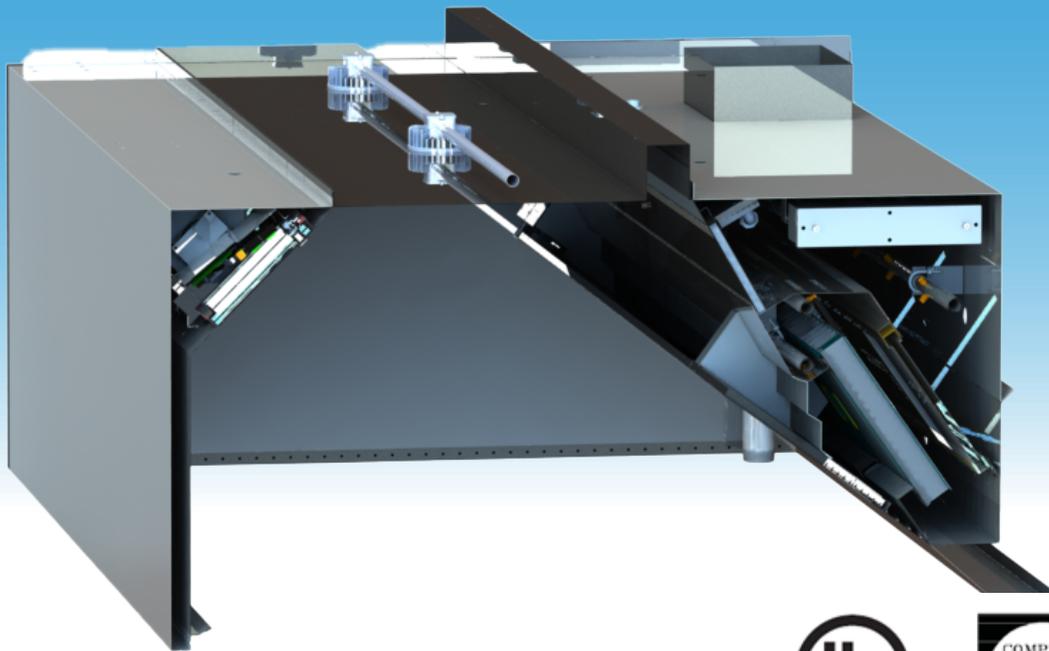


# Operators Manual for Capture Ray™ Hoods with Water Wash and UV Technology

Manual provides  
Operation, Maintenance and Service Instructions



Capture Ray™ Hoods with Water Wash and UV Technology  
KVE-WW-UV, KVC-WW-UV

**Halton**

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# Safety Information

The instructions contained in this manual have been prepared to aid you in learning the proper procedures for installing and servicing your unit.

Throughout this manual, safety precautions are identified through the use of the safety alert symbol and three signal words: DANGER, WARNING, and CAUTION. All safety alert information precedes the step(s) to which they apply. Suggested, recommended, or other noteworthy information is identified through the use of NOTES. Additionally, certain words are used to indicate a specific meaning or to add emphasis.

The following words are used as indicated throughout the manual:

Shall: understood to be mandatory.

Should: understood to be advisory.

May: understood to be permissive.

Will: indicates a future event/condition to occur.



(Safety Alert Symbol)

Used in conjunction with signal words (DANGER, WARNING, or CAUTION) to alert you of potential personal injury hazards, immediately preceding precautionary measures that pertain to subsequent step(s). Obey all safety messages that follow this symbol to avoid possible injury or death. Failure to adhere to safety precautions identified by the safety alert symbol may also void the warranty.



- Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Use of this is limited to the most extreme situations.



- Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Also used to alert against unsafe practices.



- When used without the safety alert symbol, CAUTION indicates a potentially hazardous situation which, if not avoided, may result in equipment/property damage, and void the warranty.

NOTE:

- Identifies suggested, recommended, or other noteworthy information.

## Specific Safety Precautions

For your safety, please observe the following precautions when operating or servicing your Capture Ray™ Hoods with Water Wash and UV Technology. Read the following important safety information to avoid personal injury and/or damage to the equipment.

### **DANGER**

- Always disconnect the source of the main power before removing the service entrance box cover.
- Failure to ensure the Power switch is in the “OFF” position during servicing and when replacing filters could result in equipment damage, electrical shock and/or personal injury.
- Failure to comply with these DANGER notices will result in death or serious injury, equipment/property damage, and void the warranty.

### **WARNING**

- DO NOT use or store flammable liquids or materials that produce flammable vapors in the vicinity of this or any other appliance!
- Consult a qualified electrician to ensure all electrical specifications have been met and the unit is properly grounded.
- Before installing or servicing this equipment, read the contents of this manual thoroughly.
- Improper installation, adjustment, alteration, service or maintenance could result in death or serious injury, equipment/property damage, and void the warranty.
- Failure to comply with these WARNING notices could result in death or serious injury and equipment or property damage.

### **WARNING**

- Internal ultraviolet radiation source present.
- Keep protective barrier in place.
- Replace all removable parts after servicing.
- An interlock is in place to reduce the potential of exposure to excessive ultraviolet radiation. DO NOT attempt defeat or bypass this interlock system.

### **CAUTION**

- Exercise care when removing the wooden crating from around the unit.

### **CAUTION**

- DO NOT operate the unit unless you fully understand the components and their intended function.
- Failure to comply with these CAUTION notices may result in minor or moderate injury, equipment or property damage, and void the warranty.

## CAUTION

- The electronic components of the Control Panel are impact-sensitive. Exercise care around the Control Panel to maintain proper operation.
- During cleaning of Hood.
  - DO NOT use products containing chlorine.
  - DO NOT use abrasive products, steel wool or scouring pads.
- Failure to comply with these CAUTION notices may result in equipment/property damage and void the warranty.

### NOTE:

- If upon receipt, the palletized unit shows any signs of damaged, immediately inspect the entire Hood and the included accessories, and promptly notify the freight company of any damages.
- To aid the electrician, an electrical wiring diagram is included with this manual. Refer to the wiring diagram during installation or servicing. A wiring diagram may be obtained from the factory by calling Halton at 270-236-5600
- Comply with all appropriate state and/or local health regulations regarding the cleaning and sanitation of equipment.
- For difficult areas with excessive particulate build up, a mild bio-degradable non-toxic degreaser (such as Clear Magic or Simple Green) may be used.
- Always ensure the unit is electrically grounded and installed in accordance with local codes, or in the absence of local codes, in accordance with the National Electrical Code ANSI/NFPA No. 70-1984.

### NOTE:

- An HVAC specialist may be required for some installations to confirm proper air exchange and the heat load capabilities of the on-site AC system.

## CAUTION

- Use suitable equipment to lift the hood and carefully move it away from the pallet. Take precautions not to damage to the hood. If possible, it is advisable to rig and lift the hood from the topside, utilizing the hood's hanging brackets.
- Exercise care when removing the wooden framing from around the unit.
- Failure to comply with these CAUTION notices may result in minor or moderate injury, equipment or property damage, and void the warranty.

## CAUTION

- DO NOT MODIFY, ALTER OR ADD ATTACHMENTS TO THIS EQUIPMENT

## General Description

Halton's Water Wash and Capture Ray™ technology provides solutions for a variety of commercial food service ventilation applications over virtually any cooking process. Based on Halton's patented highly efficient Capture Jet™ solution and advanced mechanical KSA filter technology, the Water Wash and Capture Ray™ (UV) features keep the plenum and duct virtually grease free and mitigates the cooking odor and emissions. Halton's Automatic Water Wash features allow for continuous operation without extended shut down for cleaning. The hot water wash down is especially suited to facilities with cooking operation producing substantial volumes of grease and requires reduced maintenance. The Water Wash system includes three full length wash manifolds equipped with brass spray nozzles. These manifolds wash the exhaust plenum area, the UV cassettes and the KSA grease filters. When the wash cycle is initiated the exhaust fan and Ultraviolet lamps shall shut off. The integrated Capture Ray™ Ultraviolet cassette(s) are positioned in the exhaust plenum of the hood behind the mechanical grease filters. The grease vapor and effluents that are not collected by these high-efficiency mechanical filters pass over the UV lamps. This causes a chemical reaction within the grease molecules that destroys the grease and converts it into carbon dioxide and water vapor. The chemical action carries over into the exhaust duct and helps keep the duct and exhaust fan clean. The Water Wash and UV system is built into the hood with complete controls and safety features which prevent exposure to the UV light.

The hood is complete with a control panel indicating the total hours of operation, safety alarms, security on, and exhaust fan failure. There are two sizes of UV cassettes: one short, which is (234W) 38" long, one long, which is (390W) 66" long. These cassettes are matched to the overall length of the hood in various combinations to provide maximum grease destroying capability for the hood. The Water Wash-UV control panel is suitable for a single phase power supply and is constructed to meet the UL listed protection standard.

The UV cassette access includes a hinged door for ease of maintenance and replacement of the UV lamps. The cassettes are mounted on a rack and are easily removed by disconnecting the electrical connectors on the cassettes' end. The UV cassette access door comes equipped with safety switches. If the door is not secured in the closed position, the UV light system will not operate. The control panel is connected to the electrical control box of the fan via a relay which detects any exhaust fan failures. The UV system will not operate if the exhaust fan does not work.

To achieve the optimum performance from your hood system (s) please use the following guidelines provided within the pages of this Operation, Maintenance and Service Manual.

In addition to this information technical support is available from the Halton Factory during regular office hours, 7 A.M. to 5 P.M. Central Time, to provide support for products, applications, installation, commissioning or for any aspect that you may have. Our local sales representatives can also provide support.

## Recommendation

Upon receipt of the Halton hood (s), inspect unit (s) immediately for any shipping damage and notify carrier immediately if damage is found. Halton will not accept responsibility for any shipping damage. All systems are thoroughly inspected before leaving our factories; however Halton will assist in filing a claim if needed.

## General installation

It is the responsibility of the installing contractor to see that the system installation is completed in accordance with the project plans and specifications and that it meets all specific requirements of local code officials. The local authority having jurisdiction could over rule some of the installation details written in this manual. The installation shall be in accordance with NFPA-96. All electrical systems shall be installed following local and national codes.

The owner and/or operator should be instructed in the proper operation, care and maintenance of the system.

If questions or complications should arise during the installation of the Halton hood (s) that cannot be solved using the instructions provided please contact the Halton office at 1-800-442-5866, or (1-800-4-HALTON).

**Note:** There are no instructions contained within this manual for installation or maintenance of fan packages.

**\*\*See appropriate manufacturers manual for detailed instructions.**

## Exhaust airflows

Please see submittal drawings or contact the manufacturer for each hood's exhaust air flow rates. Halton's applications department determines the optimum exhaust rate for effective capture & containment of cooking effluent. These exhaust airflows are included in the job submittal drawings for each hood and are customized for the specific kitchen appliance arrangement and environment.

## Installation instructions

1. Inspect the crating carefully. If there are signs of damage, call the freight carrier before uncrating the units. Carefully uncrate the units. Check all local codes prior to installation; special requirements may be necessary depending on local building material construction.

**\*\* Important note \*\*** Do not leave unit (s) exposed to extreme temperatures for an extended period of time, this may cause the protective PVC coating around the unit (s) to become very difficult to remove.

2. Position the hood near the actual installation site. In case of multiple hoods, check the engineered set of drawings for locations. Pay close attention to collar sizes and fire protection layouts, matching the hood systems to the correct location shown on the drawings provided.

**\*\*Check item numbers on crates / hoods vs. drawing item numbers.**

3. Once the hood is carefully removed from the shipping crate and set in position, the unit is now ready for installation. If Halton Company has supplied a backsplash assembly, then the splash assembly should be installed first, for installation procedures see pg. 10.

4. Hang the hood using ½" threaded rods by attaching the rods to the hood through the hanger brackets that are welded to the top of the hood. Use of turnbuckles with the threaded rod sections will make final adjustment easier. Standard hanging height for canopy hoods ranges from 78" min. to 84" max. from the finished floor to the lower edge of the front of the hood (per local codes having jurisdiction).

**\*\*Noted in installation instructions - see pg. 11.**

Note:

Allow 100lbs (45kg) per linear foot hanging weight.

Do not lift exhaust hoods from their end panels. Lift from four corners

All exhaust hoods and control panels are fitted together and factory tested prior to shipping for alignment and operation.

5. Duct connections must meet NFPA 96 requirements and applicable local codes. Size of connection is indicated on exhaust hood drawing. Connection is to be made after exhaust hood is hung.

6. Electrical circuits should be connected according to the job specific wiring diagram shown on the submittal drawings. UV and Water Wash hoods have additional wiring requirements to connect the control panel to the hoods, as well as connections between multiple hoods operated from the same control panel. A typical field wiring diagram showing these connections is shown on pg. 27 and 39. The following electrical service requirements are field installed:
  - A 120 volt, 15 amp uninterrupted supply to the control panel.
  - A 120 volt, 15 amp uninterrupted supply to each hood section.
  - A 120 volt circuit from the control panel to the exhaust fan starter coil or relay.
  - A 120 volt circuit from the control panel to the make up air fan starter coil or relay.
  - A separate 120 volt, 15 amp supply to the light fixture junction box(es) on top of each hood. The hood lights and the Capture Jet fan(s) are on the same factory wired electrical circuit and are controlled by the “lights” switch on the switch panel for the hood(s).

Note: The selector switch on the control panel controls the exhaust fan operation.

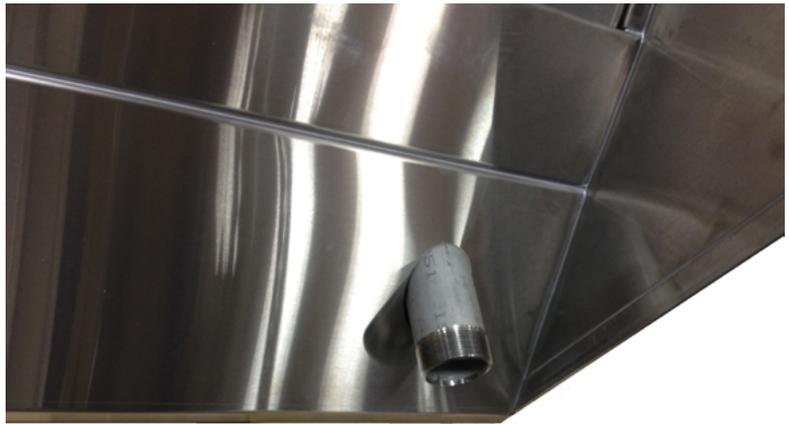
Please see job specific wiring connection information in the job submittal drawings and an additional wiring diagram is included in the electrical control box shipped with the job. Additional copies may be obtained from the factory if this wiring diagram is missing or lost. Please be prepared to provide the job order number (found on the sales invoice), job name and address or submittal drawing series number when contacting the factory for this or other job specific documents.

