



BackPack System User Guide

For E-Mist Customer Use Only • Version 011217



BackPack System User Guide

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Thank you for choosing the E-Mist BackPack System.

We've created an easy-to-use system that combines advanced liquid application technologies with improved mobility. The result is superior application and enhanced disinfection and cleaning, as well as a convenient BackPack design for user comfort.

We recommend you read through this entire instruction manual before beginning.

Included are assembly, operating, and safety instructions. Following these manufacturer guidelines will help the unit perform at peak effectiveness, extending the life of the product and ensuring the operator's safety.

Questions?

Each component has been inspected prior to your purchase. However, in the event that there is a problem, please contact customer service at: 817.349.3519.

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1 General Precautions & Safety Warnings

The E-Mist BackPack System is a battery-powered liquid application system designed to improve the performance of water soluble or water based chemicals used on touchable and other exposed surfaces. This is accomplished by applying an electrostatic charge to the droplets as they leave the spray head. This unique process improves liquid adhesion to targeted surface(s).

The hazards associated with the liquids you choose to apply represent their own unique and important safety requirements. Refer to each chemical manufacturer's documentation to establish best use steps and any need for personal protective equipment (PPE).

Never point the spray wand at another person and never touch or handle the charging area within the application wand (front end) during spraying. This will help avoid chemical splash and other possibly unsafe spraying conditions.

DO NOT USE LIQUIDS THAT ARE NOT WATER SOLUBLE OR WATER BASED WITHIN THE BACKPACK SYSTEM. HIGH ALCOHOL CONTENT LIQUIDS MUST NEVER BE SPRAYED NEAR OPEN FLAME OR OTHER POSSIBLE IGNITION SOURCES.

Safety Notices

Users are required to read this Operator's Manual, understand the safe and correct operating procedures that pertain to the operation of the product, and maintain the product according to the Operator's Manual. It is the operator's responsibility to ensure that any person who uses this equipment has read this manual.

Lack of attention to safety can result in reduced efficiency, accident, or personal injury. Please watch for safety hazards and correct deficiencies promptly. Use the following safety precautions as a guide when using this machine:

- ◆ Read the Operator's Manual thoroughly. Failure to read the manual is considered a misuse of the equipment.
- ◆ Use the spray system only for its intended use as

directed in this manual.

- ◆ Familiarize yourself with all components, including caution and warning labels.
- ◆ Only trained and qualified adults should operate the spray system.
- ◆ Do not use the equipment while under the influence of drugs or alcohol.
- ◆ Turn off and remove the batteries when leaving the equipment unattended.
- ◆ Store the system in a cool, dry place. Do not expose to extreme temperatures.
- ◆ Flush the spray system before storing (see Chapter 5).

USE CAUTION WHEN WALKING – FLOOR SURFACES WILL BE SLIPPERY WHEN WET.

NEVER TOUCH OR INSERT OBJECTS INTO SPRAYER.

WEAR GROUNDING STRAP PROPERLY TO AVOID STATIC SHOCK.

Use caution while spraying around furniture and electronics to avoid getting any surface too wet.

Use caution when walking backwards during the spray application to avoid tripping.

SAFETY WARNING!

Do not use the electrostatic application system if you have a pacemaker or an Implantable Cardioverter Defibrillator (ICD)

Remain outside the area of the electrostatic spray gun or where the application is being performed.

Electrical Warning

To reduce the risk of electrical shock or injury, follow these guidelines:

- ◆ Only use the unit for its intended purposes, as described in this manual.
- ◆ Always turn power unit off when not in use.
- ◆ Do not place body parts or any foreign object into any opening of the Backpack System.
- ◆ Never reach inside of the spray device while the spray system is powered on.
- ◆ Never place equipment in standing water or liquid.
- ◆ Never operate the spray system if it has been damaged or if it is not working properly.
- ◆ Always wear the grounding strap to prevent electrostatic shock.

Disinfectant Safety Precautions

Read and follow all instructions on the disinfectant manufacturer's label.

