

HYGIENICA

ELECTRO·HYGIENE SYSTEM™

**OPERATOR'S MANUAL
HX PRO PLUS
ELECTRO·HYGIENE SYSTEM**



PLEASE SAVE FOR FUTURE REFERENCE

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This chemical sprayer has been engineered and manufactured to a high standard for ease of operation, operator safety and dependability. When appropriately maintained, your sprayer will function to a high performance level for years.

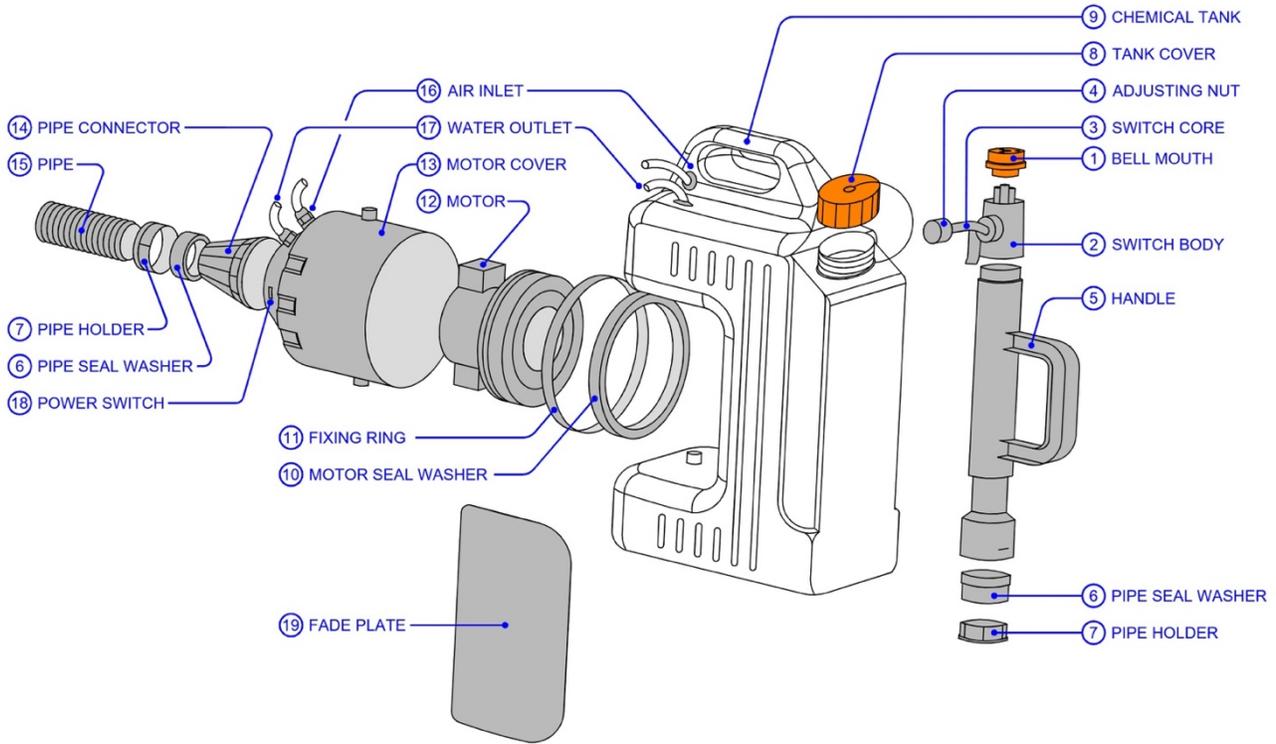
 **WARNING: TO REDUCE THE RISK OF OPERATOR INJURY, THE USER **MUST** READ AND UNDERSTAND THIS OPERATOR'S MANUAL BEFORE PROCEEDING WITH OPERATION.**

INTRODUCTION

The HYGIENICA™ Electro-Hygiene Sprayer System has been engineered and manufactured for ease of use. This system will allow you to disinfect and sanitize public and non-public spaces, indoor or at construction sites. Using EPA-registered disinfectants in conjunction with this sprayer will allow you to remove 99.9% of viruses, pathogens, and bacteria, including: most coronaviruses, including, but not limited to SARS-Cov-2 (COVID-19); influenza A; rhinovirus; and norovirus. HYGIENICA™

Electro-Hygiene Systems are the choice technology for technical remediation specialists because they are optimized to achieve sanitization of 8,000 to 20,000 square feet per hour of operation.

