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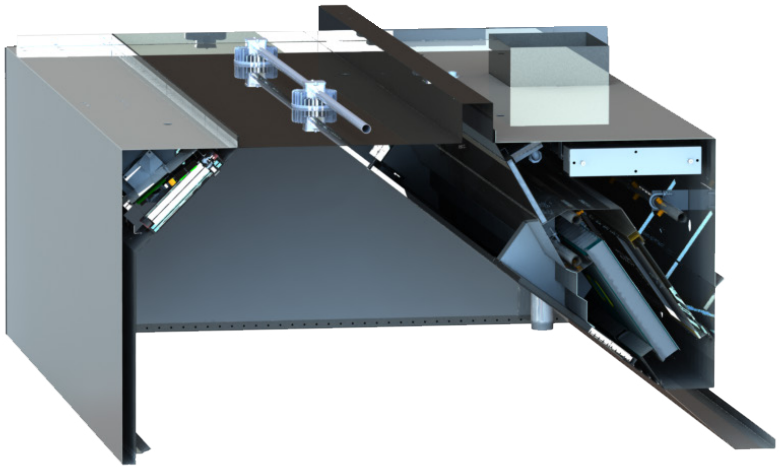
Date:10-2025 - Rev4

KVE-WW-UV

Capture Jet™ Hood with Water Wash and UV Technology

◦ Capture Jet™ technology ◦ KSA cyclonic filters ◦ Halton HCL Culinary lights



Intertek

NSF

Component certification(s)

Main Technologies and options

Capture Jet™ technology
Up to 40% reduction in exhaust airflow thanks to a better capture efficiency.

KSA cyclonic filters
Up to 95% efficient on 10 microns particles.

HCL Culinary lights
provide the best visual comfort while contributing to improved safety and energy savings.

Water Wash technology
Automatically washes down the filters.

UV-C Capture Ray
Neutralises grease vapors and particles.

Recommended combinations

Further increase the energy savings and improve staff's comfort > M.A.R.V.E.L. airflow and energy optimization technology.

Optimize the ductwork cleaning costs and further improve your safety > KGS grease deposition level monitoring system for ductwork.

Improve operator or chef comfort > Comfort Jet for a more comfortable cooking environment.

Establish restaurants in premium locations and increase profitability > PolluStop pollution control units and reassure neighborhood.

Halton SafeGuard offers a comprehensive solution > Ventilation efficiency, air quality, fire safety, remote insights, and system longevity—all in one smart package, that includes:

M.A.R.V.E.L. Demand Control Kitchen Ventilation (DCKV):
Real time airflow reduction in ventilation volumes.

Halton FireWatch:
Continuous fire risk detection for rapid response and improved kitchen safety.

Halton AirWatch:
Dynamic indoor air quality monitoring for optimized ventilation and staff comfort.

KGS Kitchen Grease Duct Sensors:
Monitors grease deposit levels in all ductwork.

Halton Connect Monitoring:
Cloud-based control platform with distant monitoring capabilities. (1)

(1) The access to Halton Connect™ web portal is included in the 1-year warranty period. After this period, it is subjected to one of the Halton Care service offers.

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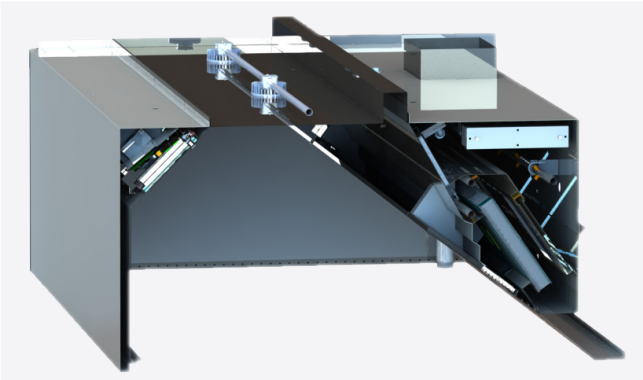

Air quality is becoming a major concern for everyone. Many kitchens will require emissions control in their exhaust systems to comply with growing demands for environmentally-friendly operation.

The Capture Jet™ range of hood systems with 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 efficiency Capture Jet™ solution and advanced mechanical KSA filter technology, the Capture Ray™ feature with scheduled maintenance keeps the plenum and duct virtually grease-free and mitigates the cooking odor and emissions.

Considerable energy savings

• The Capture Jet™ technology allows for up to a 40% reduction in exhaust airflow rates.

• The combination with M.A.R.V.E.L. airflow and energy optimization technology allows for reducing the exhaust volumes by up to an additional 24% on top of that of the Capture Jet™ resulting in up to a 64% total reduction.

• The energy savings on heating/cooling the makeup air then become massive (less air out, less air in!).

• The reduction of the draft risk and noise levels improves the working conditions for the staff.

