

Routine service is required to ensure optimum performance of the unit. Maintenance frequency will vary based on site conditions, cooking appliances and application – adjust frequency as needed. Visually inspect the impingement filters and ESP cells at least once a week for the first month of unit operation – increasing or decreasing the wash times based on the efficacy of the wash system. It is strongly suggested that qualified technical personnel be used to maintain this equipment. All statements and processes require an understanding of equipment operation and appropriate technical capabilities of the person completing the process.

## Maintenance Preparation Tasks

- With fan in operation, check PCU controller interface and power supplies for **faults** (refer to next page for troubleshooting).
- Maintenance is to be done outside of operation times – **shutdown** fan at hood/controller.
- If working with appliances with residual heat (typically **solid fuel**), exhaust fans will not disengage until the detected temperature in the hood drops below an automatic operation setpoint.
- Turn off disconnect on fan and power packs, following all applicable lock and tag-out procedures to safely “Lock Out” the system.
- Visually inspect the exterior of the unit, noting any damage or wear to the housing, modules, exhaust fan, cables, or plumbing.

Inspections and maintenance should be completed after the system has completed a wash cycle, when possible. A manual wash can be initiated on the controller by pressing the “Wash” button on the PCU controller interface.

## Impingement Filter Module

1. Unlatch all fasteners on the door to open.
2. Slide the **impingement filters** from their tracks for inspection and cleaning, removing all creosote and any buildup.
3. Slide filters back onto their tracks in the same position and order as they were pulled.
4. Close the access door completely to ensure the door limit switches are closed and latch all fasteners securely.

## ESP Cell and Mist Eliminator Modules

1. Unlatch all fasteners on the door to open.
2. Pulling directly up, unplug all cables of the **spark plug harness** on the side of the **ESP cells**. (Adding di-electric grease inside the spark plug boot will allow for easier insertion and removal of the plugs.)
3. Short the cells to ground, using the shaft of an insulated screwdriver, to ensure any charge is removed before handling the cells.
4. Loosen and unhook the two (2) cell pushers from the ESP cell.
5. Carefully remove cell(s) from the module by hooking the cell removal tool on the handle of the cell. Each cell weighs approximately 35 lbs; use caution when handling. Use care not to bend or dent the collecting plates or framework.
6. Carefully inspect the cell for bent collector plates. Bent plates may be carefully straightened by hand using needle-nose pliers.
7. Inspect the cell for residual grease that was not removed during the wash process. Excessive grease buildup indicates that wash times may need to be increased on the units. For excessive buildup the remaining cells may need to be removed from the cabinet and manually cleaned.
8. Reinstall the cell, ensuring the airflow arrow on the cell end plate is pointing in the correct direction. Re-insert the cell pushers by hooking the pusher between the cell and the c-channel of the cell rack and tighten until the is taught or the cell is fastened.
9. On the final ESP module, remove **mesh mist eliminator filters**, clean with pressure washer, and replace if needed.
10. Close the access door completely to ensure the door limit switches are closed and latch all fasteners securely.

## Carbon Tray Module(s)

1. Unlatch all fasteners on the door to open.
2. Slide the **carbon trays** from their tracks for inspection, cleaning any buildup.
3. If odor is noticed leaving the unit during operation, replace carbon trays
4. Slide trays back onto their tracks in the same position and order as they were pulled.

## Maintenance Conclusion Tasks

- Verify **fan operation** – check motor rotation, belt tension and fan wheel rubbing. Check for power pack operation.
- Refill detergent tank with Zep X701 detergent.

## ESP Maintenance: Parts, Description, and Frequency

Part	Part Number	Maintenance Description
Impingement Filter	913732	Inspect monthly - If buildup is apparent, remove and clean with pressure cleaner/soak tank on the lowest pressure setting. For solid fuel units, increase inspection frequency to bi-monthly, ensuring any creosote buildup is being removed. (Along with creosote removal, ensure the incoming air temperature during operation does not exceed 130°F).
Mist Eliminator Filter	482432	
ESP Cells	881099	Inspect monthly, or twice monthly for solid fuel units - If buildup is apparent, remove and clean with pressure cleaner/soak tank on the lowest pressure setting, and adjust wash cycle times. Cells should be removed and manually cleaned every six (6) months minimum.
Carbon Trays	483439	Replace carbon trays when cooking odor is noticed leaving the unit. Replacement frequency will depend on type and volume of cooking—typically 2-4 replacements per year.
Detergent (5 Gallons)	HAZ2882	Check detergent levels weekly - Depending on wash timing, detergent should be filled at least twice per month, or as required. Refill with Zep X701 detergent.
Fan/Motor	Varies	Fan/motor and drives should be inspected/serviced according to manufacturer's instructions, annually.

