displays NOZ00 and will not mist**

**Cause**
- Nozzle count (NOZ) in SET-UP Menu is set to 0. See Section 3, Setting Up the Unit.
Potential Causes

- Leaking nozzle circuit.
- System setup does not reflect installed system:
  1) More nozzles installed than entered,
  2) Actual nozzle flow rate is much greater than estimated nozzle flow rate in the controller,
  3) The tolerance in the error calculation is too small.

Diagnostic Steps

- Confirm system setup: Nozzle count (NOZ in SETUP Menu) equals nozzles installed, nozzle flow rate (NFR in DATA Menu) is reasonable (35 – 50 ml/min) and tolerance (TOL in DATA Menu) is 75% or greater.
- Look for leaks in the nozzle circuit.
- Note about Slow/Small Leaks: During the hours between mists, fluid can leak out of a fitting, that is potentially buried underground, and drain the nozzle circuit. The next time the unit mists, the nozzle circuit must be refilled completely and this may be a large enough additional volume to cause ERR3. Small leaks are notoriously difficult to troubleshoot because it takes an extended period for the nozzle circuit to drain and cause ERR3 to be displayed. That is, the error condition does not occur while the user is on site troubleshooting the issue.

** Applies only to units equipped with optional leak detection capability.
Why does this machine have to be plugged into a GFI circuit?

- As an outdoor electrical appliance that is often exposed to the elements, for protection of both the installer and end-user it is required that the unit is plugged into an electrical outlet that has Ground Fault Interrupt (GFI or GFCI) protection.

What happens if the power to the unit is turned off and back on?

- When electrical power is restored to the unit, the digital controller will return into the same mode the unit was operating in prior to the power being turned off.
- For example, if the unit was in AUTO-EVERYDAY mode prior to the power being powered off, it will return to AUTO-EVERYDAY mode when the power is restored.
- The controller features a “Super Capacitor” that stores enough electrical power to run the internal clock for up to six weeks in the event power to the unit is turned off. There is no battery for the clock.
- All programmed settings are maintained regardless of how long the unit has gone without power.

Can I set unique AUTO MIST times/durations for each day of the week?

- No. While you may use the CUSTOM-PGM menu to turn specific days of the week ON or OFF, each day set to ON will mist according to the AUTO MIST cycles defined under the CYCLES menu. You cannot customize mist times for each day.

If I press “STOP MIST” on the remote, does that set the system Mode to OFF?

- No. When STOP MIST is pressed on the remote, or the STOP button is pressed on the controller, the unit simply halts whatever current activity it is executing, be it misting, agitating, etc. The System Mode remains unchanged.

The manual mentions a zone kit. What is a zone kit, and how do I know if I have one?

- A zone kit is primarily composed of a solenoid valve attached to the unit that enables the system to sequentially mist through two different nozzle circuits, either to double the capacity of the unit or to manage two different application schedules.
- Units with zone kits may be visually identified by the presence of a 3-port valve mounted outside the plastic housing. “Zone 1” is connected to the fitting on the top of the solenoid valve, and “Zone 2” to the lower fitting.
- For units with zone kits, the controller is also slightly different in the SET-UP menu. Refer to the instructions supplied with the zone kit hardware for more information on configuring the zone kit parameters on the SET-UP menu.

What is the symbol that looks like a “sunshine” flashing in the lower right corner of the display?

- The small “sunshine” indicates that the previous mist was skipped for one of three reasons:
  1. The user triggered a SKIP NEXT MIST with the remote, and the most recent AUTO MIST was skipped. The next AUTO MIST will be executed as programmed.
  2. The Maximum Daily Mist time has been reached.
  3. The (optional) wind sensor blocked the previous AUTO MIST.
Appendix A
Unit Component Description

The operations of the Gen 1.3 are managed by a digital controller and a number of electro-mechanical components. Information about mist schedules, duration, and agitating the insecticide are entered into the controller by the user.

- **Digital Controller** – accepts user input, displays unit operating mode and status, controls electromechanical components.
- **Remote Receiver & Antenna** – receives signal from handheld remote transmitter.
- **Pump & Motor** – atomizes drum contents through nozzle circuit. Pump pressure typically set to 240 psi.
- **Agitating Valve (optional)** – One path through the valve routes fluid to the nozzle circuit. The other path recirculates fluid in the drum through j-tube mixing assembly.
- **Plastic Housing & Cover** – protects components from the elements. The cover may be locked to the housing to secure access to the controller. The housing contains ports to the nozzle circuit tubing as well as to an optional Zone Kit. On units with an agitating valve, a pressure gauge is mounted into the plastic housing.
- **Pump Intake Line and Filter** – Pump intake positioned near bottom of drum. Filter ensures debris is not drawn into pump and nozzle circuit.
- **J-tube Mixing Assembly** (on units with optional Agitating Valve) – To ensure thorough mixing, during agitation, fluid is pushed through a j-shaped tube assembly at the bottom of the drum.
- **Auto-Drain Valve** – ensures rapid increase in nozzle circuit pressure on pump startup and rapid decrease on shutdown.
- **Remote Transmitter** – 3-button remote enables the user to start a mist, stop a mist and skip the next scheduled mist.
- **Unit Cover** – Weatherproof fabric cover provides protection of the unit from the elements.
## MAINTENANCE Menu