Application

- Restaurant kitchens
- Industrial kitchens
- Fast food kitchens
- Pizzerias or bakeries with ovens
- Catering or event kitchens
- Institutional kitchens (hospitals, schools, universities)
- Culinary schools
- Airport or mall food courts (over cooking stations)
- Stadium or arena concession kitchens
- Resort or spa kitchens (high-end dining facilities)
- Military or government facility kitchens
- 4-5 star hotel and restaurant kitchens

Other features and benefits

- Integrated Capture Ray™ Ultraviolet cassette(s) with complete controls and safety features.
- Automatic Water Wash features allow for almost continuous operation without extended shut down for cleaning.
- Highly efficient Capture Jet™ technology reduces the exhaust airflow volume required.
- Heat load design method.
- ASTM 1704 validated performance.
- Easy access to UV cassettes for maintenance.
- Stainless steel Model KSA 'Multi cyclone' high efficiency grease filters - UL and NSF classified.
- T.A.B.™ (testing and balancing) ports, which allow accurate and effective commissioning.
- UL listed Control Panel for UV operation.
- Stainless steel welded construction.
- Standard HCL Culinary Lights.
- Optional LED dimming is available for Capture Jet hoods. Dimming is control by a knob on the switch panel or through Halton HMI Touch Screen.
- Stainless steel, welded design.
- Optional UV maintenance contracts included for the **1st year**.

NOTE: Factory must be advised of any special requirements of the Authority Having Jurisdiction at time of quote.

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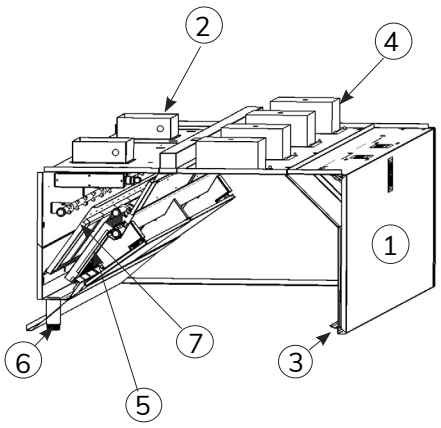


Part	Description
1	18 Ga. Stainless steel
2	Exhaust duct collar
3	Capture Jet air
4	Light fixture
5	KSA grease filters
6	Drain Pipe Connection
7	Stainless steel grease particle separator

Construction

The exposed part of the hood is made of stainless steel. The joints of the inner liner have a fully-welded construction. The hood ends have double side wall construction. The Capture Jet™ is introduced through a special discharge panel. Grease extracted by the KSA multi-cyclone filter will be removed from the hood during the wash cycle. The air flow through the Capture Jet® air chamber is determined by the T.A.B. ports located inside the upper hood chamber.

The Capture Ray™ system is installed in a plenum, which has been studied in detail using computational fluid dynamics (CFD) to ensure optimum results. The Capture Ray™ control panel is designed to operate the UV lamps only under safe conditions and to give a warning in the case of lamp failure, fan failure, other operational failure or expiration of lamp lifetime. Lifetime of one UV lamp is up to 10,000h, if system is maintained as per Halton's Operation & Maintenance manual.

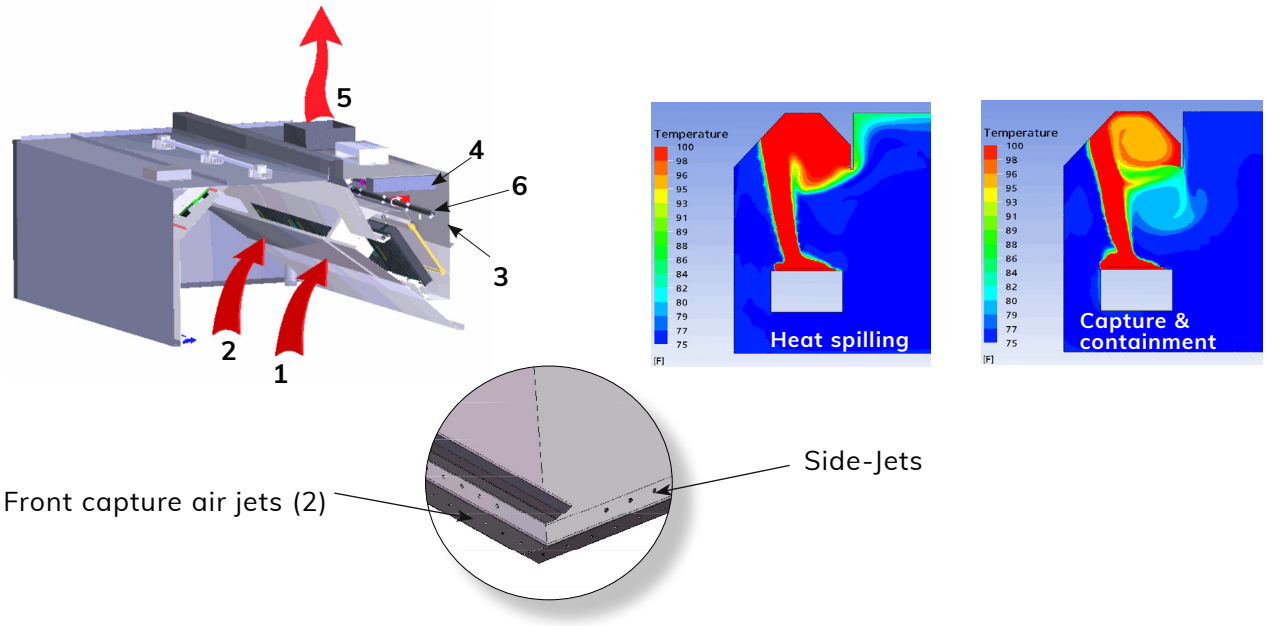
Dimensions

KVE-WW-UV	inches
Length	48....168
Width	48....84
Height	30

Quick Data

Length	Recommended Exhaust air volumes	Recommended Capture Jet air volumes
48....168	* Actual exhaust air volumes are calculated by using the heat load based design method utilizing the Halton H.E.L.P. (Hood Engineering Layout Program)	Capture Jet average pressure 0.40" WC
	*Average operating range from light to heavy duty cooking loads 135 cfm to 275 cfm per linear foot	*Airflows established by a pressure reading *WC= Water Column

*Hoods are ETL or UL listed for USA per UL710, and CANADA per ULC-S646 standards, and NSF certified.



