



GERMCLEAN™ 3000 SERIES ELECTROSTATIC SPRAYERS

The New Normal Disinfection Technology
for Hospitality Industry

Introduction

It's becoming more difficult for hospitality industry to stay ahead of today's rising public health threats and increasing demands for higher levels of disinfection. Hoteliers are challenged with improving hygiene, yet in a limited timeframe without increasing budgets or staff. The advent of advanced electrostatic technologies offers hotels new ways to achieve greater efficiencies and improved staff productivity which is crucial to preventing the spread of emerging viral pathogens. Electrostatic spraying is a breakthrough technology for disinfection applications in the hospitality industry under the new normal environment. It is the most effective disinfection method comparing to the traditional spray and wipe method, which is laborious and ineffective. During the spraying process, high pressure air flow from the electrostatic sprayer breaks solutions into tiny uniform droplets. The droplets are then electrostatically charged and create an electric field that allows the droplets to adhere to the surface of any object within a certain distance by electrostatic force. The charged droplets fully wrap the target surface due to the electrostatic effect. Its power is so great that the droplets will reverse to cover the back of the target, even on hidden, difficult-to-reach surfaces, which are usually cannot be done with traditional disinfection method.

Combined with the disinfectant solution, the electrostatic sprayer can kill bacteria, airborne spores and viruses effectively, hence delivering efficient and compete disinfection effect.

Advantages of Electrostatic Disinfection Sprayer

- **TOUCHLESS APPLICATION**
There is no need to wipe the surfaces. GERM CLEAN™ ESP-3000 series electrostatic sprayers provide a fast and effective application method while using less solution.
- **REDUCE CROSS CONTAMINATION**
Cross-contamination can be reduced considerably by using the GERM CLEAN™ ESP-3000 series electrostatic sprayers compare to traditional spray-and-wipe method that can transfer bacteria from one surface to another.
- **EASY TO OPERATE**
The GERM CLEAN™ ESP-3000 electrostatic sprayers are designed with ease-of-use in mind. Simply fill up the disinfection container, turn on the switch and start disinfection.
- **LIQUID ADHESION & COVERAGE**
Using GERM CLEAN™ ESP-3000 series electrostatic sprayers enable a quick and effective chemical application as the charged droplets fully wrap the target surface due to the electrostatic effect. The droplets will adhere to the surface of any object within a certain distance by electrostatic force. This allows the solution to cover hidden, difficult-to-reach surfaces and also able to cover a large area within a short time.
- **PORTABILITY**
GERM CLEAN™ ESP-3000 series electrostatic sprayers are lightweight, cordless, and can be easily taken anywhere.
- **COST EFFECTIVE AND EASE OF IMPLEMENTATION**
GERM CLEAN™ ESP-3000 series electrostatic sprayers are cost-effective and easy to implement due to portability and light weight.
- **USING LESS CHEMICAL**
GERM CLEAN™ ESP-3000 series electrostatic sprayers save disinfection chemical by at least 60% comparing to traditional method.
- **EFFICIENCY**
Fine and uniform droplets to maximize disinfection effect, 360° target fully wrapped for complete and effective disinfection.
- **ECO FRIENDLY**
GERM CLEAN™ ESP-3000 series electrostatic sprayers are eco-friendly as it uses 60% less chemicals per meter comparing to traditional method.





GERMCLEAN™ MODEL ESP-3010 HANDHELD ELECTROSTATIC SPRAYER

SPECIFICATIONS

| | |
|--------------------------|-------------------|
| RATED VOLTAGE | 12.0VDC |
| MAXIMUM POWER | 15W |
| CHARGING TIME | 2 Hours |
| ENDURANCE TIME | 3 Hours |
| TANK CAPACITY | 500mL |
| BATTERY | 12v/2.5Ah |
| ELECTROSTATIC VOLTAGE | 4.6KV |
| PARTICLE DIAMETER | 60-120µM |
| ENCLOSURE MATERIAL | PE |
| QUIESCENT SPRAY DISTANCE | ≥4 Meters |
| OPERATING HUMIDITY | 0-80% |
| SOUND PRESSURE LEVEL | 60dB |
| GROSS WEIGHT | 1.1Kg |
| PACKING MEASUREMENT | 39CM X 26CM X11CM |