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVEL</strong></td>
<td>Set the tank level in the controller display from 1 to 8 bars. In operation, the indicated level will decrease as insecticide is misted. Hold Green ▶ button for 5 seconds, then ▲ and ▼ buttons to set.</td>
</tr>
<tr>
<td><strong>INS</strong></td>
<td>Inspect Nozzle Circuit. Runs pump for 5 minutes. Hold Green ▶ button for 5 seconds to trigger. If Zone Kit installed, separate inspection menus, INS1 and INS2.</td>
</tr>
</tbody>
</table>

## DATA Menu

(Items marked ** are for units equipped with leak detection)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMC</td>
<td>Total Mist Cycles since last reset.*</td>
</tr>
<tr>
<td>TMM</td>
<td>Total Mist Minutes since last reset.*</td>
</tr>
<tr>
<td>MMC</td>
<td>Manual Mist Cycles since last reset.*</td>
</tr>
<tr>
<td>RMC</td>
<td>Remote Mist Cycles since last reset.*</td>
</tr>
<tr>
<td>TMH</td>
<td>Total Mist Hours on unit. May not be reset.</td>
</tr>
<tr>
<td>FL**</td>
<td>Actual volume pumped out of tank during last mist (mL).</td>
</tr>
<tr>
<td>TF**</td>
<td>Calculated target volume in milliliters (mL) of last mist. Target Volume = (Mist Duration in seconds) * (Number of Nozzles) * (Nozzle Flow Rate NFR) / 60.</td>
</tr>
<tr>
<td>SPD</td>
<td>Wind speed as read by sensor.</td>
</tr>
<tr>
<td>AFR**</td>
<td>Actual average flow rate of nozzle in circuit, based on volume of fluid discharged during last mist cycle.</td>
</tr>
<tr>
<td>TOL**</td>
<td>Error tolerance for nozzle circuit flow rate. Default is 75%. Controls sensitivity of leak detection. (Set as per NFR).</td>
</tr>
<tr>
<td>NFR</td>
<td>Target flow rate of average nozzle in circuit, in milliliters per minute. Used in tank level indicator, Empty shut-off and leak detection calculations. Default is 40 mL/min. Set by pressing Green ▶ button for 5 seconds, then ▲ and ▼ arrows to adjust, then Green ▶ button to save.</td>
</tr>
<tr>
<td>HLD</td>
<td>Duration that Agitating Valve or Anti-Siphon Valve remains open to nozzle circuit after pump shuts off. Used to control “at-rest” pressure maintained in circuit. (Set as per NFR).</td>
</tr>
</tbody>
</table>

* Reset by pushing Green ▶ button until value shows zero.

**NOTE:** PAN, FR, NR and L menu items are for factory configuration only.
**Appendix C**  
**Operating Displays**

<table>
<thead>
<tr>
<th>Controller Displays</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGT</td>
<td>Unit is agitating contents of drum.</td>
</tr>
<tr>
<td>EMP</td>
<td>Empty. Unit has calculated zero remaining volume in tank.</td>
</tr>
<tr>
<td>HOLD</td>
<td>Anti-siphon or agitation valve is being held open at end of mist cycle to allow pressure in nozzle circuit to decay and close nozzles quickly.</td>
</tr>
<tr>
<td>INS</td>
<td>Unit is in Inspection Mode and will mist for 5 minutes or until stopped.</td>
</tr>
<tr>
<td>MST</td>
<td>Unit is misting.</td>
</tr>
<tr>
<td>NOZ00</td>
<td>Unit stopped operating because the number of nozzles is set to 0. Clear by pressing Red STOP button for 5 seconds.</td>
</tr>
<tr>
<td>ERR2**</td>
<td>No fluid pumped out of tank when tank level calculated as above Empty. Potential problems: pump intake or nozzle circuit clog, pump or motor failure. Clear by pressing Red STOP button for 5 seconds.</td>
</tr>
<tr>
<td>ERR3**</td>
<td>Probable leak in nozzle circuit. Volume of fluid pumped out of tank during previous mist was greater than expected. Clear by pressing Red STOP button for 5 seconds.</td>
</tr>
<tr>
<td>SKIP</td>
<td>Unit will skip next programmed mist, having received signal from remote transmitter to SKIP NEXT MIST. Clear by holding down the ▲ arrow button for 3 seconds.</td>
</tr>
<tr>
<td>SUS</td>
<td>Wind sensor reading higher than user-set max and is suspending programmed mist.</td>
</tr>
</tbody>
</table>

**Appendix D**  
**Manual Operations**

There are a number of operations that can be performed while standing at the unit:

- **STOP** - Pressing Red MENU/STOP button will immediately stop any current operation of the unit, but will not change the System Mode from AUTO to OFF. (To change the System Mode to OFF, use the Green ▶ Auto/On/OFF button to cycle through each of four System Modes. The ▲ at the top of the display points to the active System Mode.

- **MANUAL MIST** - Pressing the ▲ and ▼ arrows simultaneously (2 seconds) will activate a mist cycle for the duration programmed in the SET-UP menu.

- **INSPECT** - Unit will mist for 5 minutes or until stopped. Navigate to INS in the MAINTENANCE Menu. Press the Green ▶ button for 5 seconds.

**Visible only on units equipped with optional leak detection capability. Refer to Section 7 of this manual for more information.**