Function

The kitchen hood above cooking appliances collects the warm air and contaminants (1). The Capture Jets (2) direct the contaminated air toward the KSA grease filters (3), where grease particles and other impurities are separated from the exhaust air using the cyclone separation principle. Behind these and inside the hood are a series of ultraviolet lamps (4). The grease vapor and effluents that are not collected by high-efficiency filters pass over the lamps. This causes a chemical reaction that destroys the grease and converts it into carbon dioxide and water vapor. The chemical action carries over into the duct and helps keep the duct (5) and exhaust fan clean. A wash manifold (6) sprays cleaning solution to help remove grease.

Modifications & Options

- Closure Panels - for canopies below ceiling level
- Backsplash
- Side Skirts
- KFR - Filter Removal Tool
- LED Dimmable Lighting
- Recessed Fluorescent or Incandescent Lighting
- Incandescent Globe Type Lights
- MEP - Master Electrical Panels
- Comfort Jet for chefs and operator comfort
- Face or Remote Mounted Switch Panels
- Factory Prepiped Fire Protection
- Powder Coating in a Variety of Colors
- Custom/Design Stainless Steel Exterior Textures and Finishes
- Listed Exhaust Duct Balancing Damper
- Hood Mounted Fire Cabinet
- M.A.R.V.E.L. Demand Control w/VFD by Halton
- Halton SafeGuard including M.A.R.V.E.L. Demand Control Kitchen Ventilation, Halton FireWatch, Kitchen Grease Duct Safety Monitoring System, Halton AirWatch and Halton Connect Monitoring and IoT cloud data storage

Wiring diagram

Supplemental instructions are included in shipment packing, detailing the job specific electrical wiring requirements for the control panel(s) and hood(s). If these cannot be found, please contact the factory prior to any electrical work.

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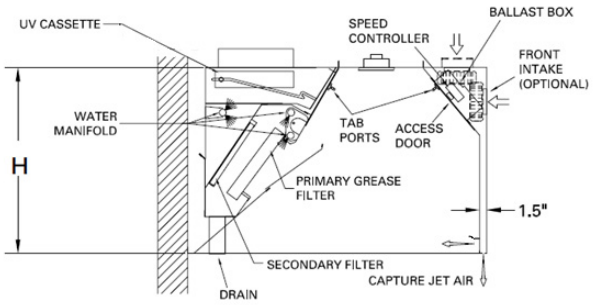
Dimensions

KVE-WW-UV - Wall model	inches
Length	48....168
Width	48....84
Height	30

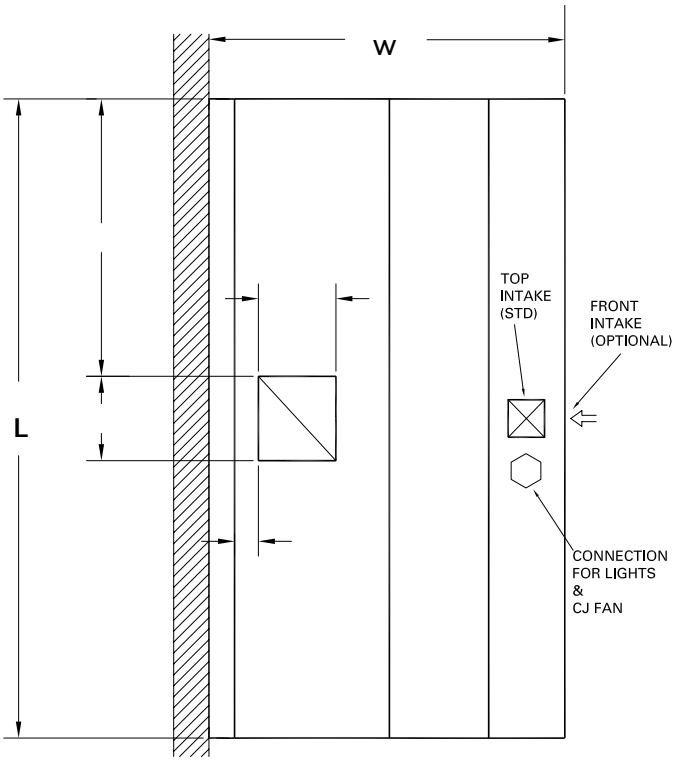


Noted in drawings as:

L = Length

W = Width

H = Height



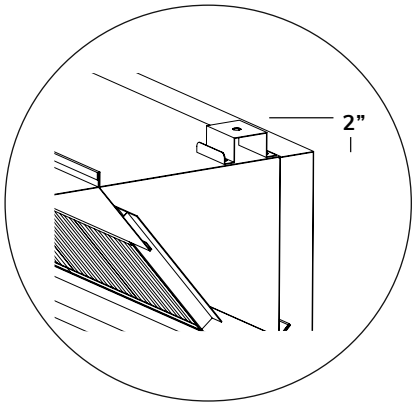
Weight (lb)

18 ga.