DRAWING OF SPRAYER & KEY



① BELL MOUTH	
② SWITCH BODY	
③ SWITCH CORE	
④ ADJUSTING NUT	
⑤ HANDLE	
⑥ PIPE SEAL WASHER	
⑦ PIPE HOLDER	
⑧ TANK COVER	

⑨ CHEMICAL TANK	
⑩ MOTOR SEAL WASHER	
⑪ FIXING RING	
⑫ MOTOR	
⑬ MOTOR COVER	

⑭ PIPE CONNECTOR	
⑮ PIPE	
⑯ AIR INLET	
⑰ WATER OUTLET	
⑱ POWER SWITCH	
⑲ FADE PLATE	

IMPORTANT SAFETY INSTRUCTIONS



PLEASE READ THE ENTIRE MANUAL BEFORE OPERATING THE SYSTEM. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT YOUR DEALER PRIOR TO OPERATION.



This sprayer advantageously provides uniform droplet sizes, a long spray range, a high-performing, efficient motor, stable performance, reliability and durability.

This sprayer is appropriate for use in the disinfection and sanitization of public spaces, including airports, construction sites, docks, hotels, restaurants, hospitals, public transportation, theaters, food processing facilities, pharmaceutical companies.

Please see previous page for an illustration of the device.

SAFETY WARNINGS

- **DO NOT USE** to spray highly toxic or undiluted pesticides, insecticides or herbicides. Use with EPA-registered disinfectants.
- **DO NOT USE** to spray flammable or explosive liquids, or highly volatile chemicals, including but not limited to: gasoline, alcohol, acetone, etc.
- **DO NOT USE** to spray highly corrosive liquids, including acids and caustic solutions. Citric Acid disinfectants are highly corrosive to machine valves and while safe to use, will damage certain components that void the warranty. User should take extreme caution when using and should thoroughly wash out the unit after each use.
- **DO NOT USE** alcohol-based chemicals. When using hydrogen peroxide-based chemicals, make sure solution is properly diluted before adding to tank.
- **DO NOT OPERATE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.**
- **WEAR PROTECTIVE GARB** including coveralls, gloves, safety glasses and filtering masks.
- **DO NOT** pour hot or boiling liquids into the tank. These can weaken or damage the hose or tank.
- **STORE THE SPRAYER** in a secure, well-ventilated indoor space. Empty the tank before storage, and clean the machine thoroughly after each use. Do not store the sprayer where it could come into contact with water. Keep out of reach of children.
- **DO NOT SMOKE** while using this sprayer, or spray where any spark or flame could be present.
- **KNOW THE CONTENTS OF THE CHEMICAL BEING SPRAYED.** Read all Material Safety Data Sheets (MSDS) and container labels provided with the chemical. Follow all chemical manufacturer's safety instructions.
- **DO NOT SPRAY** toward electrical outlets.
- **MAINTAIN THE SPRAYER.** Thoroughly inspect both the inside and the outside of the sprayer and examine the components before each use, particularly prior to filling the tank with chemicals. Check for cracked and deteriorated hoses, any damage to the power cord, clogged nozzles, and missing or damaged parts. If damaged, have the product repaired prior to use.
- **ALWAYS USE EYE PROTECTION** with side shields or goggles marked to comply with ANSI Z87.1. Failure to do so could result in serious eye injury.
- **PROTECT YOUR LUNGS** with a N-95 or P-100 mask while in a potentially contaminated space and during sprayer operation.
- **DO NOT USE** this sprayer in wet environments.
- **SPRAY ONLY** in well-ventilated, well-lit areas.
- **KEEP THE POWER CORD DRY.** As with any electrical appliance, there is a risk of electric shock if the power cord comes into contact with water.
- **PLUG THE EXTENSION CORD INTO A GFI ADAPTER** before connecting to the wall.
- **TO AVOID ELECTRIC SHOCK** keep the machine dry and do not operate switches with wet hands.
- **NOT FOR OPERATION BY CHILDREN.**

SYMBOLS

SYMBOL	SIGNAL	MEANING
	DANGER or WARNING	Indicates a hazardous situation which, if not avoided, could result in serious injury or death.
	CAUTION	Indicates a hazardous situation which, if not avoided, could result in serious injury or death
	NOTICE (Without a safety alert symbol)	Indicates information which is considered important, but is not related to potential injury (e.g. messages relating to property damage).