- ◆ Follow disinfectant manufacturer's recommendations to handle, mix, apply, store and dispose of their solutions.
- ◆ Follow the Personal Protective Equipment (PPE) requirements as recommended by the disinfectant manufacturer's safety data sheet (SDS) sheet.
- ◆ Be aware of poisoning symptoms and know the appropriate first aid protocol of your organization if poisoning symptoms appear to be present.
- ◆ Consult disinfectant manufacturer's recommendations so you know how long to wait before allowing people or pets to return to a sprayed area.

2 Initial Inspection & Set Up

E-Mist BackPack System Components



1. Backpack (blue or black cases are functionally identical) may be used with hand grip/carry configuration or with the Backpack harness.



2. Interchangeable one-gallon liquid tank – Includes strainer and cap and is inserted with light downward pressure then rotated 1/4 turn to lock in place.



3. Snap Cable – A universal connector/end is attached to the Application Wand and the housing to provide power and liquid connectivity.

4. Application Wand – is hard-wired into the Backpack housing. This hand-held device is trigger activated for the charging and applying of your liquids.

5. Rechargeable Battery (Optional 2nd Battery) – The system can accommodate two batteries for extended use but only one is required for operation. The battery will stop working once it reaches 20% capacity (or one “1” indicator bar) to ensure no damage occurs.



6. Toe Strap – This snaps to the bottom of the Backpack and is an extra layer of safety in the event static charge accumulates with extended use of the Backpack System. A simple loop slips over the toe of the shoe and heel.



***Note: The toe strap must be worn by the user. If the toe strap is not utilized the system will shut down and not work.**



7. Backpack Harness – This commercial harness is designed for comfort and safety. Adjustable to the user from small frames to large frame individuals.
8. Not Shown - Battery Charger Kit. Also not shown: personal protective equipment (PPE) as may be required by the chemical manufacturer of the liquid agent you plan to apply.

Inspection

After unpacking, inspect components for any damage:

1. Backpack
2. Liquid Tank
3. Application Wand
4. Rechargeable Battery
5. Toe Strap
6. Backpack Harness
7. Charger (AC Adapter, Smart Battery Charger and cord).

Initial Set Up (U.S. Only)

Charge Battery

- a. Plug cord into AC Adapter.
- b. Plug AC Adapter Cord into Smart Battery Charger.
- c. Plug AC Adapter into 120V wall outlet.
- d. Install battery into the smart charger.
- e. Reference power indicator (5 bars = full charge).

1. Install Battery (procedure same for both battery slots)

- With the Backpack battery slots facing you, remove battery covers by pinching triangle.
- Install battery with tab facing to the left.
- Gently push battery to seat.
- Replace battery cover.
- Depress the power button to verify power on the Backpack (LED will blink continuously).

2. Liquid Tank Removal

- While gently depressing tank lid/handle, rotate counter-clockwise about 1/4 turn. Once disengaged, it will pop up slightly.
- Lift Liquid Tank out of Backpack.

4. Liquid Tank Insertion

- For initial set up/test, fill the liquid tank 1/3 full with water.
- Gently place the liquid tank in the Backpack.
- Slightly rotate clockwise about 1/4 turn while depressing tank until you feel resistance. Handle of tank should line up with placard on Backpack (see photo on page 5).

5. Toe Strap Installation

- Identify the white portion of the toe strap ring and install placing white portion on bottom of foot.
- Place elastic strap around heel.
- Snap the button to the bottom of the Backpack.
***Note: The toe strap must be worn by the user. If the toe strap is not utilized the system will shut down and not work.**

6. Backpack Strap Adjustments

- Put the unit on like a Backpack and adjust the strap to fit comfortably.

7. Install wand on Backpack

- Identify the red line on the snap cable connector, match with the red line on the connector of the wand.
- Gently push until an audible snap sound.
- The light on the Backpack will be on and steady. This completes the communication test between wand and Backpack.
- Turn power off at the Backpack.