Estimated Crated Shipping Weight	inches	Weight
Width	48”	100 lbs / ft.
Width	54”	110 lbs / ft.
Width	60”	120 lbs / ft.
Width	66”	130 lbs / ft.
Width	72”	140 lbs / ft.
Width	78”	150 lbs / ft.

*Larger Widths – Consult Factory for weight

Mounting bracket 2” high (52mm)



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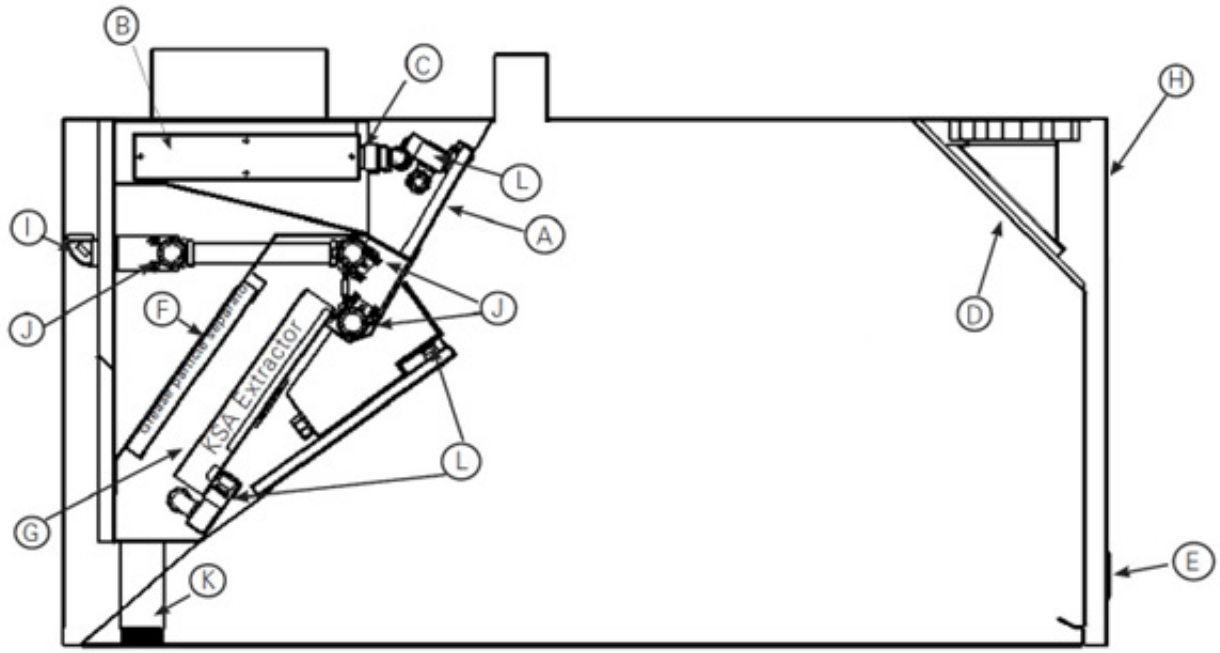

Item	Description
A	Cassette Access Panel - for easy access and removal of UV cassette(s)
B	UV Cassette - contains multiple UV lamps (Handle with care)
C	Amphenol Connector - Millitary spec fitting for electrical connection in plenum
D	Ballast Box Access Panel - for access to components shown (see illustration)
E	Lamp status indicator - shows status of each UV lamp operation.
F	Grease Particle Separator (GPS) filter
G	Primary Extractor - A multi-cyclone KSA extractor
H	Ballast Box- located on the top of the hood for control of the UV cassette(s)
I	Water Wash Intake Supply
J	Water Wash Nozzle Manifolds
K	Drain Pipe Connection
L	Safety Switches

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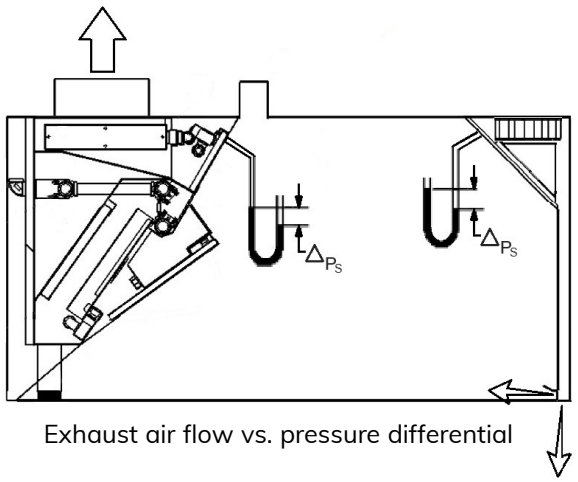
Balancing of Capture Jet™ with UV Technology Hoods

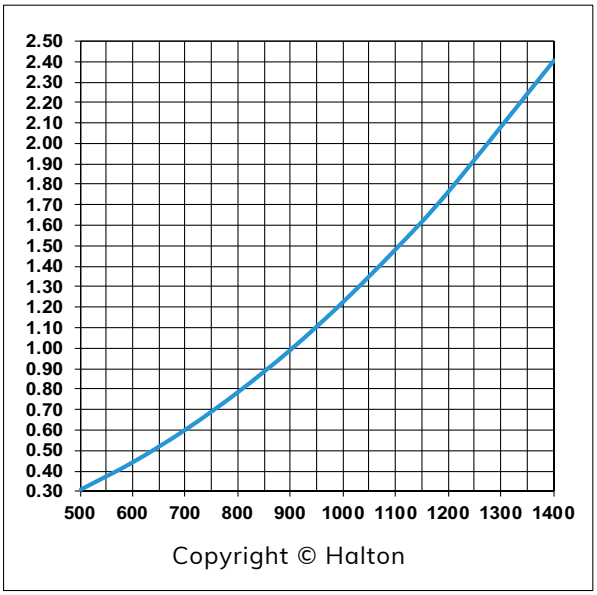
The Capture Jet™ and exhaust air flows are easily and accurately determined by measuring the pressure difference from the T.A.B. ports mounted in each plenum. Corresponding air flows can be read from the diagrams provided.