These symbols indicate potential personal injury hazard or potential property damage hazards. To reduce the risk of injury, user must read and understand the operator’s manual.

Always use eye protection with side shields or goggles marked to comply with ANSI* Z87.1.

 WARNING: THIS PRODUCT USES A POWER CORD WHICH IS PLUGGED INTO AN ELECTRICAL OUTLET. ALWAYS KEEP POWER CORD AWAY FROM WATER. 

Pressure is measured in pounds per square inch (PSI).

* ANSI is the American National Standards Institute, which works in conjunction with OSHA to standardize safety equipment.

FEATURES



WARNING: IF USING AN EXTENSION CORD, THE EXTENSION CORD MUST BE 14 GAUGE OR HIGHER, AND NO LONGER THAN 75 FEET IN LENGTH. FAILURE TO ABIDE BY THESE SPECIFICATIONS COULD RESULT IN MOTOR DAMAGE.

PRODUCT SPECIFICATIONS

Tank Capacity 10 L (2.64 gal)
Motor 1200 W
Power Cord Length 3 m (10 ft)
Net Weight
(empty of cleaning fluid) .. 4.1 kg (9.04 lb)
Rated Voltage 220V/50Hz
Particle Size (Adjustable) 0.50 µm
Max Flow Rate 750 mL/min
Horizontal Coverage 5-6 m (16-20 ft)
Vertical Coverage 1.5-2 m (5-6.5 ft.)

ASSEMBLY

This product requires minimal assembly.

Carefully remove the product and accessories from the box. Make sure that all items in the packing list are included.

Inspect the product carefully to make sure no breakage or damage has occurred during shipping.

Do not discard the packing material until you have carefully inspected and operated the sprayer with satisfactory results.

If any parts are missing or have been damaged during shipping, please e-mail service@hygienica.net for assistance.

Packing List:

- Backpack sprayer
- Funnel
- Instruction Manual - **Please refer to this more comprehensive manual rather than the manual that comes inside your box**

Assembly Instructions:

Remove the backpack, which should be attached to the tank and motor already, from the box. Align the pipe threads to the motor housing and screw it on tightly.



WARNING: DO NOT ATTEMPT TO MODIFY THIS PRODUCT OR ATTACH ACCESSORIES NOT RECOMMENDED FOR USE WITH THIS PRODUCT. ANY SUCH ALTERATION OR MODIFICATION IS MISUSE AND COULD RESULT IN INJURY OR DEATH.

GETTING STARTED

Before operating this unit, refer to the Start-Up Guide.

www.hygienica.net/startupguide

OPERATION

- Plug into power and turn on the switch to verify that the motor is running. Make sure the adjusting nut (*reference numeral 4*) is tightly closed.
- Use the filter funnel to filter the chemical as you add it to the tank. Follow chemical manufacturer's directions for dilution instructions. Screw the tank lid on tightly.
- Open the adjusting nut.
- Switch the power switch to the ON position. Adjust the spray volume by turning the nozzle, then start to spray.

When disinfection is complete:

- Raise the nozzle higher than the chemical tank, then switch the power switch to the OFF position. Keep the wand raised for 2-3 seconds to allow the remaining liquid in the pipe to reflow to the tank. This is important to prevent damage to the motor.
- Turn off the adjusting nut to prevent chemical outflow when next filling the tank.

NOTICE: DURING SPRAYER OPERATION, THE HIGH-SPEED GAS FLOW MAY CAUSE THE NOZZLE AND PIPE TO HEAT UP. THIS IS NORMAL AND NOT CAUSE FOR ALARM.

 WARNING: DO NOT ALLOW FAMILIARITY WITH THE SPRAYER TO MAKE YOU CARELESS. A SECOND OF INATTENTION IS SUFFICIENT TO RESULT IN SERIOUS INJURY.

 WARNING: DO NOT USE ATTACHMENTS OR ACCESSORIES NOT RECOMMENDED BY THE MANUFACTURER OF THIS PRODUCT. THIS COULD RESULT IN INJURY OR DAMAGE THE PRODUCT.