GERMCLEAN™ MODEL ESP-3011 HANDHELD ELECTROSTATIC SPRAYER

SPECIFICATIONS

| | |
|--------------------------|-----------------------|
| RATED VOLTAGE | 14.8VDC |
| MAXIMUM POWER | 15W |
| CHARGING TIME | 2.5 Hours |
| ENDURANCE TIME | 1.5 Hours |
| TANK CAPACITY | 850mL |
| BATTERY | 2A X 2 |
| SPRAY AREA ON FULL TANK | 100-130M ² |
| SPAY AREA ON FULL CHARGE | ≥2000M ² |
| ENCLOSURE MATERIAL | PE |
| PARTICLE DIAMETER | 30μM |
| QUIESCENT SPRAY DISTANCE | ≥6 Meters |
| OPERATING HUMIDITY | 0-80% |
| SOUND PRESSURE LEVEL | 60dB |
| OPERATING TEMPERATURE | -30-40°C |
| GROSS WEIGHT | 2.6Kg |
| PACKING MEASUREMENT | 51CM X 35CM X13CM |



GERMCLEAN™ MODEL ESP-3012 HANDHELD ELECTROSTATIC SPRAYER

SPECIFICATIONS

| | |
|--------------------------|----------------------------------|
| RATED VOLTAGE | 16.8VDC |
| MAXIMUM POWER | 75W |
| CHARGING TIME | 2.5 Hours |
| ENDURANCE TIME | 1 Hour |
| TANK CAPACITY | 1.0L |
| BATTERY | 42WH X 2 |
| BATTERY CAPACITY | 16.8V/2.4AH |
| POWER INPUT | 100-240V, 50-60HZ, 3A |
| CHARGER OUTPUT | 16.8VDC/1.0A Fast Charging |
| MAXIMUM SPRAY FLOW | 120mL/Min |
| QUIESCENT SPRAY DISTANCE | ≥2 Meters |
| PARTICLE DIAMETER | 30μM |
| ENCLOSURE MATERIAL | Reinforced Nylon/Flame Retardant |
| OPERATING HUMIDITY | 0-80% |
| SOUND PRESSURE LEVEL | 60dB |
| OPERATING TEMPERATURE | -30-40°C |
| GROSS WEIGHT | 7.9Kg |
| PACKING MEASUREMENT | 59.5CM X 19.5CM X27CM |





GERMCLEAN™ MODEL ESP-3013 HANDHELD ELECTROSTATIC SPRAYER

SPECIFICATIONS

| | |
|--------------------------|---|
| RATED VOLTAGE | 24VDC |
| MAXIMUM POWER | 300W |
| CHARGING TIME | 3.5 Hours |
| ENDURANCE TIME | Low Power: 1.0 Hours High Power: 1 Hour |
| TANK CAPACITY | 2.0L |
| BATTERY | 326WH |
| BATTERY CAPACITY | 24V/13.6AH |
| POWER INPUT | 100-240V, 50-60HZ, 3A |
| CHARGER OUTPUT | 29.4VDC/5.0V Fast Charging |
| MAXIMUM SPRAY FLOW | 155mL/Min |
| QUIESCENT SPRAY DISTANCE | ≥8 Meters |
| PARTICLE DIAMETER | 50μM |
| ENCLOSURE MATERIAL | Reinforced Nylon/Flame Retardant |
| OPERATING HUMIDITY | 0-80% |
| SOUND PRESSURE LEVEL | 75dB |
| OPERATING TEMPERATURE | -30-40°C |
| GROSS WEIGHT | 5.3Kg |
| PACKING MEASUREMENT | 38CM X 46CM X15CM |



GERMCLEAN™ MODEL ESP-3014 BACKPACK ELECTROSTATIC SPRAYER

SPECIFICATIONS

| | |
|------------------------------|--------------------|
| RATED VOLTAGE | 17.5VDC |
| MAXIMUM POWER | 15W |
| CHARGING TIME | 3.5 Hours |
| ENDURANCE TIME | 1.5 Hours |
| TANK CAPACITY | 6.0L |
| BATTERY | 2.5Ah X 2 |
| BATTERY WORKING TIME | 150 mins |
| OPERATING TIME OF ONE CHARGE | 30 mins |
| SPRAY AREA ON FULL TANK | 600m ² |
| SPRAY VOLUME | 140-290 ml/min |
| ENCLOSURE MATERIAL | PE |
| PARTICLE DIAMETER | 80-100μM |
| QUIESCENT SPRAY DISTANCE | 3-4 meters |
| OPERATING HUMIDITY | 0-80% |
| SOUND PRESSURE LEVEL | 60dB |
| OPERATING TEMPERATURE | -30-40°C |
| GROSS WEIGHT | 5.3Kg |
| PACKING MEASUREMENT | 34CM X 35CM X 50CM |