All T.A.B. readings assume cold conditions. To adjust for an exhaust temperature of 110°F, multiply the readings by a factor of 0.93.

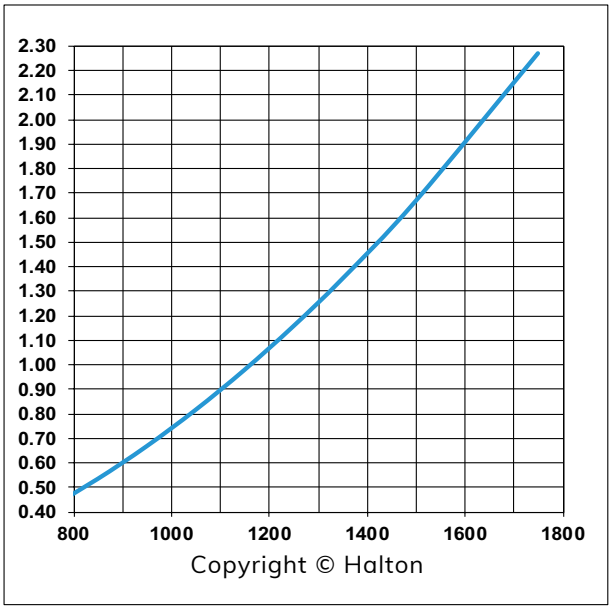


Exhaust air flow vs. pressure differential

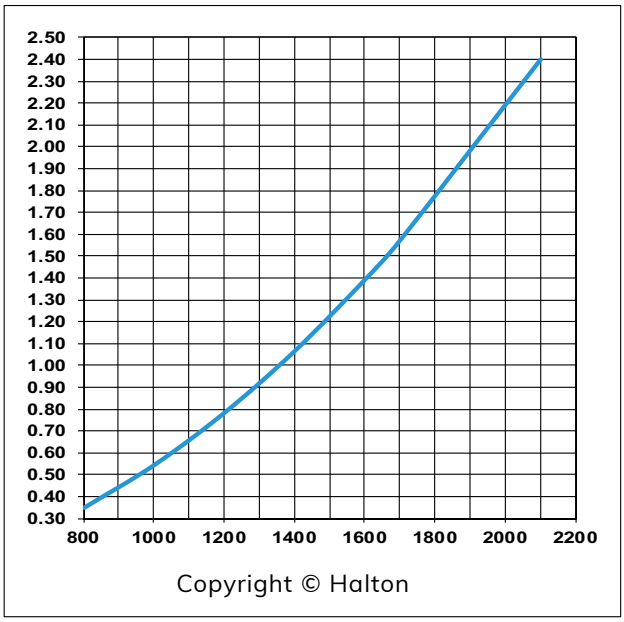
KVE-WW-UV - 2 Filters