7. Plumbing service requirements:
  1. Hot water supply to the control panel must be sized to accept appropriate volume of water measured in U.S. gallons per minute at 40 psig/min. at a constant flow pressure of 25 psig at the hot water nozzles in the hood. Supply the recommended hot water temperature of 120°F (50°C) to 140°F (60°C). Calculate water requirements by using the longest water wash hood served by the control panel and multiplying the length of this hood, in feet, by 1.2. The result will be the figure used for gallons per minute. Example: The longest hood connected to the control panel is 168” long.  $168/12 = 14$  feet,  $14 \times 1.2 = 16.8$  gallons per minute.
  2. Supply and connect 1” ips for hot water to control panel, provide and connect 1” lines to ventilator sections. Supply and connect drains as specified from ventilator section(s) to floor drain as required by local codes. Waste drain is 2” pipe. Do not use 90° elbows in drain line. If 90° bend is required use two 45° fittings. If traps are required in drain line install it in the vertical section of the line. Supply and install grease traps as required by local codes, sized to handle maximum volume as calculated above. Supply and install back flow preventers, anti-syphon valves or vacuum breakers as required by local codes. Di-electric connections, where required by code on water supply feed to panel, are to be supplied by mechanical trade. Internal piping in control panel is brass. Hot water lines should be thoroughly flushed prior to connecting lines to control panel. Remove one of the spray nozzles farthest from water intake to flush lines, replace nozzle when flushing is completed. Inlet and drain line attachment points at the hood are illustrated on pg. 9.

8. Halton hoods come standard with high output, long lasting LED light fixtures. Optionally incandescent or recessed fluorescent fixtures may be ordered. Please note only install 100 watt maximum light bulbs in incandescent light fixtures. Fluorescent bulbs should be type T8, 36" or 48" long in fluorescent fixtures. \*\*Note: Halton does not provide bulbs for incandescent or fluorescent lights.
9. If Closure Panels are supplied by Halton see pgs. 14, 15 & 16 for details on the installation.
10. For multiple hoods end to end, or back to back see pg. 13 for Installation of Splice Strips and U-Channels.
11. Protect the hood from damage under normal job site conditions, until all work is complete and system is ready to be put into operation.



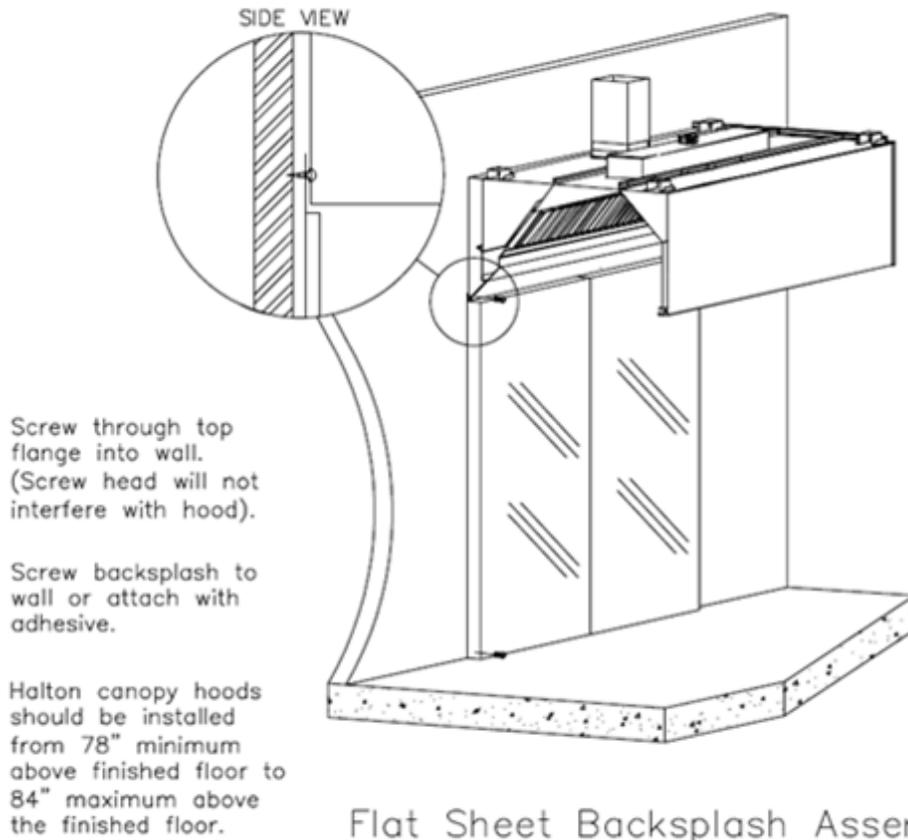
Water Inlet point on back of hood



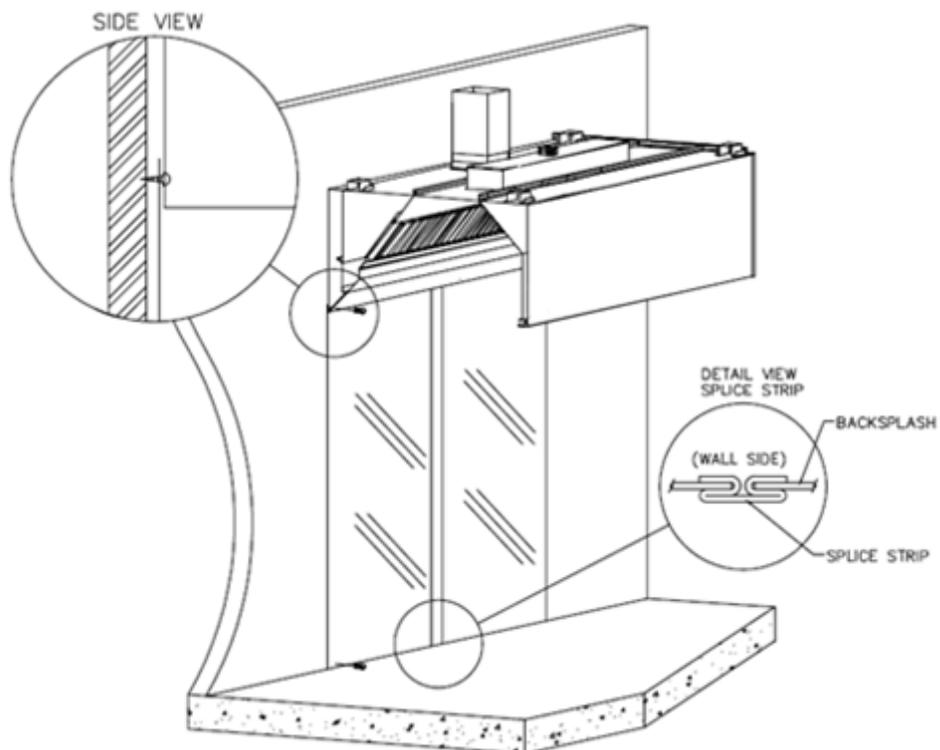
Water Drain point on hood.