GERMCLEAN™ MODEL ESP-3015 BACKPACK ELECTROSTATIC SPRAYER

SPECIFICATIONS

| | |
|--------------------------|---------------------|
| RATED VOLTAGE | 100-240V |
| MAXIMUM POWER | 200W |
| CHARGING TIME | 2.5 Hours |
| ENDURANCE TIME | 5 Hours |
| TANK CAPACITY | 10L |
| BATTERY | 24V/30AH |
| BATTERY SIZE | 15*12.5*10cm/2.8 Kg |
| SPRAY AREA ON FULL TANK | ≥6000m ² |
| SPRAY VOLUME | 140-290 ml/min |
| ENCLOSURE MATERIAL | PE |
| PARTICLE DIAMETER | 10-30μm |
| QUIESCENT SPRAY DISTANCE | ≥8 meters |
| OPERATING HUMIDITY | 0-80% |
| SOUND PRESSURE LEVEL | 60dB |
| OPERATING TEMPERATURE | -30-40°C |
| GROSS WEIGHT | 12.8Kg |
| PACKING MEASUREMENT | 73CM X 28CM X66CM |



Comparing Handheld GermClean™ 3000 Series Electrostatic Sprayers

| FUNCTIONS | MODEL ESP-3010 | MODEL ESP-3011 | MODEL ESP-3012 |
|--------------------------|-------------------|-------------------|----------------------------------|
| RATED VOLTAGE | 12.0VDC | 14.8VDC | 16.8VDC |
| MAXIMUM POWER | 15W | 15W | 75W |
| CHARGING TIME | 2.0 Hours | 2.5 Hours | 2.5 Hours |
| ENDURANCE TIME | 3.0 Hours | 1.5 Hours | 1.0 Hour |
| TANK CAPACITY | 500mL | 850mL | 1.0L |
| BATTERY | 12v/2.5Ah | 2Ah X 2 | 42WH X 2 |
| SPRAY AREA ON FULL TANK | 60-80M² | 100-130M² | ≥300M² |
| QUIESCENT SPRAY DISTANCE | ≥4 Meters | ≥6 Meters | ≥2 Meters |
| PARTICLE DIAMETER | 60-120µM | 30µM | 30µM |
| ENCLOSURE MATERIAL | PE | PE | Reinforced Nylon/Flame Retardant |
| OPERATING HUMIDITY | 0-80% | 0-80% | 0-80% |
| SOUND PRESSURE LEVEL | 60dB | 60dB | 75dB |
| OPERATING TEMPERATURE | -30-40°C | -30-40°C | -30-40°C |
| GROSS WEIGHT | 1.1Kg | 2.6Kg | 5.3Kg |
| PACKING MEASUREMENT | 39CM X 26CM X11CM | 51CM X 35CM X13CM | 38CM X 46CM X15CM |

Comparing Different Disinfection Methods

| | SPRAY & WIPE | ROOM FOGGERS | ELECTROSTATIC SPRAY |
|-----------------------------|-------------------------------|--|---------------------|
| Labor for 30-40 M² | 30 Mins | 70 Mins | 3 Mins |
| Micron Size | 150-200 | 7-10 | 40-80 |
| Room Preparation and Action | Limited Spray & Wipe Surfaces | Major Work Caping HVAC and DUCTs and sealed Area | None Touchless |
| Cost | Major Labor Cost | Major Equipment Cost | Limited Cost |

Applications Area

- Hotels: Reception areas, hotel rooms, gyms, dining rooms, pool facilities
- Hospitals: Waiting rooms, doctor's offices, surgical theaters, and examination areas
- Schools & Universities: Cafeterias, classrooms, gyms, buses, and locker rooms
- Food & Beverages: Restaurants, industrial kitchens, and vehicles
- Offices: Cubicles, office reception area, bathrooms, and boardrooms

Safety Precautions

The discharge from the electrostatic sprayer when applied correctly comes out as highly targeted. There is less misting as compared to traditional sprayers. However, it is always recommended that Personal Protective Equipment (PPE) is used during electrostatic cleaning:

- Dust/mist mask
- Eye protection
- Hand coverings
- Manufacturer recommendations



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