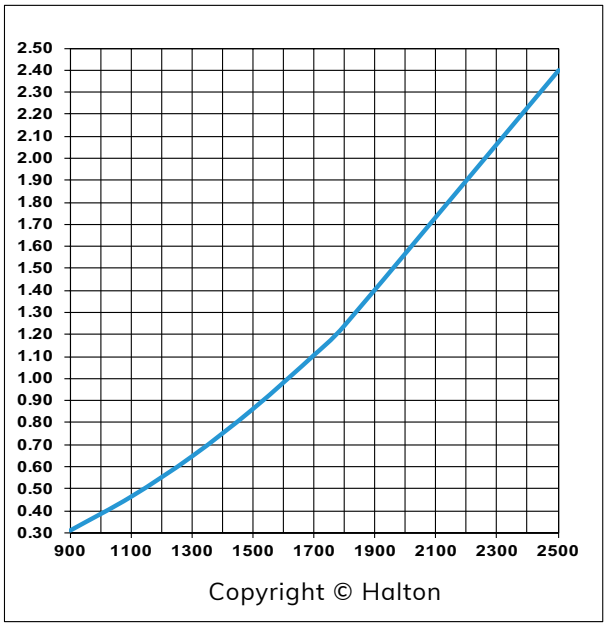
KVE-WW-UV - 2.5 Filters



KVE-WW-UV - 3 Filters



KVE-WW-UV - 3.5 Filters



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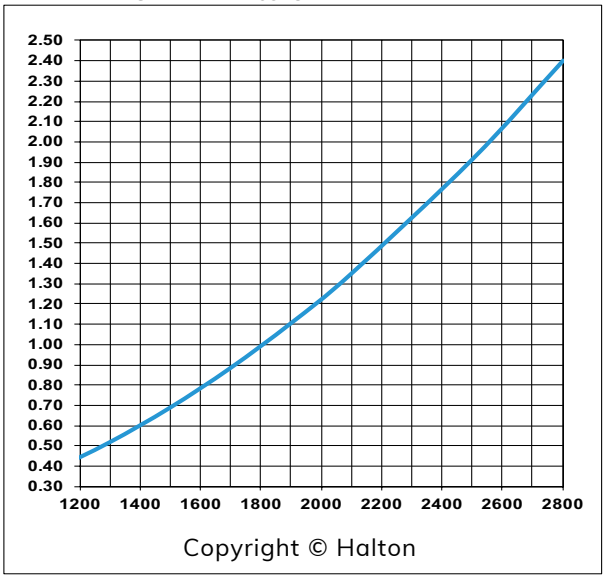
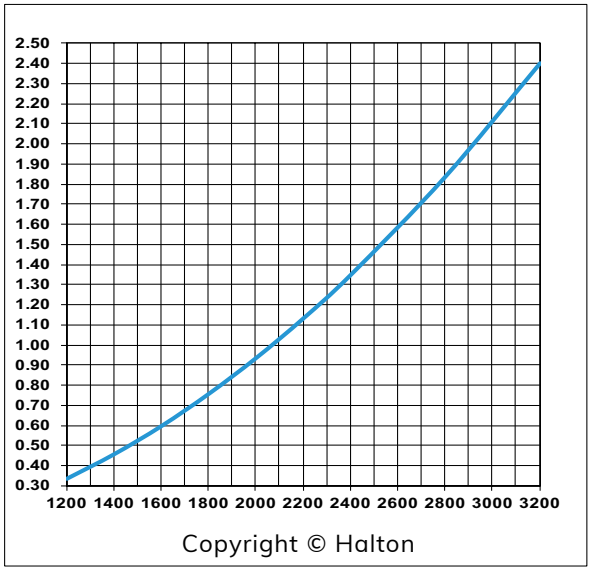
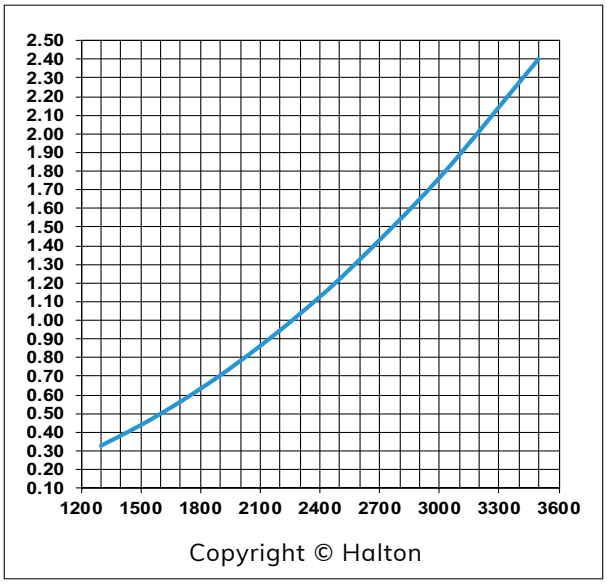
KVE-WW-UV - 4 Filters