# Backsplash Installation

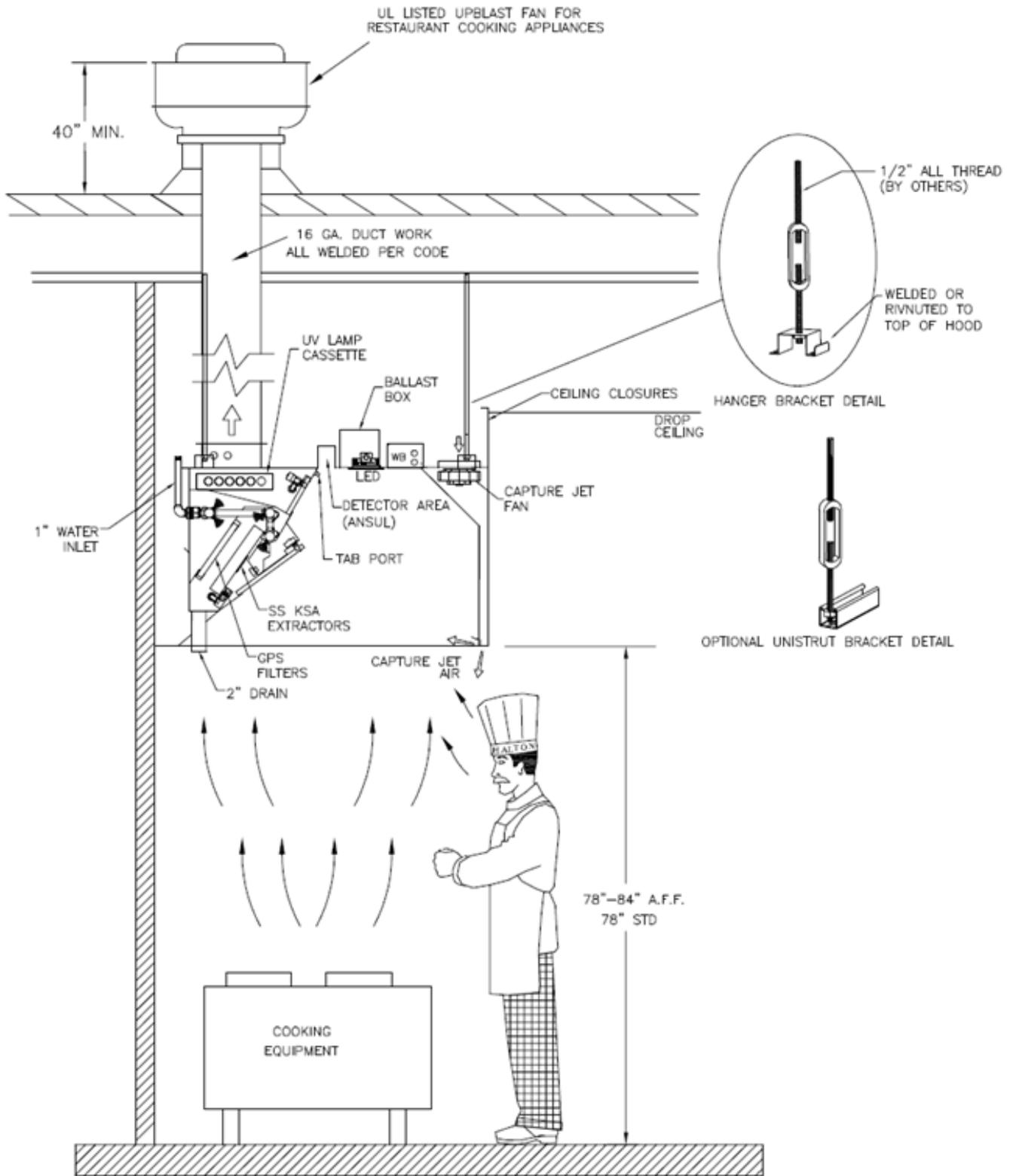
## 1" Insulated Backsplash Assembly



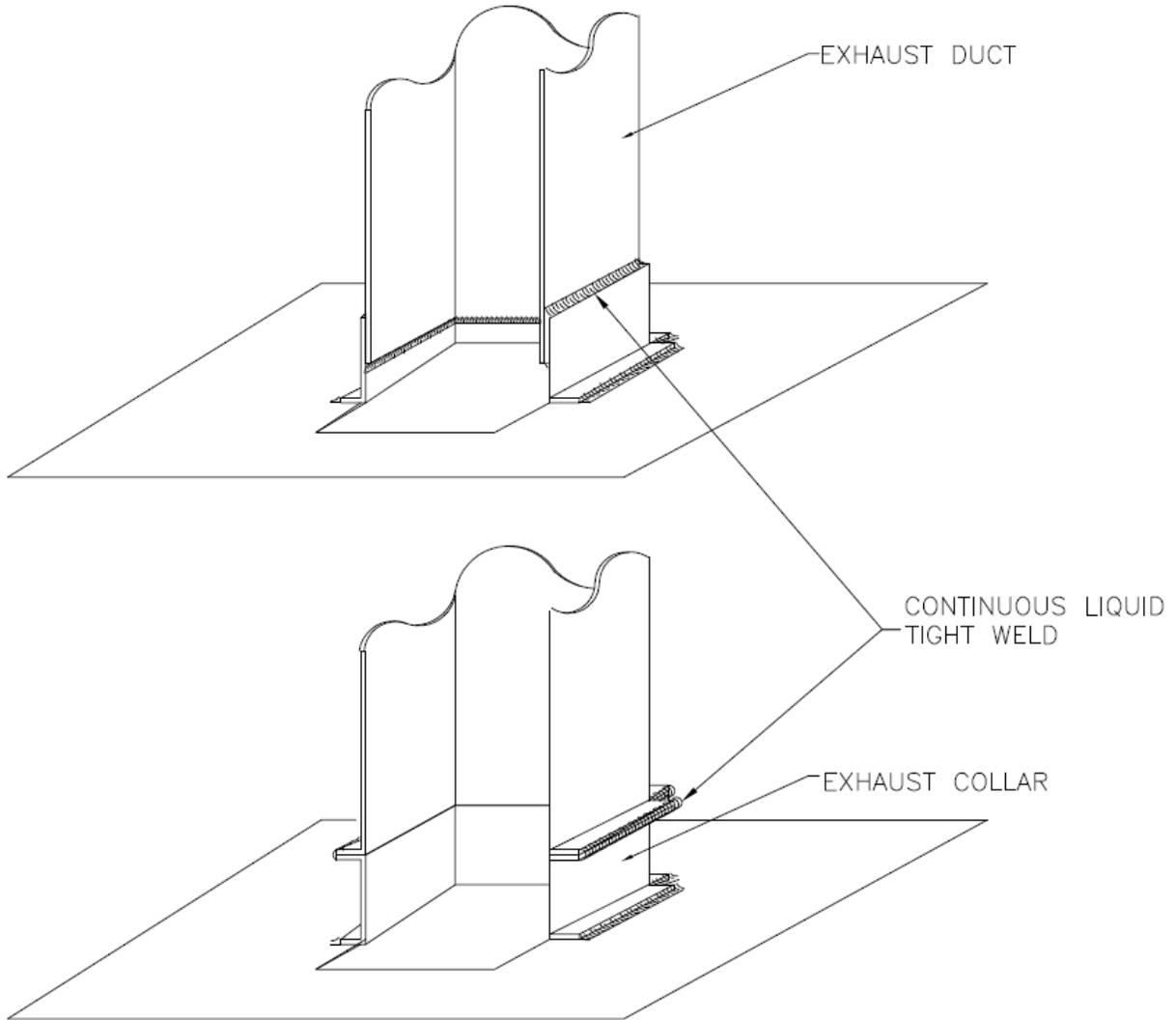
## Flat Sheet Backsplash Assembly



# Hood Installation Details

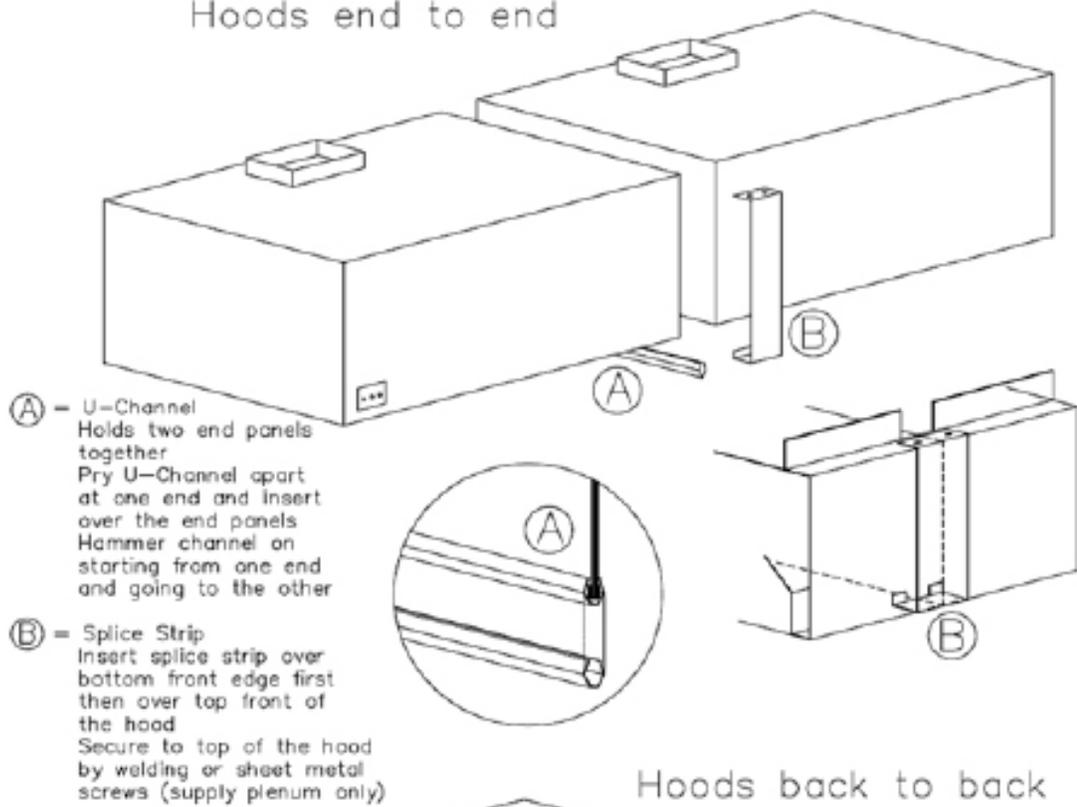


# Exhaust Duct Connection Details

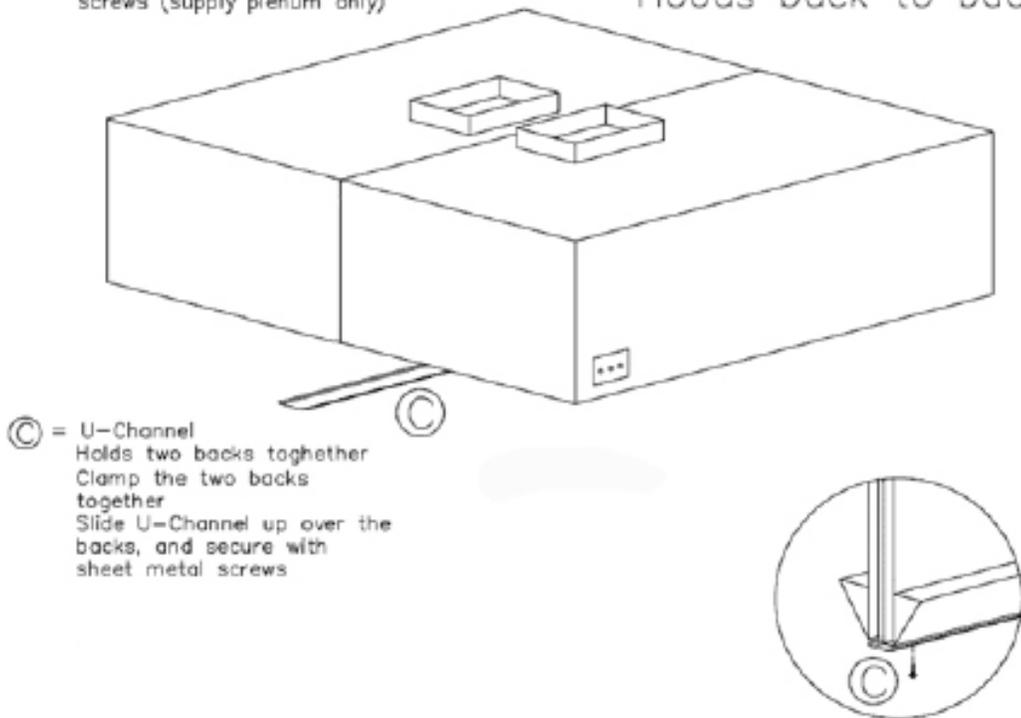


# Splice Strip/U-Channel Assemblies

Hoods end to end



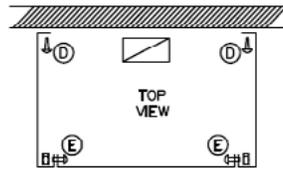
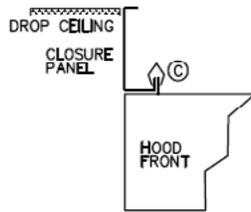
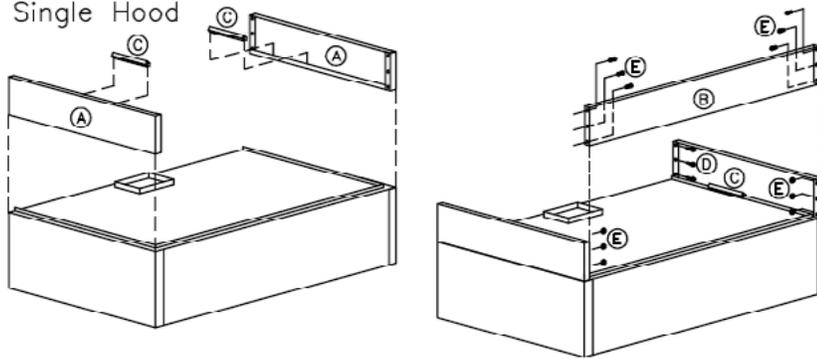
Hoods back to back



# Closure Panel Assembly

## Single Hood and End to End Hoods

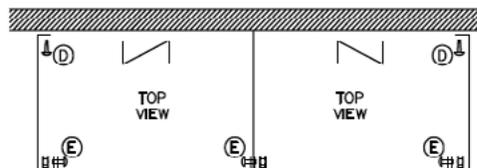
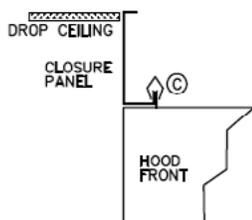
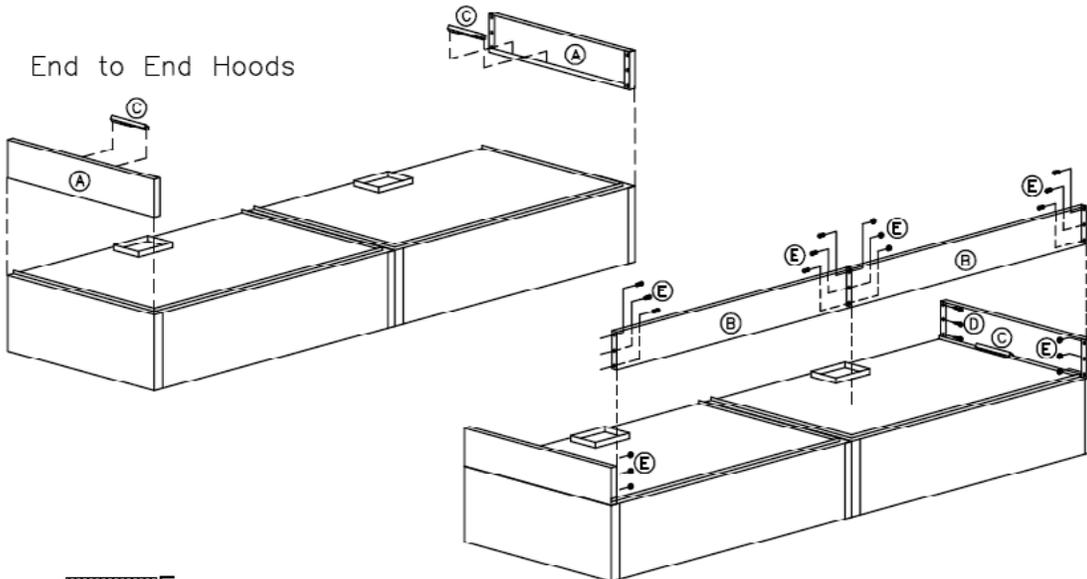
Single Hood



- (C) Closure Clips (By Halton)
- (D) Wall Attachment Hardware (By Others)
- (E) Panel Connection Hardware (By Others)

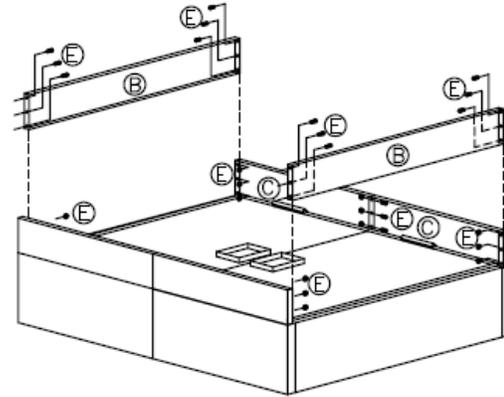
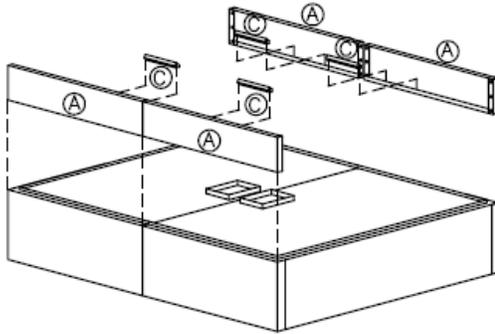
1. Panels "A" are placed on the top of the hood on the outside perimeter of the hood at each end of the hood group.
2. Align the clips "C" over vertical flanges and hammer clips down over flanges.
3. Attach panels "A" to rear wall with hardware "D".
4. Attach panel(s) "B" to panels "A" with hardware "E" .

End to End Hoods



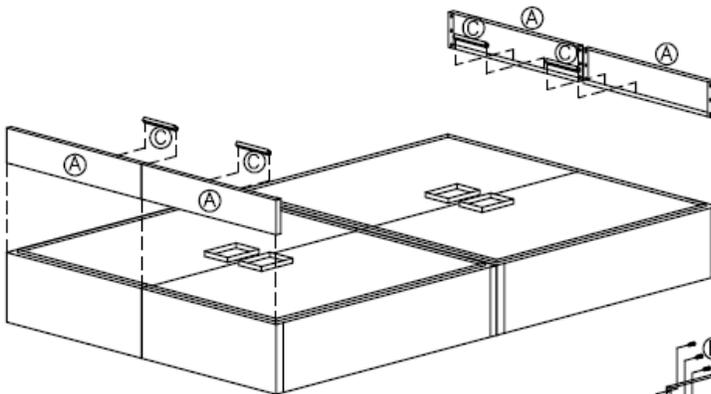
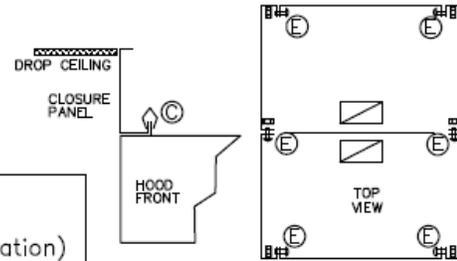
# Back to Back Hoods

Back to Back Hoods

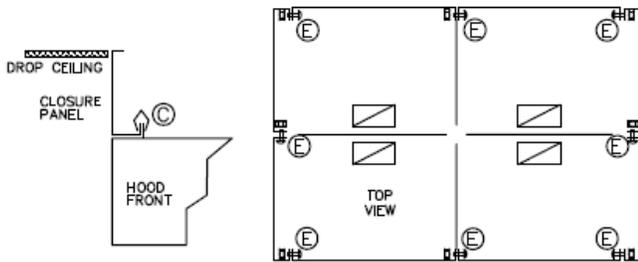
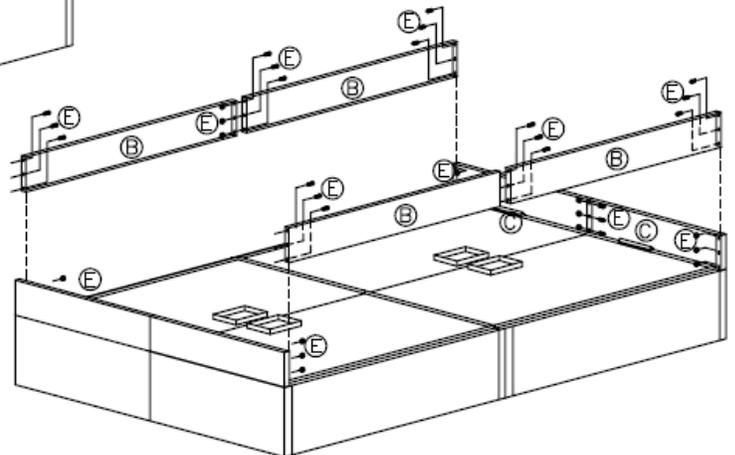


- Closure Clips (By Halton)
- Wall Attachment Hardware (Not Used in this Configuration)
- Panel Connection Hardware (By Others)

1. Panels "A" are placed on the top of the hood on the outside perimeter of the hood at each end of the hood group.
2. Align the clips "C" over vertical flanges and hammer clips down over flanges.
3. Attach panels front "A" panels to rear "A" panels with hardware "E".
4. Attach panels "B" to panels "A" with hardware "E" .