8. Backpack Function Check

- With the Ground Strap attached, snap cable connected, and the tank installed, push the power button on the Backpack,
- Put the Backpack on.
- Adjust straps as required.
- Attach wand.
- Take wand in hand and push power button until green LED displays (about 2 seconds).
- While pointing wand in a safe direction, press application trigger.

9. Wand Function Check

- Yellow LED signifies that the high voltage power supply is charging the liquid.
- Once the Application Trigger is pulled, the fan will turn on first, followed by the liquid spray.
- Once the Application Trigger is released, the liquid will stop and the fan will turn off after a slight hesitation to ensure the liquid is cleared of the wand.

Helpful Tips

- ◆ Optimal distance from a target is 3 feet.
- ◆ Wand will shut off once power indicator on battery reaches single bar.
- ◆ Keep wand disconnected while putting Backpack on/adjusting straps/taking Backpack off to avoid damaging the wand.
- ◆ Do not twist the connectors.

3 Assembly & Operating Instructions

Assembly Instructions and Tips



Keep this tab to the left as you insert the battery into its compartment on the BackPack.

1. Rechargeable Battery: The system uses up to two lithium-ion batteries. Tips:

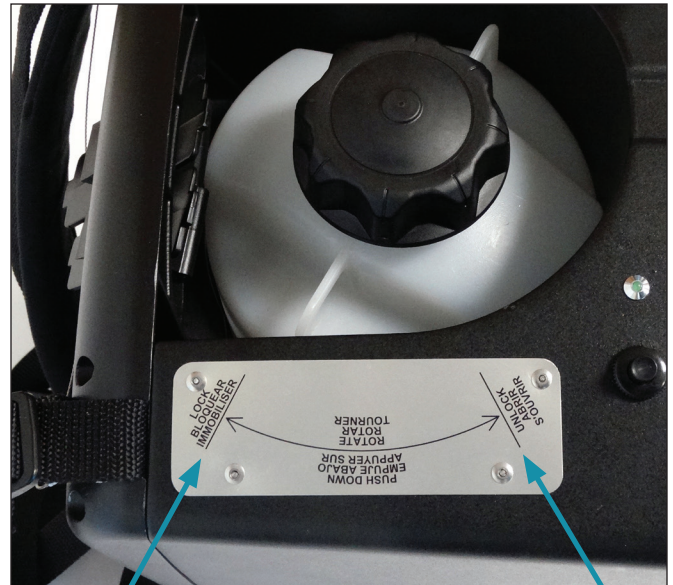
- The battery should be fully charged prior to the start of a project.
- Inspect the connectors for any debris or damage prior to inserting.
- The tab end of the battery includes a power meter to show remaining charge (5 bars = full charge).
- Two bars or less during startup may limit time of use without charging.
- The connector side of the battery enters the BackPack case.
- Keep battery handle tab to the left as you insert.
- DO NOT OVER APPLY PRESSURE – The battery easily seats in the BackPack. Over applying pressure may make the battery difficult to remove without tearing tab.
- Insert battery cover (plastic cover is attached by a lanyard).

2. Interchangeable one-gallon liquid tank. Tips:

- Remove the cap leaving particle strainer in place.
- Fill as needed and securely replace cap.
- Tank does not need to be removed to fill.



- Align the tank handle with the guide identified on the BackPack top label. IMPORTANT: CAREFULLY APPLY SLIGHT DOWNWARD PRESSURE ON THE TANK AND TURN INTO THE LOCKING POSITION.



*Tank Locked
Handle Alignment*

*Tank Unlocked
Handle Alignment*

- Utilize liquids for duration of project or until refill required. IMPORTANT: CAREFULLY APPLY SLIGHT DOWNWARD PRESSURE ON THE TANK AND TURN TO UNLOCK BEFORE LIFTING TO REMOVE.
- You may exchange tanks with different liquids at any time.

CAUTION: TURNING OR LIFTING A TANK FOR INSERTION OR REMOVAL WITHOUT SLIGHT DOWNWARD PRESSURE PRIOR TO LOCKING OR REMOVAL CAN DAMAGE THE TANK OR THE SYSTEM.