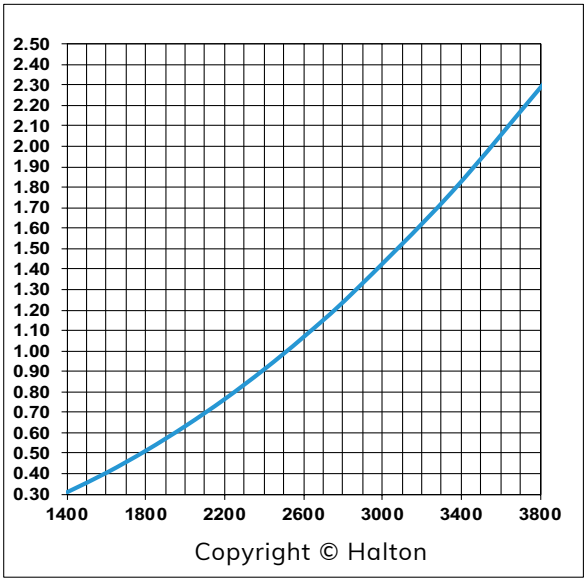
KVE-WW-UV - 4.5 Filters



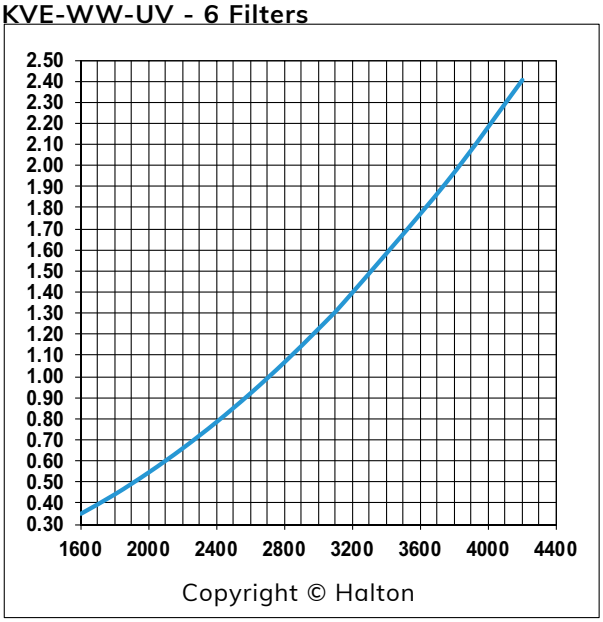
KVE-WW-UV - 5 Filters



KVE-WW-UV - 5.5 Filters



KVE-WW-UV - 6 Filters



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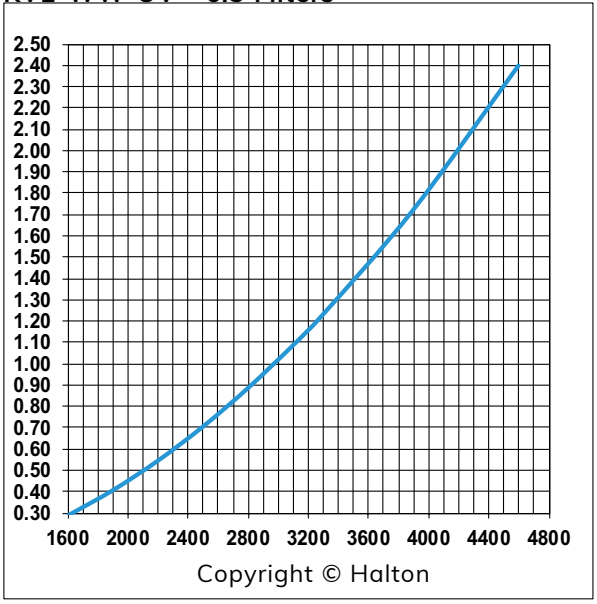

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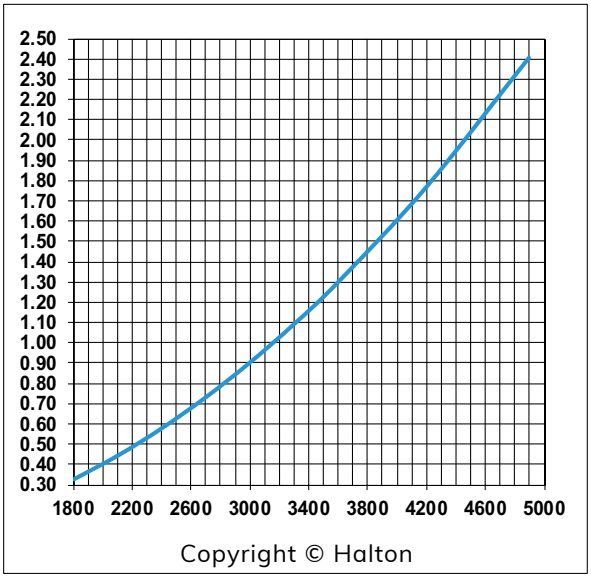
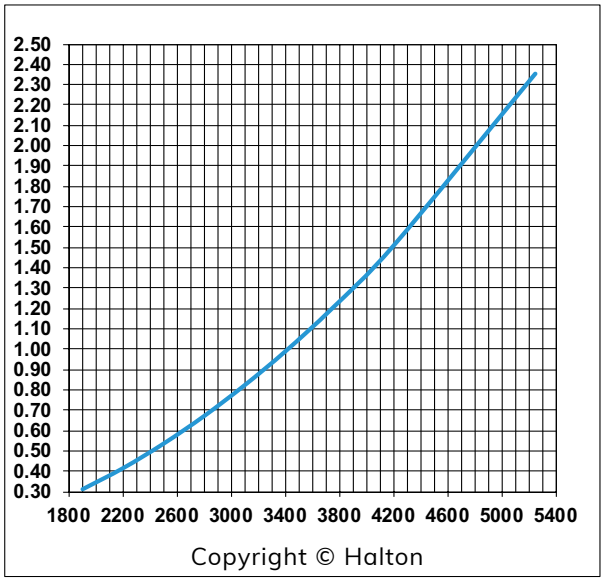
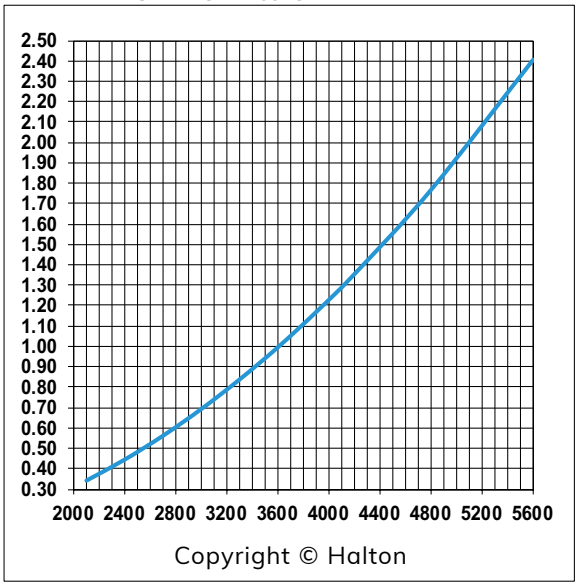
KVE-WW-UV - 7 Filters