OPERATION CONSIDERATIONS

- The supply voltage should match the machine's requirements.
- When operating this machine, *a/ways* make sure the machine is connect to the wall using a GFI plugin.
- Do not allow the power cord to become knotted. Always unplug the cord with care. Do not operate the sprayer if the power cord is frayed or the cord insulation is lacerated.
- Do not allow the pipe to become bent or punctured.
- Do not turn the power switch on and off with excess frequency. This can damage the motor. If the motor emits an abnormal sound or smell, switch it OFF immediately, unplug the sprayer, and e-mail service@hygienica.net to arrange repair service.
- Store the sprayer in a safe, dry environment when not in use. Prolonged exposure to sunlight can prematurely age the plastic parts of the sprayer. Keep out of reach of children.
- Do not touch the power switch with wet hands.
- Avoid dumping chemicals while transporting the sprayer. Do not add chemicals to the tank until the operator is ready to begin spraying.
- Before transporting the machine, wipe the outside of the machine with a cloth dampened with warm, soapy water.



WARNING: DO NOT ALLOW FAMILIARITY WITH THE SPRAYER TO ALWAYS USE EYE PROTECTION WITH SIDE SHIELDS OR GOGGLES MARKED TO COMPLY WITH ANSI Z87.1. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY.



WARNING: USE SAFETY EQUIPMENT. PROTECT YOUR EYES, SKIN, AND LUNGS WHILE MIXING, FILLING, SPRAYING, AND CLEANING.

AFTER USE CLEAN-UP

All users should follow careful cleaning practices, including the use of appropriate personal protective equipment (i.e. gloves, goggles) to protect themselves from harmful exposure to chemical cleaning agents while cleaning the sprayer. Sprayer should be cleaned thoroughly after each use.

To reduce the chance of a blockage, run a tankful of clean, hot water through the sprayer to rinse out any residual chemical buildup after each day of use. Make sure that the clean water is run through the sprayer for at least three minutes; longer is better.

If your nozzle has become clogged, soak in hot, soapy water. Then blow out the nozzle with compressed air to dislodge the clog.

To clean the sprayer head, use a small detail brush (or a toothbrush) and mild dish soap. Do not use sharp objects, such as needles, on the sprayer head.

After cleaning, leave tank lid off to allow the tank to dry, so that the tank does not retain mold or mildew.

Review all chemical MSDS (material safety data sheets) for information on how best to store your chemicals when not in use.

MAINTENANCE & TROUBLESHOOTING

PROBLEM	POSSIBLE REASONS	SOLUTION
Machine is running, but not spraying	<ol style="list-style-type: none"> 1. Tube, valve or nozzle clogged 2. Tube bent 3. Tube detached 4. Air inlet is blocked 	<ol style="list-style-type: none"> 1. Clean and/or replace the clogged piece. Clean the nozzle by soaking in hot, soapy water and then blowing out with pressurized air. 2. Straighten the tube. 3. Re-attach the tube. 4. Clean up and clear the air inlet.
Intermittent spray	<ol style="list-style-type: none"> 1. Chemical tube blocked, bent, or detached. 	<ol style="list-style-type: none"> 1. Unscrew the pipe from the motor housing, and check the chemical tube for clogs or bends. Make sure the tube is properly attached. (The chemical tube is the longer tube, and the air tube is shorter.)
Sprayer overheating	<ol style="list-style-type: none"> 1. Continuous use for too long. 2. Supply voltage mismatch. 3. Air inlet or outlet is blocked. 4. Motor is worn out 	<ol style="list-style-type: none"> 1. Turn off machine and wait for an hour or longer. 2. Make sure the supply voltage matches the machine. 3. Clear the air inlet/outlet. 4. Replace the motor.