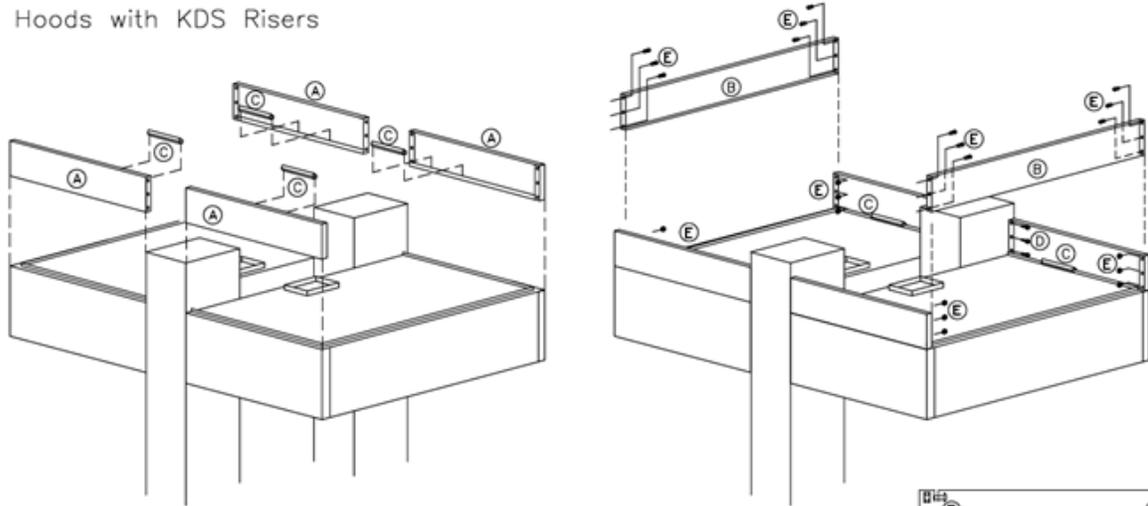


End to End and Back to Back Hoods



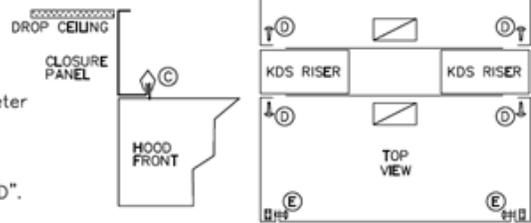
# Hoods with KDS Risers

Hoods with KDS Risers



- Ⓒ — Closure Clips (By Halton)
- Ⓓ — KDS Riser Attachment Hardware (By Others)
- Ⓔ — Panel Connection Hardware (By Others)

1. Panels "A" are placed on the top of the hood on the outside perimeter of the hood at each end of the hood group.
2. Align the clips "C" over vertical flanges and hammer clips down over flanges.
3. Attach panels front "A" panels to KDS riser columns with hardware "D".
4. Attach panels "B" to panels "A" with hardware "E".



## To Start the Hood

Halton hoods are typically operated from pushbutton switches found at the bottom of the front edge of the hood. Custom hood configurations may have the switches located somewhere else, such as a remote switch or a software switch on a touch screen control panel. A hood or hoods operated by the Halton M.A.R.V.E.L. Demand Control Ventilation (DCV) system will not have a control button for the fan. The M.A.R.V.E.L. system will start the fan automatically. Press the "Fan" button to start the hood(s) exhaust fan. Press the "Light" button to turn on the hood lights and also start the hood Capture Jet fan, which is on the same electrical circuit as the hood lights. Multiple hoods in a hood group ducted to a single exhaust fan will usually all turn on from a single switch panel.



STANDARD HOOD SWITCH PANEL



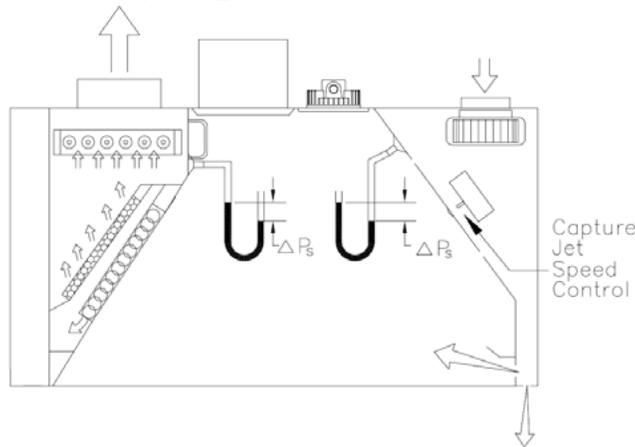
REMOTE SWITCH PANEL

## Operation Of System

1. After installation is complete it will be necessary to check and balance the airflows through each hood. The static pressure for each hood is listed in the hood information table on the job specific submittal drawings. The specific exhaust static pressure for each hood should be referenced for the airflow balance for that hood. The exhaust air being drawn through the grease filters creates a negative static pressure behind the filters in the exhaust plenum. This negative static pressure can be measured and has a direct relationship to the total exhaust airflow measured in CFM (Cubic Feet per Minute). Halton Capture Jet hoods are calibrated based on the model of hood and the number of grease filters the hood has. A static pressure curve is provided with each hood which allows the air balancer to easily set up the exhaust fan to draw the correct exhaust CFM through the hood based on measuring the static pressure of the exhaust plenum. On the Capture Jet™ line of hoods, Halton supplies T.A.B. (Testing And Balancing) ports for measuring the negative static pressure drop through the filters and also the positive Capture Jet™ plenum pressure. These ports are located on the inside of the capture portion of the canopy on the exhaust and Capture Jet™ plenums. The T.A.B. port for measuring exhaust static pressure is on the exhaust plenum side of the hood, near the top inside panel and is found near one of the corners above the grease filters. The T.A.B. port for measuring the Capture Jet™ static pressure is found in the inner front of the hood, near the top inside panel and near one of the corners of the inner face. There is a black plastic cap on each of the brass T.A.B. port fittings to keep them clean. The cap should be removed for taking the static pressure measurements and then replaced when the measurements are completed. The exhaust static pressure is measured using the negative connection on the manometer, leaving the positive port of the manometer open to atmosphere. The Capture Jet™ static pressure is measured using the positive connection on the manometer, leaving the negative port of the manometer open to atmosphere. Adjustment to the static pressure of the exhaust plenum is made by adjusting the speed of the exhaust fan. Adjustment to the Capture Jet fan is made inside the inner front of the hood at the Capture Jet speed controller. See procedure below if Capture Jet fan adjustment is necessary.

\*\*It is very important that the fan for the Capture Jet™ air be balanced according to specifications.

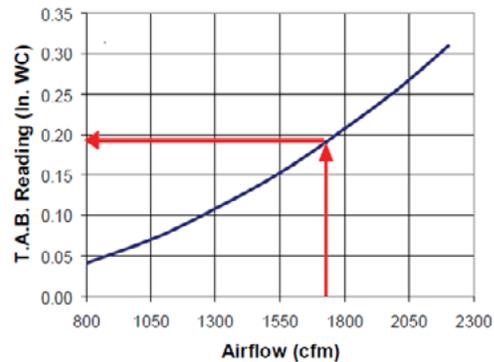
See the job specific information for required airflows. The Capture Jet fan is adjusted at the factory for proper airflow. Check the static pressure of the Capture Jet plenum and adjust the Capture Jet fan speed only if the pressure reading is different than the T.A.B. port pressure specified on the job specific submittal drawings (measured reading outside of plus or minus 0.05" w.c.). Adjustments to the Capture Jet™ fan can be made with the speed controller supplied with the fan. This speed controller will be mounted inside the Capture Jet plenum, the adjustment control knob can be accessed by removing the chrome button cover in the center of the Capture Jet fan access cover. The speed controller is adjusted using a small flathead screwdriver, turning the control clockwise to decrease the speed of the Capture Jet fan, and turning the control counterclockwise to increase the speed. Very small movements of the control will result in appreciable static pressure changes to the Capture Jet plenum. Monitor the manometer connected to the T.A.B. port of the Capture Jet plenum as adjustments are made. After each adjustment allow the pressure to stabilize before adjusting further.



The Capture Jet® and exhaust air flows are easily and accurately determined by measuring the pressure difference from the T.A.B. (Testing and Balancing) ports mounted in each plenum. The corresponding air flows can be read from the diagram provided.

To properly measure T.A.B. port readings use a magnehelic gauge or digital manometer and for exhaust plenum reading hookup hose from negative connection on instrument to T.A.B. Port on exhaust plenum. Leave positive connection on instrument open to atmosphere.

Exhaust T.A.B. Readings vs. Airflow



Capture Jet® T.A.B. Port Readings	
Hood Model	Design T.A.B. (inches WC)
KVE/KVC	0.25

**Measured Pressure**

This example shows how to determine the correct Exhaust T.A.B. port reading for the exhaust hoods.

In this example, a design airflow of 1700 cfm is selected from the Airflow axis, and a vertical line is drawn up to the T.A.B. pressure curve for this hood.

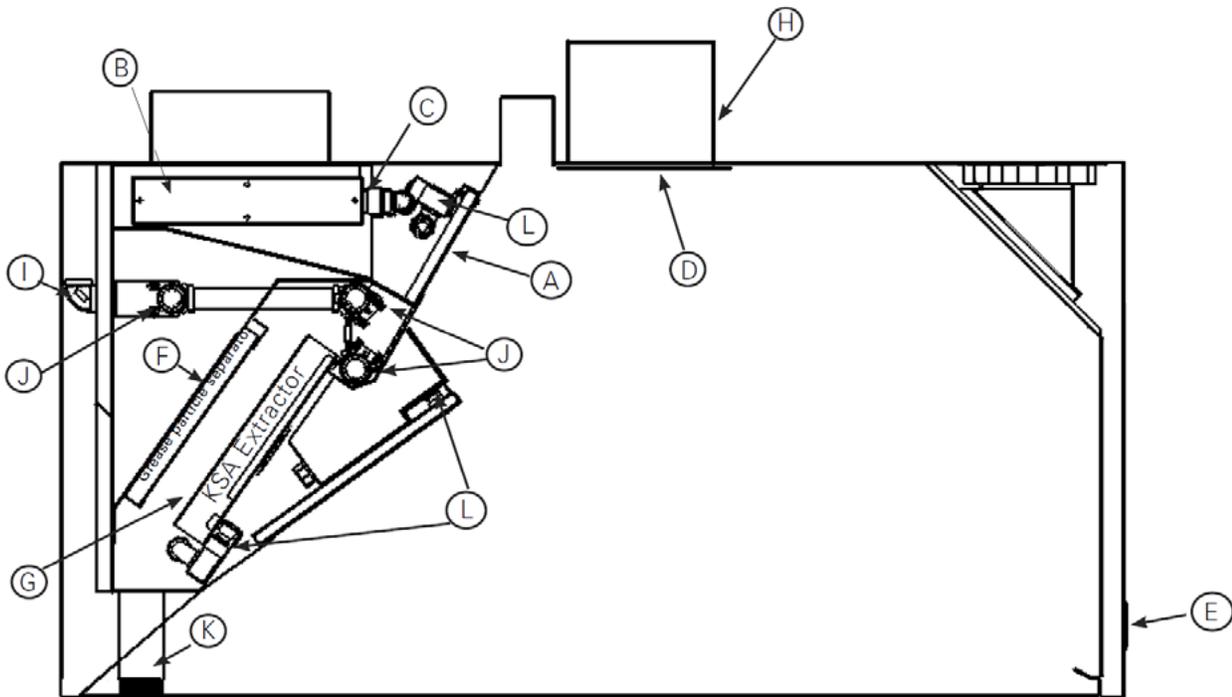
A horizontal line is then drawn for the T.A.B. pressure curve to the T.A.B. reading axis on the left-hand side of the chart and the corresponding pressure is read off the chart as 0.19 inches of Water Column.

- Halton Capture Jet Hoods are equipped with efficient model KSA grease filters. The KSA grease filters must be removed and cleaned by qualified employees of the restaurant owner or by a cleaning

agency. Halton UV system grease filters must be removed and replaced in a certain order. Please see detailed instructions on pg. 20 that describe the removal and replacement process.

3. Exhaust airflows should be properly set for each exhaust hood, and supply or make up air should be brought into the space to balance the exhaust air leaving the space through the hoods. Kitchen exhaust hoods will not perform according to design if supply or make up air is inadequate. After the exhaust and supply airflows have been properly balanced, a final inspection should be made to ensure proper system operation.

