

A User's Guide for Dr. Allens ES290 Electrostatic Sprayer



- Thank you for purchasing the RehabMart Professional Electrostatic Backpack Sprayer!
- After unpacking, please check whether the parts in the packing box are consistent with the contents of the packing list.
- Before using this product, please read this guide in detail to ensure proper use, and keep this guide in a safe place for future reference.

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Brief introduction of the Professional Electrostatic Backpack Sprayer

1) Characteristics of the Professional Electrostatic Backpack Sprayer

- A) Effective application** - Atomizing solutions to a diameter of 40 to 100µm and statically charging them, this electrostatic sprayer greatly improves coverage and reduces overspray. The solution will cling to a surface and wrap around it, absorbing and spreading out onto the surfaces, finding its way into nooks and crannies for optimal coverage. This electrostatic sprayer saves money by requiring only 30 to 50 percent of a solution to cover the same size area as conventional sprayers.
- B) High kill-rate** - Because the electrostatically-charged molecules of the solution provide such exceptional coverage and are easily absorbed, the disinfectant, pesticide, insecticide, and fungicide solutions used with this sprayer typically provide a higher kill-rate than with ordinary sprayers, doubling the efficacy against toxins, contagions, and pests.
- C) Saves time** - This electrostatic sprayer saves time as it eliminates the need to repeat spray applications. As long as you move quickly and spray gently, this sprayer maximizes efficient coverage with just one application. Available with three different nozzles that deliver a fine mist, the single nozzle sprays a tankful of a solution in about 55 minutes, while the double nozzle takes 30 minutes, and the quadruple nozzle takes only 15 minutes.

2) Cautions for the Professional Electrostatic Backpack Sprayer

- A) You must turn on the power switch at the handle before starting the static switch. The static switch is located at the base of the equipment and this function controls the static electricity. When the static switch is turned on, the copper bar must touch the handle of the sprayer by holding it with your finger(s).
- B) Do NOT touch the nozzle once the static electricity is turned on, and the fingers should always hold the copper bar against the handle, or electric shock can occur. When you're done spraying, shut down the equipment and place the nozzle against an object or the ground to eliminate residual static electricity.
- C) The spray head should be more than 30 cm (about a foot) from the surfaces being sprayed. This electrostatic sprayer should never be used during lightning storms, nor in foggy, rainy, or high-humidity environments.
- D) Because it is a dedicated pump, this sprayer has high-pressure contents.

Technical Specifications

Model Specifications	3WBJ-16	3WBJ-16B	3WBJ-18B
Dimensions (mm)	375*175*510	370*180*480	415*200*490
Net Weight (kg)	5.3±0.2	5.7±0.2	6.0±0.2
Rated Capacity (L)	16	16	18
Working Pressure (MPa)	0.15-0.5		
Flow (L/ min)	0.3-1.1 (Depends on the type and state of the nozzle)		
Battery Type and Specifications	12V9AH Lead-acid batteries		
Liquid pump type	Diaphragm pump (backflow)		
Static voltage (KV)	20-30		
Motor working voltage	12		
Continuous working time	≥6		
Charger input / output voltage (V)	220/12		
Charger current (A)	1.0-1.2		

Safety Instructions for Professional Electrostatic Backpack Sprayer

- 1) **Requirements for safe use** - Please operate this equipment in accordance with the directions, along with the specified safe operating procedures of related industries such as infection control for hospitals and pesticide usage in farming to avoid poisoning, crop or equipment damage, and sprayer damage.
- 2) **Solution compatibility** - Do not ever use strong acids, strong alkalis, flammables, and other specialized working fluids and powders that are insoluble in water.
- 3) **Charging socket safety** - Do not ever touch the charging socket with metal objects to avoid burning the circuit.
- 4) **Personal protective equipment (PPE)** - Wear safety masks, gloves, and other protective gear when spraying. Follow manufacturer safety guidelines for pesticides, disinfectants, and other organism-killing solutions.
- 5) **Safety Warning** - A safety warning sign is located on the upper front part of the backpack sprayer's tank.

Operating Instructions

- 1) **Connection** - Remove the sprayer, spray bar, strap, and spare bag. Buckle the strap on the sprayer and adjust its length. Extend the telescoping spray rod by more than 10 cm (about 4 inches) and insert the outlet pipe into the spray rod's inner cavity and tighten it (the sealing gasket is already sleeved on the outlet pipe during manufacture). Put the spray rod gasket on the end of the spray rod and screw on the corresponding spray head (single, double, or quadruple).
- 2) **Test spray** - Unscrew the lid of the tank and add the proper amount of water that's been cleaned through the large filter. The first usage includes turning on the power switch and spraying for half a minute to ensure the connections are tightly sealed and that the mist and pressure are normal. Once you turn on the electrostatic mode and turn it off, the sprayer will be back in its regular function for normal operation.
- 3) **Charging** - Insert the charger into the charging jack of the base and then connect the other end to the power supply. The red light indicates charging is in progress, while the green light indicates charging is completed. Charging time depends on the remaining battery power, generally taking 8 to 12 hours to complete.
- 4) **Adding solution** - Unscrew the lid of the tank and slowly add the disinfectant or another kind of solution prepared with clean water through the large filter. Do NOT remove the small and large filters. Tighten the tank's lid to prevent overflow and to keep the contents safely under pressure inside.
- 5) **Spraying operation** - Turn on the power switch to perform spraying operation, and then turn on the static switch to perform electrostatic mode spraying.
- 6) **Cleaning out the residual solution** - After the spraying operation is completed or midway every day in daily use applications, the remaining chemical solution should be removed and poured into clean water to spray for 3 to 5 minutes.

Maintenance

- 1) Battery maintenance** - Keep the battery fully charged as often as possible. Do NOT wait until the battery life is completely drained before charging as this may adversely affect the service life of the battery and may also cause battery scraping (the electricity meter is easy to damage). If the spraying force is weak, be sure to charge the battery, as the amount of force depends on plenty of battery power.

Charge the battery before first use, as brand new sprayers will self-discharge during storage and transportation. The green indicator light will show pretty quickly once you charge your new sprayer. It's a good habit to charge the sprayer immediately after use, ensuring the sprayer is always ready to operate when you need it.

When it's fully charged, the sprayer can operate continuously for about 6 to 8 hours. When it's left unused for extended periods of time, it should be charged every 2 months. Always use the charger dedicated to this machine when charging for safe and efficient operation.

- 2) Pump maintenance** - After spraying and dispensing all of the chemical solution, use plain water in the tank to completely clean it out of the nozzle via spraying.
- 3) Other maintenance** - Keep the nozzles and large and small filters clean, ensuring there's no blockages or buildup. Wipe the surface dirt with a damp cloth. Do NOT immerse the sprayer, especially the base parts, in water for washing. When not in use, store the sprayer in a cool, dry, and well-ventilated space.

Fault Phenomenon	Cause Analysis	Approach
Turn on the power switch, the pump does not run	Low battery or damaged	Charge or replace the battery
	Poor power cord contact	Check the wires to make sure the connection is secure
	Power switch is damaged	Replace the power switch
	The pump is blocked or malfunctioning	Repair or replace the pump
The motor is operating abnormally	The inlet or outlet hose is blocked	Remove blockages
	There is a blockage in the pump	Disassemble the pump head to remove debris
Insufficient flow and head	Low battery	Charge
	Small filter, spray head, hoses in or out of water or blocked in water pump	Remove foreign objects
	Damaged wearing parts of the pump	Replace wearing parts
Liquid drip	All connections are not tightened	Tighten
	The sealing ring is not installed	Install the sealing ring