## ESP Cell Faults

Refer to this section if faults are noticed before or after maintenance. A cell fault operation test may be conducted to locate a faulty cell.

Fault Detected	Potential Cause
Rapid flashing on power pack LED	Cell has bridging between plates, metal to metal contact, a bridging contact, or a failed isolator
Constant audible snapping	Cell requires service, fully clean and verify no bridges between plates
Random audible snapping	This is normal operation – increased frequency may suggest buildup or the start of a bridge

## Fault Operation Test

During normal operation, power pack indicator lights should be SOLID Green. If lights are not solid, there is a fault.

**HAZARD NOTE:** 12,000 VDC, turn off disconnect and ground cells prior to any contact when accessing ESP cell module interior.

1. Ensure all doors are closed, fan and power packs are on at the PCU controller.
2. Cells must be completely dry for accurate test. (Run fan for 30-60 minutes if unsure.)
3. View cell status directly at power pack, isolate each cell as necessary in that bank to determine which cell has a fault. Plug in cell like normal for multiple cells deep, gap cells 2" to isolate operation, and retest (without clamps in place).
4. Once issue cell is located, do a visual inspection of cell, looking for plate contact/bridging that was not resolved in maintenance. (A standard multi-meter will not be able to indicate if there is a bridge or shorted isolator, continuity will only show if the cell is damaged and plates are experiencing metal on metal contact.
5. If there are no visible ESP cell issues, test the power pack directly: remove the ionizer/collector wires from the power pack to test the pack independently. If the green light does not remain solid during this independent test, there may be a faulty power pack.

## Replacement Parts Ordering

Replacement parts can be obtained through the Greenheck Parts Department (800-371-6858, or [parts@greenheck.com](mailto:parts@greenheck.com))

Part	Part Number
Power Supply	386767
ESP Cell, Plastic Isolator	386759
High Voltage Spark Plug Harness	386765

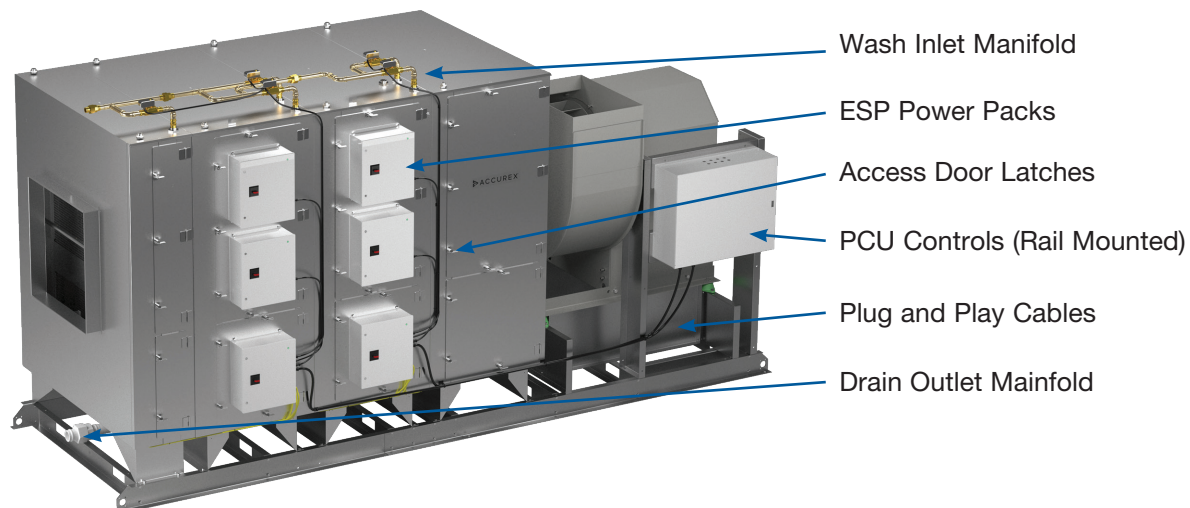
## Acknowledgement of Maintenance and Signature

Please sign below to confirm understanding of the routine required maintenance. Scan or take photo of signed document and send to [KVS@greenheck.com](mailto:KVS@greenheck.com).

Sign \_\_\_\_\_

☐ Check this box to confirm receipt of the Grease Trapper ESP IOM

## Grease Trapper ESP Exterior



## Grease Trapper ESP Interior