## Cross Section Of Capture Ray™ Water Wash Hood



## Hood Maintenance

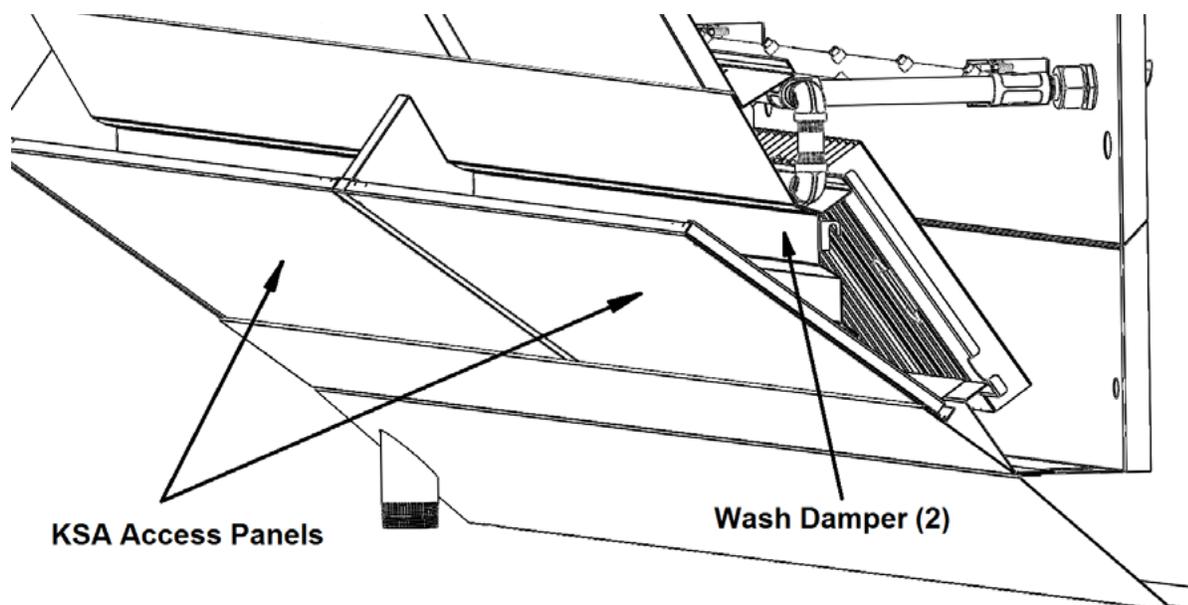
Halton highly recommends that the facility enter into a formal annual maintenance contract with the local Authorized Service Agent. Contact the factory directly if you would like the name and phone number of the local ASA.

Clean the hood canopy inside and out as needed with mild soap and water. Never use harsh or abrasive cleaners on Stainless Steel or Painted surfaces, making sure to wipe clean all interior and exterior surfaces of the hood including the light fixtures.

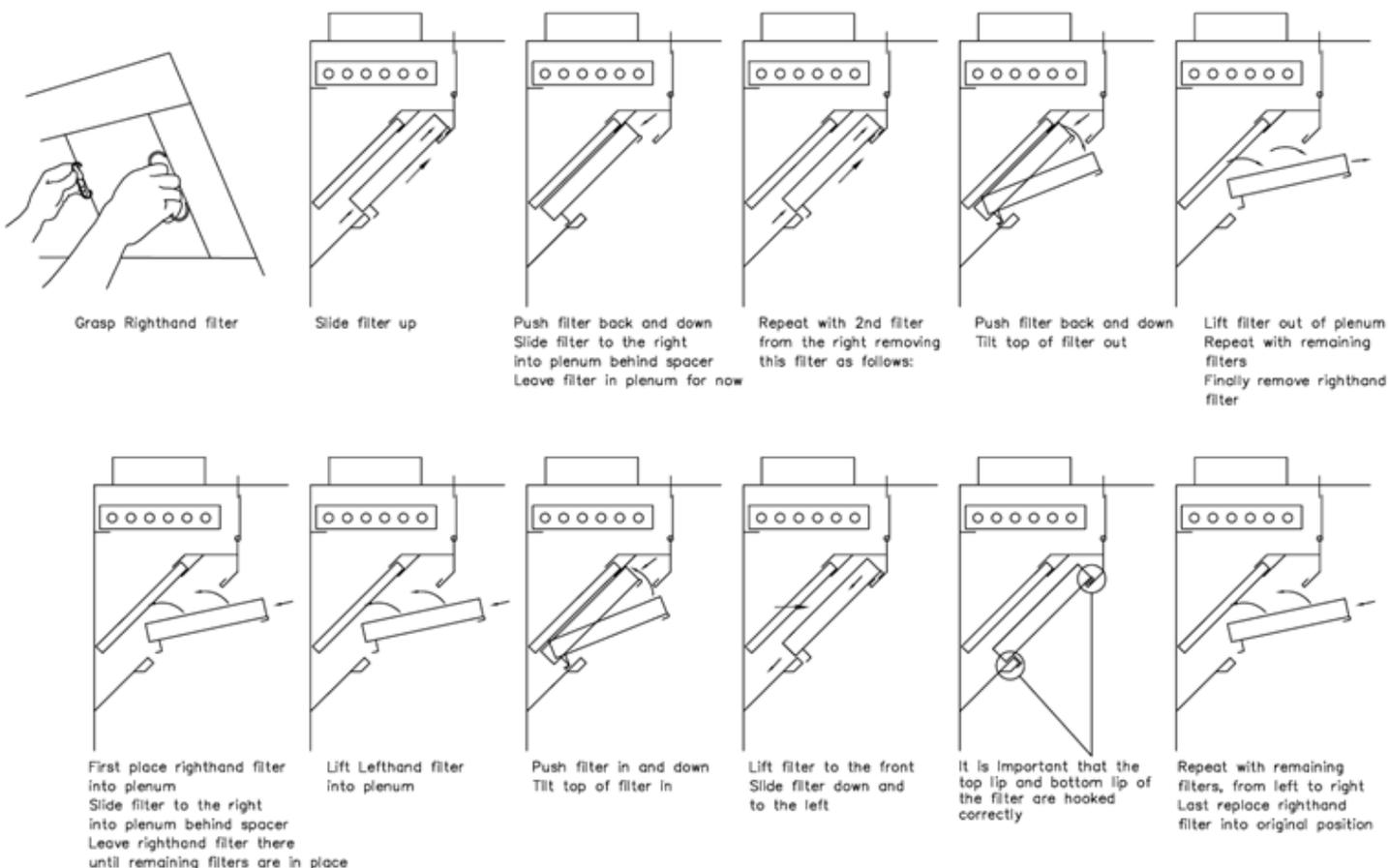


\*\* Never clean the hood canopy when any of the surfaces are hot.

4. The KSA stainless steel extractors (grease filters) and the GPS filters are cleaned during the hood water wash cleaning cycle and should not need to be manually cleaned regularly. The KSA extractors and the GPS filters should be inspected quarterly and if build up is detected a manual cleaning may be required. The cleaner the extractors and filters are the better the Ultraviolet light grease destruction system will perform. Use the following procedure if grease build up is detected during quarterly inspections. KSA extractors and GPS filters can be soaked in a degreaser overnight and rinsed in the morning before being replaced or they can be run through a commercial dish machine. In order to remove the KSA extractors and the GPS filters the KSA Access Panels and the Wash Damper panels must first be removed. To remove each KSA Access Panel remove the two screws in the upper right and upper left corner of each panel. Lift the panel out of the channel the bottom of the panel rests in. Set aside carefully. The Wash Damper panels pivot on a stud at each end of the panel. Rotate the bottom of the panel rearward, towards the KSA extractors, and slide the panel forward removing the damper panel from the pivot studs. There should now be clear access to the KSA primary extractors. Please see instructions below that describe the removal of the KSA primary extractors and cleaning process. After removing the KSA extractors remove the GPS filters. Lift the GPS filter upwards until the bottom of the filter clears its track, swing the bottom out forward and pull the filter downwards to clear the upper track. Replace the GPS filter by reversing the above instruction. After KSA extractors and GPS filters have been cleaned be sure all components have been replaced: The GPS filters, the KSA extractors, the Wash Dampers and the KSA Access Panels, in that order. All components must be replaced before the hood is placed back in service. The Wash Dampers and KSA Access Panels prevent water spray from splashing out of the filter plenum area during the wash cycle. The KSA Access Panels have safety switches that prevent UV lamp activation if they are not in place.



## Primary extractors Removal Instructions



## UV Lamps & Cassette Cleaning Instructions:

As previously stated, Halton highly recommends that the facility enter into a formal annual maintenance contract with the local Authorized Service Agent. Contact the factory directly if you would like the name and phone number of the local ASA.

The cleaning process of the UVC lamps does require time and the lamps must be handled with great care as they can easily be broken.

The UVC Lamps are cleaned during the hood water wash cleaning cycle and should not need to be manually cleaned regularly in order to allow for the system to operate at peak efficiency. The UVC lamps should be inspected quarterly and if build up is detected a manual cleaning may be required. Dirty or greasy UV lamps will not allow for the grease particulate and grease vapors to be converted into organic compounds. As a result, excessive grease will accumulate in the duct work and more frequent duct cleaning costs will occur.

In order to clean the UVC lamps one will need to shut off the electrical power to the system at the control panel. Once the appliance cook top has cooled the cassettes which hold the UVC lamps will need to be removed. The first step involves removing the KSA extractors & GPS filters. Then open the UV access panel door by turning the black knobs to the open position. The door is hinged and will open towards the operator and down.



Next disconnect the supply wiring from the cassette. The connector is accessed through the filter plenum where the KSA extractors and GPS filters have been removed. Disconnect the supply wiring by turning the connector 1/3 of a turn counter clockwise and then pull it straight out.



Once the supply wiring has been disconnected the cassette should be removed by sliding it out of the cassette tray. Handle the UV cassette only by the steel framework. Never pull the cassette or carry the cassette by the glass lamps. Be sure when placing the cassette on any surface that there is no object that will strike or put pressure on the glass lamps. Place the cassette with UVC lamps on a flat stable surface. Gently wipe off each lamp with a standard glass cleaner and dry cloth until the grease particulate and film has been removed. Do not put lateral pressure on the lamps (don't push the lamps sideways), only push gently along the length of the lamp. **Do not immerse the UV Cassette!**

Once the lamps have been cleaned the cassette can be slide back into the tray. Reconnect the supply wiring by aligning the small pin on the cassette side of the connector with the slot in the wiring side of the connector. The location of the small pin is marked with a blue paint dot on the mounting base of the connector that is on the cassette. Push the supply wiring connector in until the pins on the rotating locking collar engage the spiral slots on the cassette connector and rotate the locking collar clockwise until it stops. A detent should be felt as the locking collar stops rotating. Close the access door and turn the black knobs until the door is securely closed.

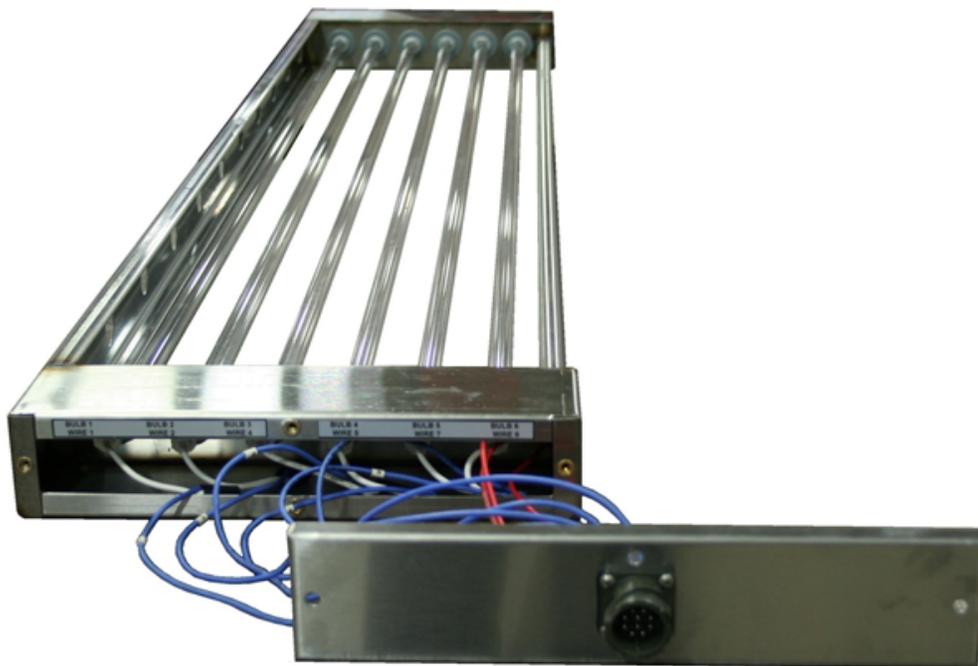
**NOTE:**

The frequency of cleaning the UVC lamps will be reduced when a routine cleaning schedule for the KSA extractors and GPS filters is diligently followed. The conversion of the grease particulate and grease

vapors into an organic compound is dependent upon the efficiency of the UVC lamp.