3. Snap In Cable – Connect to the Backpack case connector and the Application Wand connector. Tips:

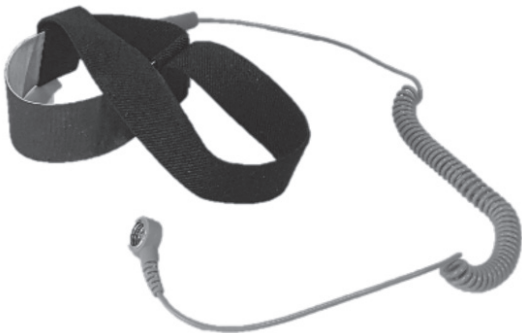
- Inspect the connector for any debris or damage prior to connecting.
- Align the red line on the male connector to the female connector.



- Push firmly to snap in place.
- DO NOT TWIST OR TURN CONNECTOR ONCE IN PLACE.

4. Toe Strap – This protection accessory is light weight and very flexible. Tips:

- Snap to the bottom of the Backpack chassis.
- Slide toe strap onto shoe. ***Note: The toe strap must be worn by the user. If the toe strap is not utilized the system will shut down and not work.**



5. Backpack System – Connect battery, tank and wand. Tips:

- Locate power switch on top of the Backpack.
- Depress power switch.
- View power on – green indicator.



6. Application Wand. Tips:

- Depress power button until green light displays.
- Point wand to floor.
- Press application trigger button, noting the yellow LED displayed.
- Let misting occur for two to four seconds.
- Release trigger button.
- Point toward targets.
- Press trigger button.
- Keep moving!



4 Spray Application

Preparing the Spray Area

Make sure food and drinks are removed or covered before spraying.

Spotless, clean interiors require no prep work prior to spraying.

Loose debris must be swept from floors and other surfaces prior to spraying.

Inspect the area for mechanical barriers such as: magazines on table tops, chairs touching each other, a table or a wall. The intended touch point for disinfecting will need to be accessible.

Please cover and remove valuables. Electronics, furniture, paper, or other common necessities do not need to be removed from the area.

Once the area has been cleaned, disinfecting can begin.

NOTE: The BackPack System is NOT a Mechanical Cleaner

Spray Application Process

1. Begin at the farthest point from the doorway, work back toward the doorway so you can step out when done.
2. Aim spray device 3 feet from the target area, begin with a smooth figure "S" movement aiming below, at



and above the target area while walking at a slow pace (3 ft. per second) continuously moving.

3. Make sure you are working in a methodical "S" pattern and let your passes overlap when moving to the next target area.
4. Allow the treated area to set for contact time as recommended by the disinfectant manufacturer's label before re-entry into the area.

If the spray device becomes wet or begins to drip, you are moving too slow over the target and need to speed up the process. Do not over-saturate the surface, if you see runs or puddles you are applying too much of the solution. The goal is to achieve even coverage over the surface area.

Fluid Management

The BackPack System is designed for single or multiple fluid application environments. Please use multiple tank applications carefully by marking tanks with your chemical identifiers if necessary. Application tips:

- ◆ While depressing trigger button, move wand in an "S" pattern from bottom to top of target in a continuous motion.
- ◆ Keep moving – electrostatically charged droplets will accumulate at higher levels at the tip of the wand if you move too slowly.
- ◆ Do not over apply. The tendency to "paint the fence" is an over usage of chemicals.
- ◆ In between chemical changes, press trigger while pointing to the floor or other safe target for four to five seconds to clear the remaining chemical in the cable.

Battery Management

The BackPack System battery utilization is controlled to draw down the battery to 20% of available cell power and

to then shut off. This will eliminate the possibility of unwanted battery damage and extend the life of the battery. Battery tips:

- ◆ Fully charge each battery before use.
- ◆ Keep connectors clean and dry at all times.
- ◆ Insert with battery tab to the left and the battery meter facing out.
- ◆ Do not expose batteries to standing liquids.