REWIRING THE UNIT WITH A GROUNDED POWER CORD

1. Remove the hoses from the tank



2. Snip the zip tie holding the power cable to the tank



3. Back out the 2 screws that hold the motor guard and motor to the tank



4. Make sure to remove the nuts from the motor housing



5. Remove the cover plate from the tank, but be sure to leave the screws in their holes and put the tank and cover plate aside



6. Remove the 5 screws that hold the motor guard on the motor housing and remove guard



7. Use pointed tool to pull motor gasket out far enough



8. Use needle nose pliers to pull the gasket completely out



9. Unscrew nylon cable gland all the way



10. Remove heat shrink tubing from the brown wire of the power cord (keep the heat shrink tubing on the brown wire from the switch)



11. Remove heat shrink tubing on the blue 2 wires



12. Cut the blue wire that is coming from the switch right by the connection



13. Cut the brown wire coming from the power cord right at the motor



14. Use rotary tool or any kind of cutting tool to remove soldered on quick disconnect from the motor terminal without removing terminal



15. Remove power cord and nylon cable gland from motor housing and add brass cable gland with LOCTITE to motor housing



16. Remove 5" of the new grounded cord sheathing and add the cable gland nut



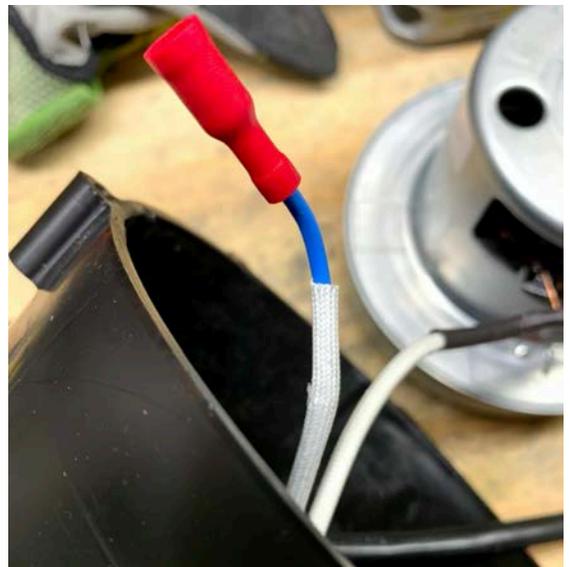
17. Insert power cord in to the motor housing



18. Add bullet connector to white wire. Add quick disconnect to black wire and add green insulated crimp to green wire then use crimp tool to crimp all connections



19. Add the other end of the bullet connector to the blue wire from the switch then crimp



20. Add heat shrink tubing to all 3 wires on the power cord



21. Put both end of the bullet connections together, cover with heat shrink tubing then use heat gun to properly shrink tubing for tight fit



22. Solder on black wire to motor terminal



23. Use heat gun to shrink tubing on black wire



24. Use a heat gun to shrink the tubing on to the green wire for a tight fit and use a M4-0.7 6mm pan head screw to attach ground wire to motor housing.

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25. Attach zip tie about 1 inch from top of the wire sheathing



26. Put the gasket back on the motor and insert back into the motor housing. Be sure to pull the power cord out slowly through the cable gland until the zip tie reaches the cable gland.



27. Use a crescent wrench to tighten down the cable gland. Be careful not to over-tighten



28. Insert motor guard on tank
and screw the bolts all the way



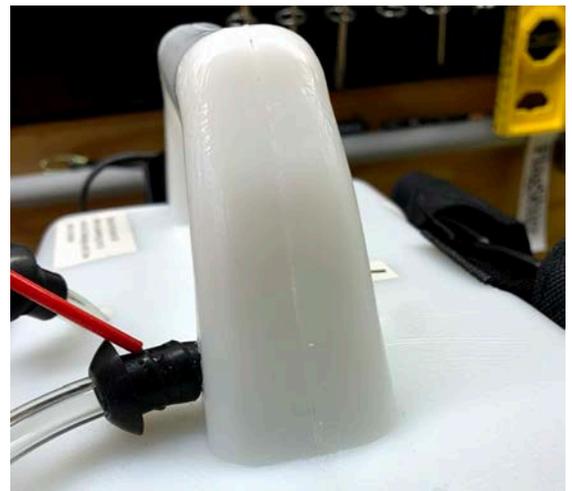
29. Insert motor on to the tank.
While holding the nuts with
your finger, screw bolt until
snug. Repeat with second nut
and bolt



30. Insert backplate on to the tank and tighten all 4 screws. Be careful not to over-tighten



31. Insert hoses back into the tank and use WD40 on both hose connections. This will help getting them back in and making an air tight connection



32. Use zip tie to attach power cord to tank for added security