## UV Lamp Status Indicator Panel:

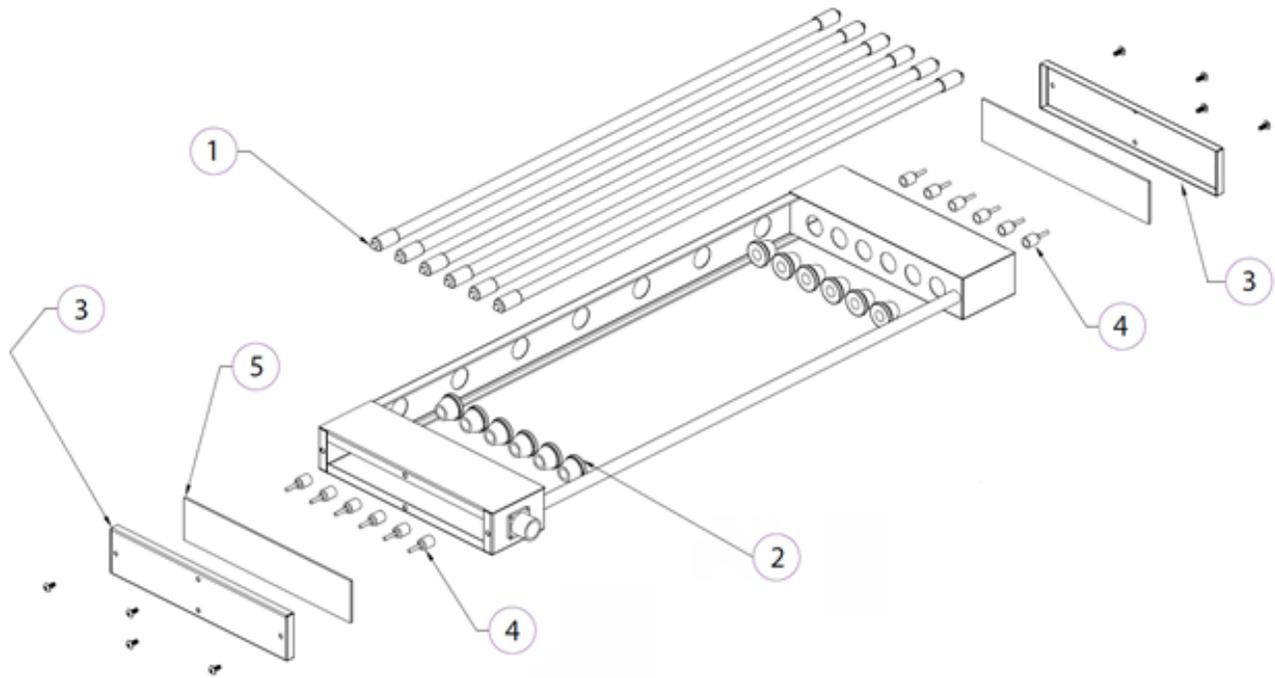
A UV lamp status indicator panel is located on the front of each UV equipped hood. There will be one status panel for each cassette the hood has, for a maximum of two panels. The LED indicator lights show that the corresponding UV lamp for that cassette is operating normally. If a lamp burns out or stops working the corresponding LED indicator light will go out also. There is a decal on the end of the cassette underneath the end cap which corresponds to the label on the indicator panel (L1, L2, L3, etc.). This gives feedback for the Authorized Service Technician about which lamp must be replaced. The lamps must only be replaced by factory trained technicians. This is not a user serviceable item. The rubber grommet must also be replaced at the time the lamp is replaced. The cassette is still 100% efficient with only 5 of the 6 lamps operating. This gives the operator some extra time to arrange for the inoperative lamp to be replaced.





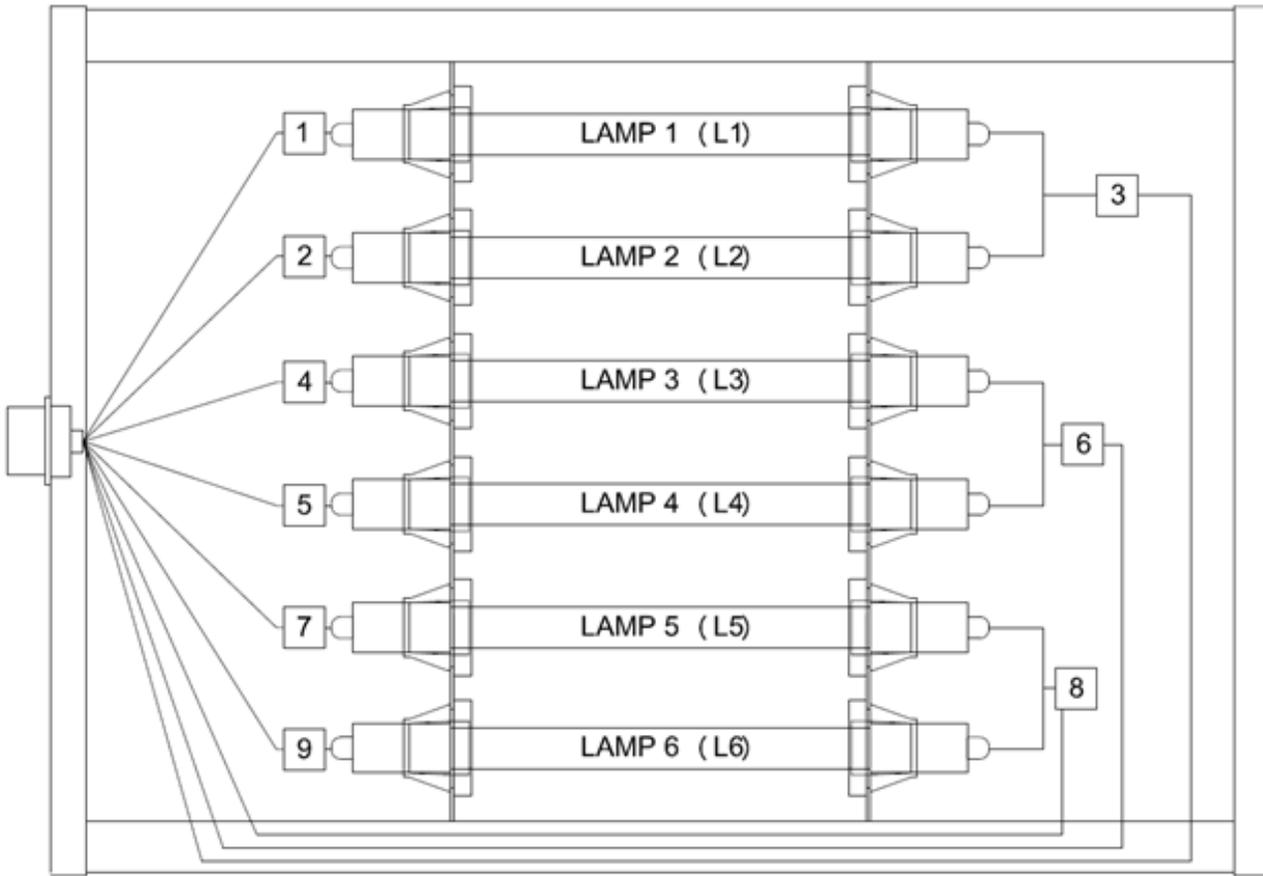
## Instruction for Re-Lamping

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER
1	6	UV Lamp	10373 (66") or 10374 (38")
2	12	UV Lamp Grommet	10377
3	2	UV Cassette End - Water Wash	53195XX
4	12	Lamp Socket	10376
5	2	End Cap Gasket	10593



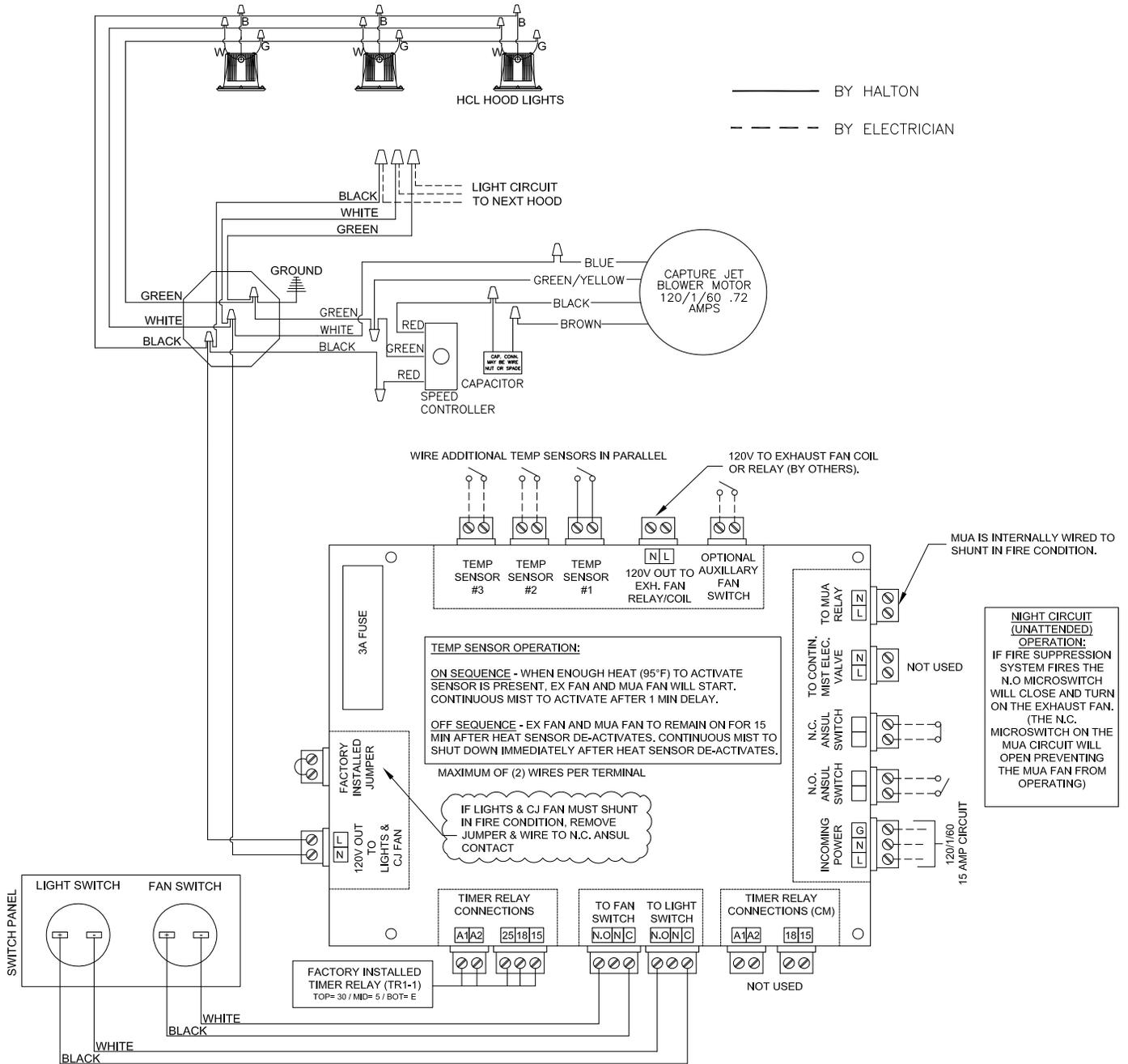
1. With the cassette removed from the hood, remove the screws from the end caps #3.
2. Unplug the lamps from lamp sockets #4.
3. Carefully slide each lamp out the end of the cassette through the lamp grommets. (Lubricate the lamp with dish soap or similar non petroleum based lubricant.)
4. Remove the lamp grommets #2 and replace with new grommets.
5. Carefully slide the new lamps through new grommets and re-connect lamp sockets #4, see wiring diagram for cassette below. (Clean lubricant off of lamps.)
6. Re-install end caps #3 and attach with screws.

# UV Cassette Wiring Diagram

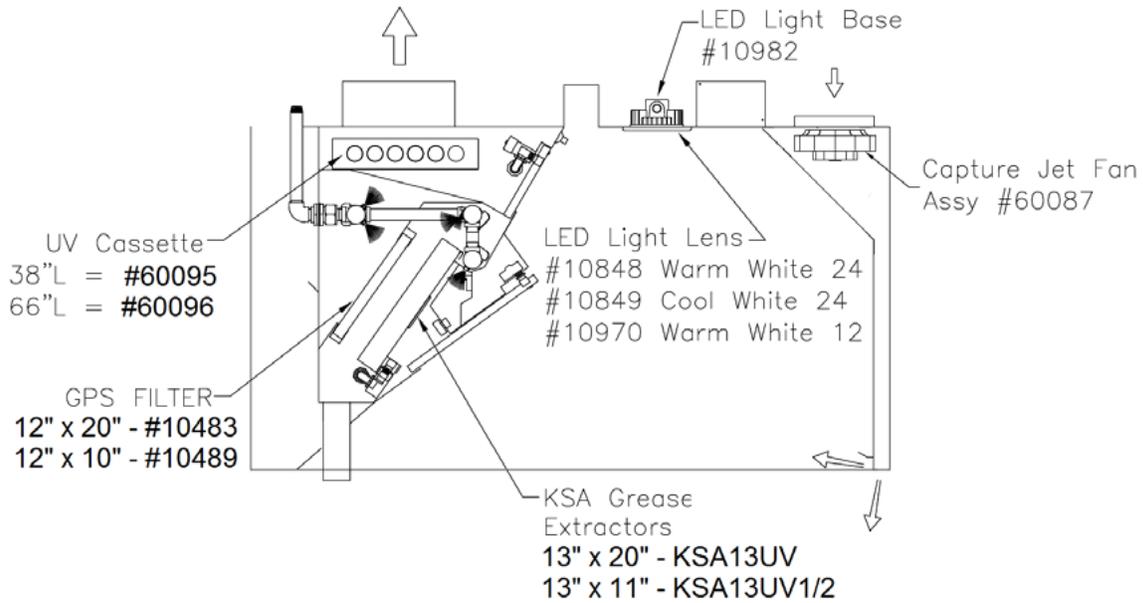


# Capture Jet Wiring Diagram

TYPICAL WIRING OF CAPTURE-JET FAN W/HALTON SUPPLIED SWITCH PANEL



# Replacement Parts Schematic



## Replacement Part Numbers

38" UV Cassette	60095
66" UV Cassette	60096
GPS Filter	12" X 20" – 10483, 12" X 10" - 10489
KSA Grease Extractor	13" X 20" – KSA13UV, 13" X 11" – KSA13UV1/2
LED Light Base	10982
LED Light Lens	10848 Warm White 24 LEDs 10849 Cool White 24 LEDs 10970 Warm White 12 LEDs



Removal of the UVC lamps and Control Panel is by a Halton Factory Authorized Trained Service Agency only. It is crucial that a Preventative Maintenance Program is contracted and performed by a Halton Factory Authorized Service Agency only.

## Preventative Maintenance

Preventative maintenance is necessary for efficient operation of your Capture Ray™ Water Wash hood. Daily - Clean exhaust hood exterior. See cleaning exterior. Run the hood wash cycle. Monthly - The Capture Ray™ Water Wash hood should be inspected regularly. The UV tube frames and controls should be verified for proper operation and cleaning. Check to ensure that all indicator lights are on, and wipe down the UVC lamps with a damp cloth to remove any residue. Run a complete test of the system and alarms. Inspect filters for grease accumulation and clean if required. Although this is listed as monthly, it may be extended or shortened depending on the type of cooking and hours of operation.