5 Maintenance & Cleaning

It is a good practice to flush the system every 24 hours with clean water. Do not store chemicals in the reservoir while the system is not in use for greater than 24 hour periods.

The BackPack System is designed to minimize maintenance and cleaning. Tips:

- ◆ Clear system at least once a day by spraying clean water through the system for at least ten seconds.
- ◆ Keep batteries charged.
- ◆ Inspect cable for cuts, tears, or damage.
- ◆ Inspect wand and connectors for debris or damage.

Changing Chemicals

It's important to flush between uses or when switching chemicals so no liquid stays in hoses or the reservoir. To flush the system, empty the fluid tank and fill with at least 1 inch (2.5 cm) of clean water. Spray through the nozzle for at least 45-60 seconds to flush the previous fluid from the system.

To prevent cross contamination of chemicals, You MUST perform a flush any time you change the type of disinfectant.

Storage

- ◆ Empty fluid or run until empty.
- ◆ Insert at least 1 inch (2.5 cm) of clean water in the tank.
- ◆ Run the sprayer for at least 10 seconds so that no active chemicals are left in the system.
- ◆ Remove batteries and re-charge by placing in charger.
- ◆ Use the power indicator on end of battery to determine

the battery state of charge (5 bars = full charge).

- ◆ Insert battery covers back into battery compartment to prevent foreign particles and moisture from damaging battery contact connectors.
- ◆ Coil the snap cable up neatly.
- ◆ Caution: Do not store the BackPack System in locations that may freeze (to avoid damage from water remaining in the system or snap cable).

Battery Removal

Make sure the system is powered off.

Remove both battery covers by squeezing the triangular pop-out portion of the covers and pulling outwards.

When covers are off, a pull-tab will be visible to assist in removal of the batteries.

Place batteries into charger (provided) to fully charge for next usage. There is a power indicator on the battery (5 bars = full charge). Each battery takes about 1 hour to fully charge.

Note: System will run on just one battery at a reduced run time.

6 Troubleshooting, Support & Repair

The BackPack System is designed and manufactured to function without defects. The system will operate normally with properly maintained batteries and without abuse to the connector or other system parts.

Indications and Remedies

No power

Check BackPack battery life, and ensure that the snap cable is seated in the BackPack. Check that cable is properly connected. If not, connect power cable.

No mist or inadequate mist

Check to see if reservoir tank is empty and if so, fill with solution. Check if the hybrid connector from the BackPack to the Wand is connected properly.

Wand will not spray

Check all connections, check battery life, check power button on the BackPack.

Wand shows blinking yellow indicator

This indicator is for the charging system and indicates that charging is not functioning 100% and battery life may be below functional use without charging.

BackPack power indicator LED is blinking

Ensure that the Applicator Wand is properly connected.

Pump will not turn on

Check battery life, check to see if the battery is fully seated in the BackPack, check tank connection and liquid availability (tank levels). Reset by turning off power switch on BackPack and restarting.

Tank connection exposed, broken or leaking

If the tank connection was damaged, the tank may need to be replaced. Contact our Service Center: 1.817.349.3519.

Unit failure during spray operations

Internal failure or discharge cord not connected: Ensure grounding strap is making contact on the bottom of the BackPack System unit. Call a customer care representative at 1.817.349.3519.

Support or Repair

- ◆ If your BackPack System fails to function, excluding obvious user damage, please contact E-Mist or your authorized E-Mist distributor.
- ◆ If an issue is encountered not addressed in the troubleshooting methods above, please contact a customer care representative at: 1.817.349.3519.

Specifications

| | |
|-----------------|---------------------|
| Volts: | 12.8 to 16.8 Vdc. |
| Weight (empty): | ≤ 18 lbs |
| Weight (full): | ≤ 25 lbs |
| Tank Capacity: | 1 gallon |
| Spray Width: | 30 inches at 3 feet |
| Spray Range: | 3 to 5 feet |
| Sound: | 68 dB |



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