

# User's Guide

## Electrostatic sprayer

### ES290

- **Thank you for purchasing the multifunctional electrostatic sprayer produced by our factory!**
- **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 manual in detail for proper use; after reading, please keep it in a safe place for future reference.**



## Brief introduction of multifunctional electrostatic sprayer

### 1. Characteristics of electrostatic sprayer:

- 1) 1) Saving medicine. After the mist droplets are atomized again by electrostatic action, the diameter is between 40-100  $\mu\text{m}$ , and the sprayed liquid forms an electric field with the crop, and the crop will actively absorb the liquid. It greatly reduces the waste of medicine liquid on the ground and achieves the effect of saving medicine. Provincial medicine 30% - 50%.
- 2) The liquid medicine is not easy to slip, and the insecticidal rate is good. The electrostatic adsorption makes it difficult for the liquid medicine sprayed on the crop to slide down, and a thin film is formed, and the liquid medicine is completely absorbed. The insecticidal rate is twice that of ordinary sprayers.
- 3) save time. There is no need to repeatedly spray on the crops when working in static mode, as long as you move quickly and spray gently, the efficiency is greatly improved. Note that repeated spraying until the medicine liquid flows will backfire and the insecticidal rate will be greatly reduced.
- 4) Theoretically, as long as the spray is applied on the upper side, the reverse side and hidden parts of the crop can be received. But in practice, the effect of absorbing liquid medicine on the reverse side is very limited due to the bending and deformation of the leaves due to water pressure. The amount of medicine applied to the reverse side and the concealed part is related to the height, size, hardness, density and density of the leaves of the crops, as well as the nozzle selected.
- 5) Equipped with a special nozzle, the effect is better, and the atomization is finer. The water output of the special nozzle is very small, and the time for spraying a barrel of potion is about 55 minutes (single spray), 30 minutes (double spray), and 15 minutes (four sprays).

### Detailed pics



### 2. Cautions for electrostatic sprayer

- 1) The electrostatic sprayer is safe. Even if you accidentally touch the static electricity, it will feel sore, but it will not harm the human body.
- 2) The static switch is located at the base and has the function of controlling static electricity. You must turn on the power switch at the handle before starting the static switch. When the electrostatic switch is turned on, hold the handle (the copper bar that must touch the handle) and use an ordinary electric pen to detect the electrification of the water in the medicine barrel.
- 3) When the electrostatic switch is turned on, the finger must first hold the copper bar at the handle; after the static electricity is turned on, it is forbidden to touch the nozzle part; after the shutdown, the nozzle must be contacted with the sprayed object or the ground to eliminate the residual static electricity



- 4) Use electrostatic spray gun. In the electrostatic operation, when the hands are to be exchanged, the hands must not leave the copper bar at the handle, otherwise it will cause electric shock; when spraying the spray, the spray head should be more than 30 cm away from the crop.
- 5) In foggy, rainy or high-humidity environments, static electricity should not be used.
- 6) It is forbidden to use static electricity in lightning weather.
- 7) The electrostatic sprayer pump is a dedicated pump, which has high pressure and saves electricity.



## Technical Parameters

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

## Parts



### Safety instructions

Safety warning sign: Located on the upper front part of the sprayer liquid tank.

Requirements for safe use:

Please operate in accordance with the requirements of use and the operating procedures of related industries to avoid causing poisoning, crop damage and sprayer damage

It is forbidden to use strong acid, strong alkali, flammable and other special working fluids and powders that are insoluble in water

It is strictly forbidden to touch the charging socket with metal objects to avoid burning the circuit.

When handling pesticides, the safety instructions provided by pesticide manufacturers should be followed.

Wear safety masks such as masks and gloves when working.

### Instructions

1. Connection: Remove the sprayer, spray bar, strap and spare bag. First buckle the strap on the sprayer and adjust its length; extend the pull-out spray rod by more than 10 cm, insert the outlet pipe into the inner cavity of the spray rod and tighten it (the sealing gasket is already sleeved on the outlet pipe at the factory), at the end of the spray rod Put on a spray rod gasket and screw on the corresponding spray head.
2. Test spray: Unscrew the lid and add a proper amount of clean water to the drum through a large filter. The new machine first tears the tape, turns on the power switch (located at the handle), and sprays for half a minute to check whether the connections are tightly sealed, whether the mist and pressure are normal; turn on the electrostatic switch at the bottom to turn on the electrostatic mode operation, and turn off It is a normal mode job.

3. Charging: first 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, the green light indicates that the charging is completed, the charging time depends on the remaining battery power, generally 8-12 hours.
4. Adding medicine solution: Unscrew the lid, and slowly inject the medicine solution prepared with clean water into the bucket through a large filter. Note that the medicine solution must pass through the large filter, and then tighten the lid to prevent the medicine from overflowing. It is forbidden to take out two large and small filters.
5. Spraying operation: Turn on the power switch to perform spraying operation, and then turn on the electrostatic switch to enter electrostatic mode spraying.
6. Cleaning the residual chemical solution: after the operation is completed or midway every day, other pesticides should be sprayed. The remaining chemical solution should be poured out and poured into clean water to spray for 3-5 minutes. Liquid medicine.

## **Maintenance**

### 1. Battery maintenance:

- 1) Every time you use the sprayer, when you find that the spraying force is weakened, please stop using it immediately and charge it immediately. Don't stop using the battery until the battery is exhausted and the medicine can't be sprayed out. This will seriously affect the service life of the battery and may also cause battery scrapping. (The electricity meter is very easy to damage, mainly for aesthetic purposes, and the battery power is still based on the spraying force.)
- 2) Newly purchased products will cause self-discharge during transportation and storage. Please charge before use (the indicator light will quickly turn to green when the newly purchased machine is charged or the green light is normal at the beginning, indicating that the power is still sufficient) .
- 3) Cultivate the habit of charging immediately after use (regardless of whether the power is sufficient), the sprayer can work continuously for about 6-8 hours after being fully charged; when it is left unused for a long time, it will be charged every two months.
- 4) Use the charger dedicated to this machine when charging.

2. Maintenance of the pump: After spraying the liquid medicine, you must spray it with clean water for several minutes to clean the liquid medicine remaining in the water pump.

3. Maintenance of the whole machine:

- 1) Pay attention to clean the large and small filters and nozzles to keep them unblocked and not blocked.
- 2) Wipe the surface dirt with a damp cloth. Do not immerse the sprayer, especially the base parts, in water for washing.
- 3) When not in use, please store it in a cool, dry and ventilated place.

## Trouble shooting

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 normally	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
Medicine drip	All connections are not tightened	Tighten
	The sealing ring is not installed	Install the sealing ring
	There is leakage	Check the connections