## Water Wash Nozzle Information

Two different nozzles are supplied with the Capture Ray Water Wash Hood. Replacement nozzles are obtained from Spraying Systems Co. Catalog number B5 nozzle washes the UV cassette, the back of the

mesh filters, the front of the KSA grease filter, and make up a portion of the nozzles in the wash manifold that washes the inside of the KSA grease filter. The B5 nozzles have an inlet connection size of 1/8", orifice diameter 0.031". The balance of the nozzles which wash the inside of the KSA grease filter are Catalog number C30. The C30 nozzles have an inlet connection size of 1/8", orifice diameter 0.023". Maximum recommended water pressure is 80 psi, typical water pressure would be 40 psi.

## Control Panel Operation

The Water Wash control panel is designed to operate only under safe conditions and warn when there are fan failures or other operational failures.





View of plumbing compartment of Water Wash Control Panel



## Water Wash Touch Screen Guide

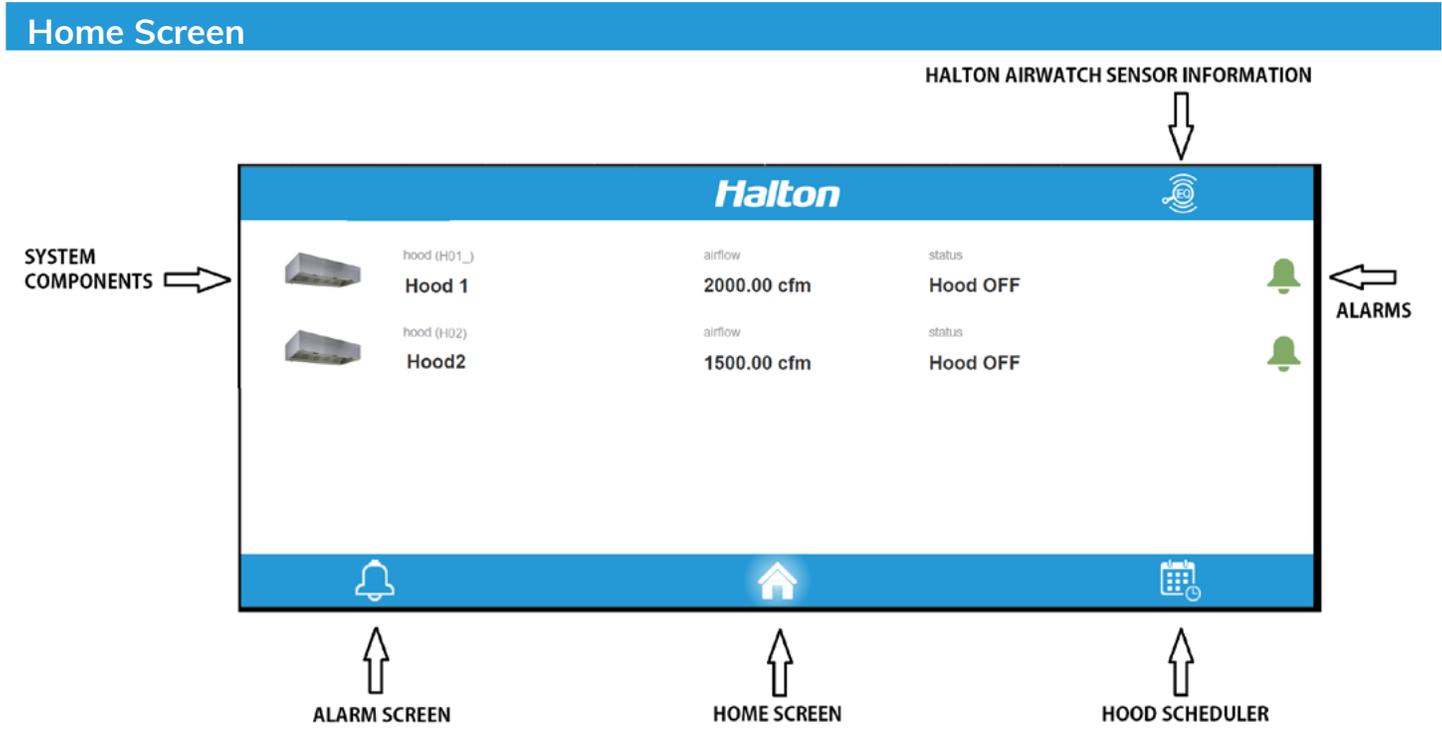
### Use of the Touch Screen

When the system is started the screen shown below is the start screen. When this screen is shown the exhaust fan may be manually turned on and off using the software switch depicted in the center of the screen. Pressing on the right side of the virtual rocker switch will turn the exhaust fan on. The indicator light below the switch will illuminate and the indicator will change text from Fan OFF to Fan ON. When the exhaust fan is on pressing on the left of the virtual rocker switch will turn the exhaust fan off. At the bottom of the screen is a red light that will illuminate during an alarm condition and the alarm reason will appear in the text box to the right of the alarm light. Five software buttons are located at the left hand side of the screen to allow navigation to the additional screens used for control of the system. These screens are explained in further detail below. In the bottom left corner of the screen is a green Menu Options button. This button will remain in place on every screen and allows quick navigation to every screen option.

# Touch Screen Operation

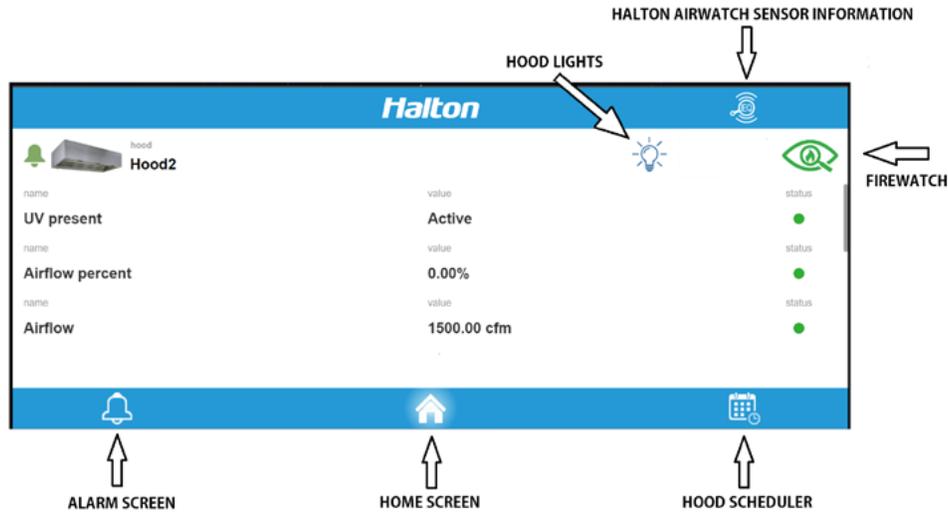
The central control panel features a user friendly touch screen interface. The following illustrations depict the navigation and features of the touch screen.

This touch screen allows the user to scroll the screen up and down to view the entirety of the home page or any of the pages. Certain selections have pull down menus to access different features of the selection.



## Individual Hood Selection Screen

Select one of the items on the Home screen to view the details about this item. This screen will allow you to drill down into the operation of a specific hood. Once selected you may scroll down for additional information about the hood (next two screen illustrations, below).



## Individual Hood Selection Screen, continued

This screen will allow you to move to your choice of Individual Hood Status screen. Scrolling down will reveal more of the screen.

The screenshot shows the Halton mobile application interface for 'Hood2'. At the top is a blue header with the 'Halton' logo and a signal strength icon. Below the header, there is a notification bell icon, a hood icon labeled 'hood Hood2', a lightbulb icon, and an eye icon with a flame. The main content area displays two rows of data:

name	value	status
Duct pressure	0.00 inH <sub>2</sub> O	●
Duct temperature	0.00°F	●

At the bottom is a blue navigation bar with three icons: a bell, a house, and a calendar.

Scrolling down will reveal more of the screen.

This screenshot shows the same Halton mobile application interface for 'Hood2', but with different data displayed. The layout is identical to the previous screenshot, including the header, icons, and navigation bar.

name	value	status
Hood operation status	Hood OFF	●
UV OnOff status	FALSE	●
Design airflow	2000.00 cfm	●

## Alarm History Screen

This screen will display your current alarms along with the alarm history.

The screenshot shows the Halton Alarm History Screen. At the top, there is a blue header with a gear icon on the left, the Halton logo in the center, and a signal strength icon on the right. Below the header is a red banner with a warning icon on the left and right, containing the text: "Fire Watch is disabled. Please schedule visit with Halton Service service.us@halton.com to configure and enable this service." Below the banner is a list of four alarms, each with a bell icon, a timestamp, a description, and a document icon with a clock. The bottom of the screen features a blue navigation bar with icons for notifications, home, calendar, and a refresh button.

Time	Description
09:14:34 AM 29 Aug 2022	Hood 1\Duct DP Sensor Fail
09:07:46 AM 29 Aug 2022	Hood2\Duct DP Sensor Fail
09:07:44 AM 29 Aug 2022	Hood2\IEQ sensor status
09:07:02 AM 29 Aug 2022	Hood2\Duct Cleaning Required

Selecting any of the individual alarms will allow you to see details about that alarm.

This screenshot shows the same Halton Alarm History Screen as above, but with the second alarm selected. A white modal window is overlaid on the list, displaying the details for the "Hood2\Duct DP Sensor Fail" alarm that occurred at 09:07:46 AM on 29 Aug 2022. The background list is dimmed, and the selected alarm is highlighted in green. The rest of the interface, including the header, banner, and navigation bar, remains the same.

## Alarms Explanations

“Low airflow” – Pressure switch from each hood is connected to terminals 1 and 15. Alarm is activated on switch closure. There is a 60 sec. delay to activate this alarm. It allows the pressure to built-up in a system after exhaust fan starts as well as to prevent false alarms on pressure fluctuation. UV in affected hood only is turned off.

“UV failure” – there is a 30 sec. delay to allow all UV tubes to ignite. LED indicators on face of a hood show which lamps are Off. UV failure switch is located on each UV ballast board and is connected to terminals 5 and 1. UV stays on when alarm active.

“Clean UV” and “UV End of Life” alarms are activated when preset number of hours of operation is reached. By default the settings are 1600hrs for Clean UV alarm and 13000 for UV End of Life. Those statistics don't reset automatically so it can be calculated how long overdue those services are. To reset those statistics a user name and password are required. UV stays on when alarm active.

“Filter removed” – when during operation a filter is removed from a hood, contacts connected to terminals 17 and 1 will activate this alarm. UV in affected hood is turned off.

“UV door open” - if during operation any of hood UV access door is open, contacts connected to terminals 16 and 1 will activate this alarm. UV in affected hood is turned off.

### CRITICAL ALARMS

Critical alarms cause the UV to be turned off. The critical alarms are: “Low airflow”, “Filter removed” and “UV door open”.

Understanding critical alarms.

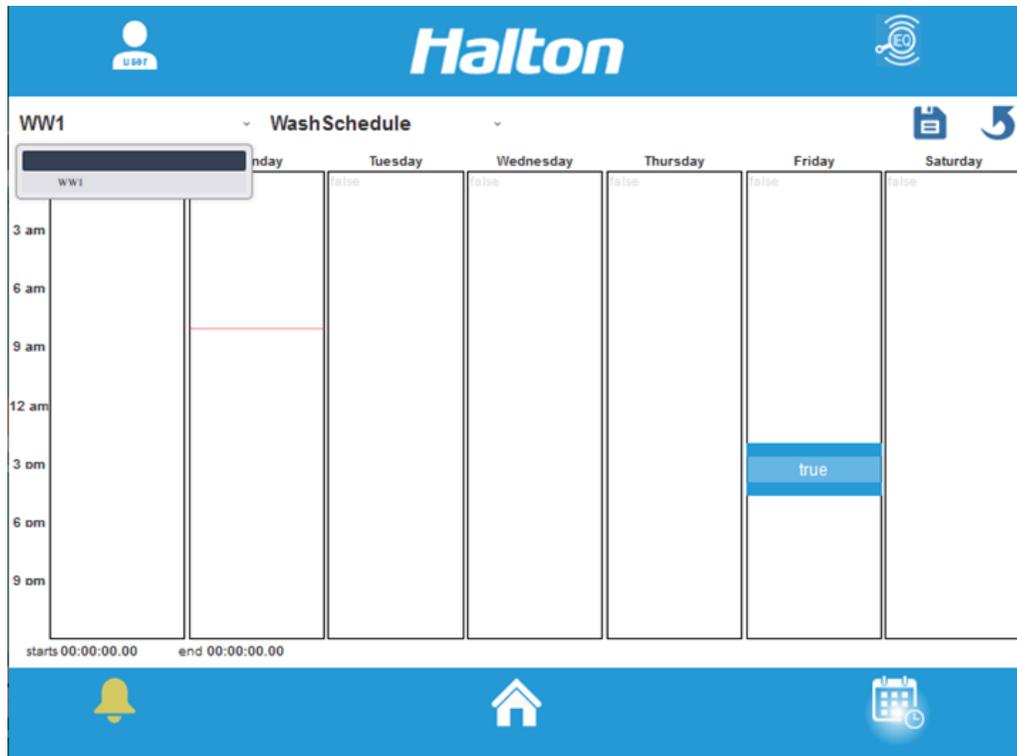
When one of those critical alarms occurs, the screen switches automatically to “Alarm info” screen and displays the alarm on a red backlit screen. The system status remains “System On” however UV status shows “UV off”.

It is important to understand that the UV output from the control panel remains “on” to keep all UV hoods operational. Only UV in affected hood is turned off locally by the internal relay in the UV hood compartment. The affected hood can be located by inspecting the LED indicators on face of each hood. Hood with UV off will have all 6 LEDs off.

## Scheduler Screen

This screen will allow scheduling of the whole system or parts of the system. The operation of the hoods may be set to a schedule. Individual functions, like water wash function, may be scheduled with this screen. Select a function and drag and drop to a day and time to set the schedule.

Touching the schedule icon at the bottom right of the screen will display the Wash Schedule screen



Wash Schedule Screen

Wait for schedule to populate information.

### A NOTE ABOUT WASH CYCLE TIMES

The length of the wash cycle is preset at the factory. Under extreme conditions such as heavy duty appliances or if hot water supply is located some distance from ventilators, it may be necessary to increase the length of the wash cycle. This adjustment must be performed by Halton Service Department. The adjustment may be performed remotely if the Halton hood is equipped with an Edge device for remote access, or in person if not equipped.

1. Wash Occurs - length of this wash can be adjusted (factory set for 60 seconds)
2. Draining Occurs - 60 seconds and cannot be changed
3. Rinse Occurs - length of this rinse can be adjusted (factory set for 60 seconds)
4. Fan Dry - 3600 seconds (one hour) and cannot be changed

Press screen and hold the press until the menu appears. This allows you to create an event (schedule a wash for example), and apply the event to the desired days of the week. You may also copy a day's schedule to another day, clear the schedule from a day or clear the schedule for the entire week.

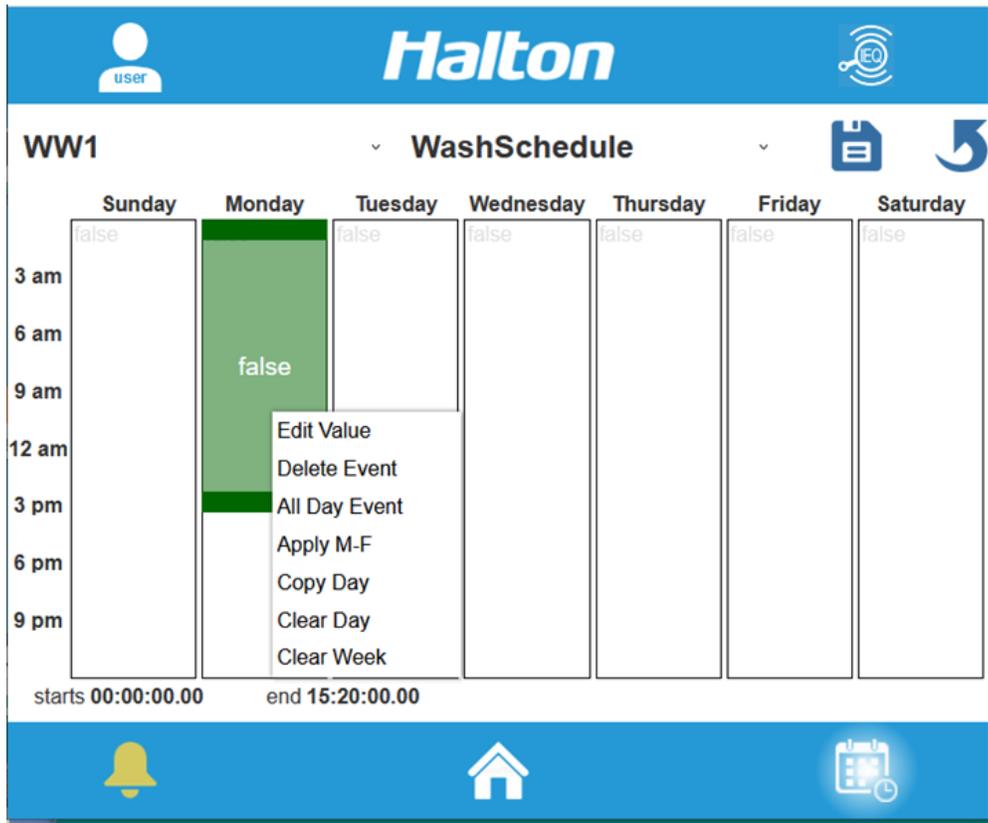


Wash Schedule Screen

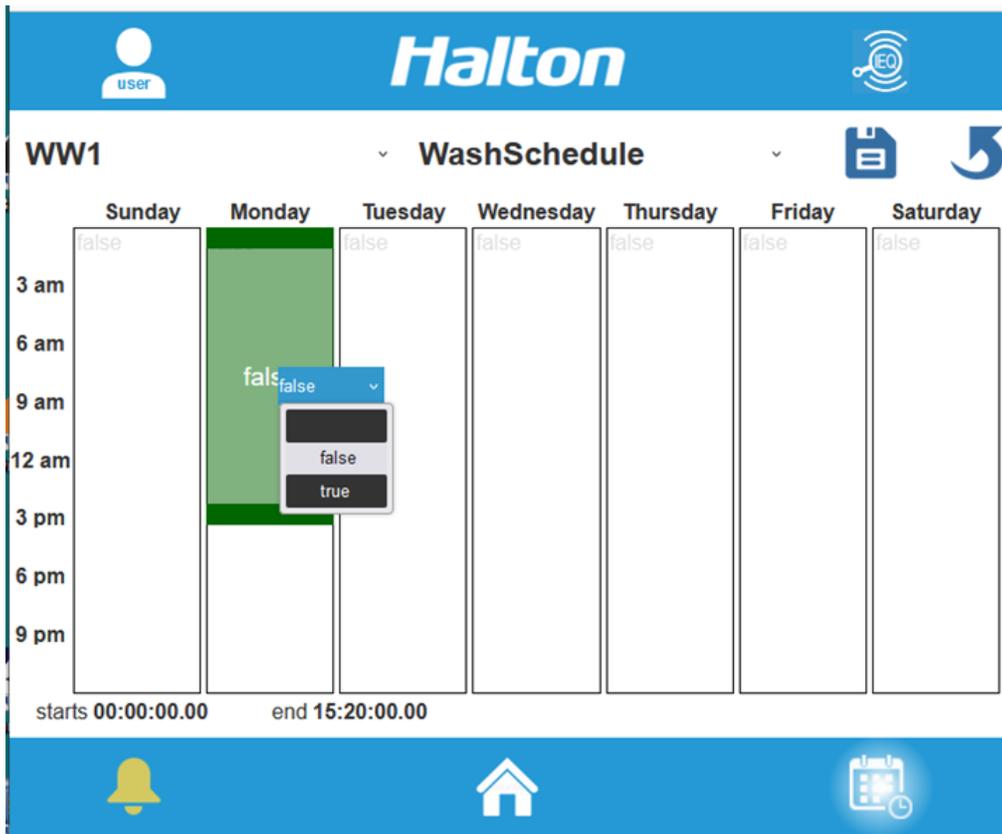
When the event appears press and hold the event and the Edit Event menu appears. You may perform the functions in the Edit Event menu by pressing the desired function in the menu. You may drag the dark bars at the top or bottom of the event to adjust start and stop points for the event. When selecting “Edit Value” you have the choice of “false” and “true”. “False means “No Action” or “Off”, while “True” means “Action activated” or “On”. Press “True” to activate the event in the schedule.

Repeat creating events for additional wash functions as desired. Press the “Home” icon to save changes and return to the home screen.



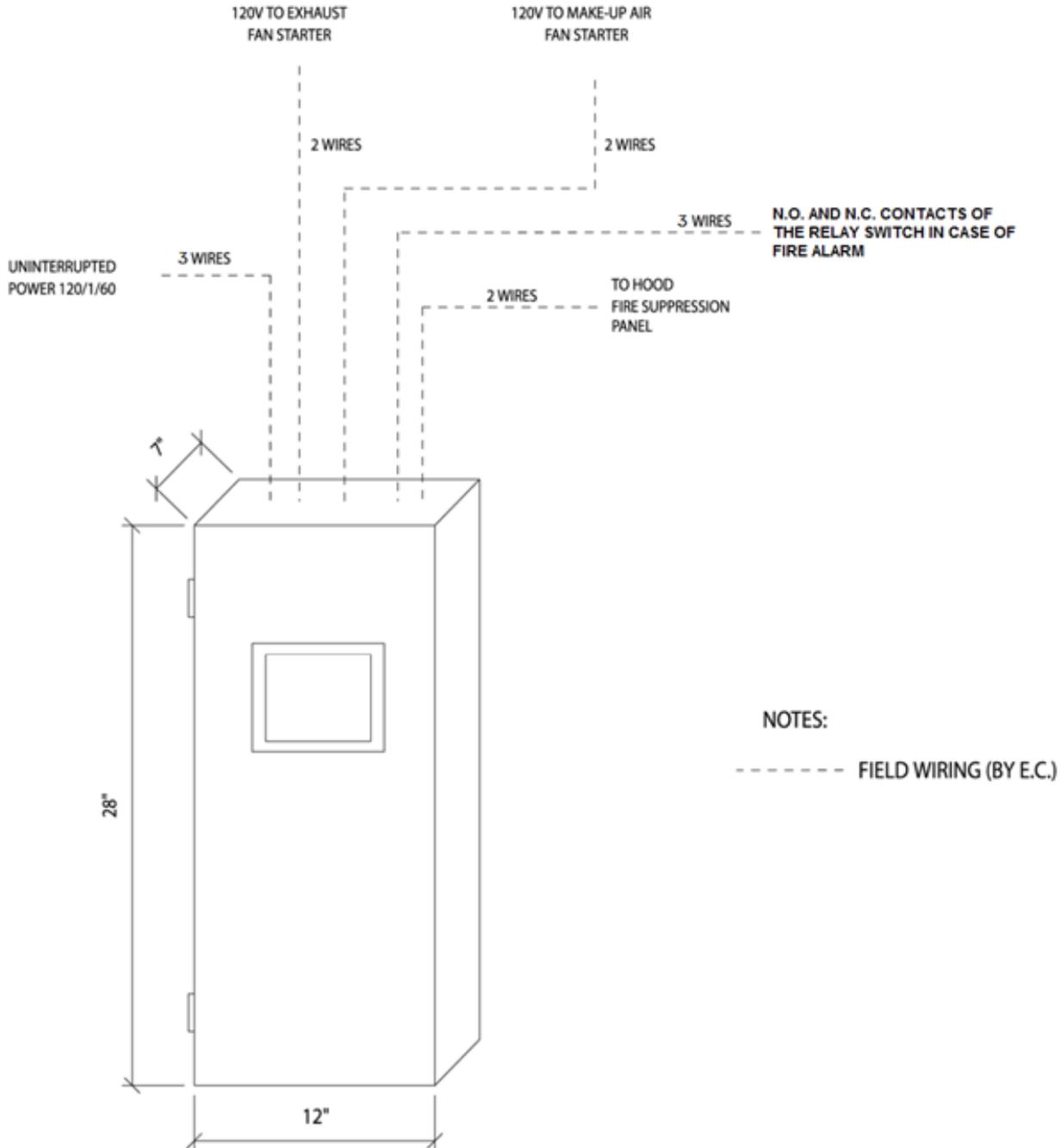


Wash Schedule Screen



Wash Schedule Screen

A Field wiring diagram is shown below. Please see wiring diagrams included with the job specific submittal drawing for point to point connection diagram.



**H5-25-2SQ-5GAL-BFP-EFO**  
**S-SURFACE MOUNT**  
**R-RECESSED MOUNT**

# Warranty Form

This form must be completed and returned to Halton in order for your warranty to be valid.

## Job & Location Information:

Job Name: \_\_\_\_\_

Street Name: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Equipment Start-Up Date: \_\_\_\_\_ Product Serial Numbers: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Contact Information:

Contact Name: \_\_\_\_\_

Title: \_\_\_\_\_

Chef, Kitchen Mgr/Facility Mgr/Property Mgr/etc.

Facility Management Company Name (if applicable): \_\_\_\_\_

Email: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Cell Number: \_\_\_\_\_

Fax completed form to:  
Halton Company  
Attention: Service Department  
Fax: (270) 237-5700

Halton Indoor Climate Systems  
Attention: Service Department  
Fax: (905) 624-5547

# Halton Limited Warranty

Halton (“Manufacturer”). Warrants only to its direct purchasers and to no others, that all products manufactured by the Manufacturer shall be free from defect in materials and workmanship for a period of twelve (12) months from the date of the original installation and start-up or eighteen (18) months from date of shipment, whichever occurs first. All products sold but not manufactured by Manufacturer will be warranted for a period of twelve (12) months from date of shipment.

For products manufactured by the Manufacturer we agree to pay any reasonable labor costs necessary to repair or replace, at Manufacturers option, defective parts or materials for a period of twelve (12) months from date of original installation and start-up or eighteen (18) months from date of shipment, whichever occurs first. All labor costs subject hereto shall be performed during standard work hours at straight-time rates.

For products sold but not manufactured by the Manufacturer we agree to pay any reasonable labor costs necessary to repair or replace, at Manufacturers option, defective parts or materials for a period of (90) days from date of original installation and start-up or (12) months from date of shipment, whichever occurs first. All labor costs subject hereto shall be performed during standard work hours at straight time rates.

All warranty claims that include labor requires pre-approval by Halton. Halton, at its discretion, will authorize field warranty work through its own service network or certified third party. No claims for labor charges will be approved for payment if work commences without prior authorization by Halton.

Purchaser shall pay incurred premium labor charge, including overtime, weekends and holidays. Travel time, service charges, miscellaneous tools, material charges, and labor charges resulting from inaccessibility of equipment will not be paid by Manufacturer.

This LIMITED WARRANTY SHALL APPLY ONLY to products that have been installed and maintained in accordance with the installation and Care Instruction Manuals. Purchaser shall be solely responsible for adhering to the instructions and procedures set forth in the said instruction manuals.

This LIMITED WARRANTY SHALL NOT BE APPLICABLE to any damage or defect resulting from fire, flood, freezing or any Act of God, abuse, misuse, accident, neglect or failure to adhere to all instructions set forth in the installation and Care Instruction Manuals. Furthermore, this limited warranty shall not apply to any product that has been altered, unless such alteration has been approved in writing by a duly authorized representative of the manufacturer. In no event shall the manufacturer be liable for any loss, expense, personal injury or consequential damage, of any kind or character, as may result from a defect in material, and/or workmanship, however caused.

EXCEPT AS IS EXPRESSLY SET FORTH IN THIS LIMITED WARRANTY, MANUFACTURER MAKES NO WARRANTY OF MARKETABILITY FOR FITNESS OR ANY PARTICULAR PURPOSE. NEITHER DOES MANUFACTURER MAKE ANY WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO PRODUCTS SOLD BY MANUFACTURER OR AS TO THE USE THEREOF.

Continuous product improvement is a Halton policy, therefore specifications and design are subject to change without notice.