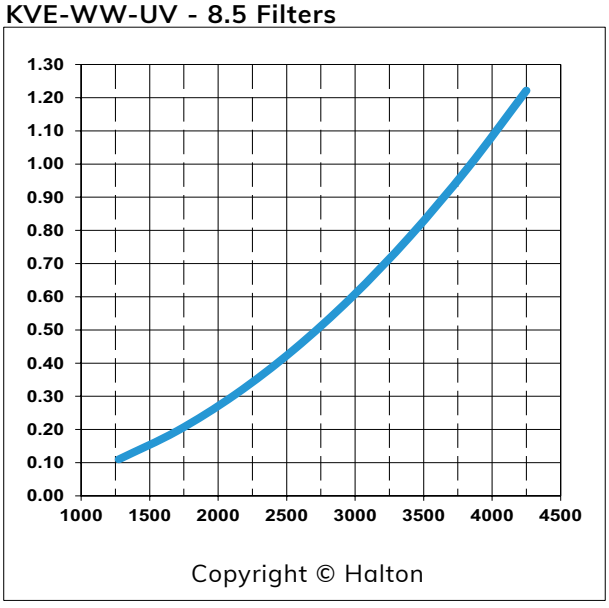
KVE-WW-UV - 7.5 Filters



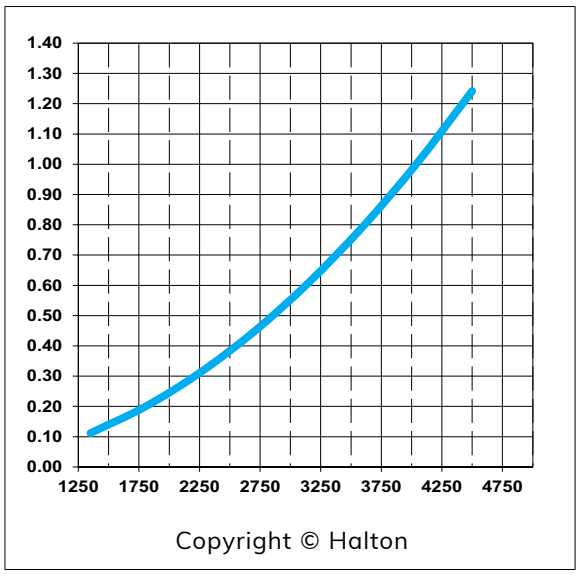
KVE-WW-UV - 8 Filters



KVE-WW-UV - 8.5 Filters



KVE-WW-UV - 9 Filters



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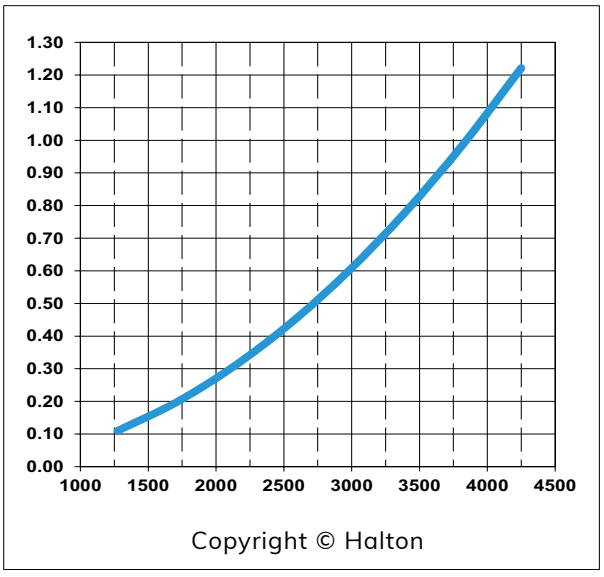

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Suggested specifications

General

Kitchen hoods are constructed from 18 gauge stainless steel. The kitchen hoods shall be supplied complete with outer casing/main body, inner liner, exhaust duct, pressure measurement T.A.B. ports, HCL Culinary lights, Capture Jet air supply nozzles, secondary filter, KSA grease filters, perimeter drain channel and drain pipe connection. Outer casing panels shall be constructed of stainless steel with a brushed satin finish. Each joint shall be welded and liquid tight, avoiding harmful dripping of condensation.

All exposed welds are ground and polished to the original finish of metal. Canopy ends shall be double sided wall construction (no single wall hoods permitted).

Exhaust

The exhaust airflow will be based on the convective heat generated by the appliances underneath each hood system. Submittals shall include convective heat calculations based on the input power of the appliance served.

Capture Jet™ System

The hood shall be designed with Capture Jet™ technology to reduce the exhaust airflow rate required, and to improve the capture and containment efficiency of the hood, while reducing energy consumption. Slot or grille type discharge shall not be used. The Capture Jet™ fan shall be internally mounted with a speed control and will not require a fire damper or electronic shut down in fire mode.

[Optional] UV Maintenance Contract

Optional UV maintenance contracts included for the **1st year**. This includes 6-month inspections to verify if the operator is correctly cleaning the hoods and lamps & offer training after start-up and during these inspections to the kitchen manager. During these inspections, Halton Service technicians will test the UV systems for optimized results. Replacement bulbs or filters are not included in the maintenance agreement

T.A.B.™ Ports

The airflows through the extractors and the Capture Jet™ air chamber are to be determined through the integral T.A.B.™ (Testing and Balancing) ports mounted in the hood. The airflows are to be determined by the pressure vs. airflow curves supplied by Halton.

Motor Starter

Motor starter with overload protection will be provided for each fan motor supplied by Halton.

Grease Filters

The hood shall be equipped with KSA multi-cyclone stainless steel grease extractors. The KSA filters shall be NSF and UL classified. The grease extraction efficiency is 93% on particles with a diameter of 5 microns and 98% on particles with a diameter of 15 microns or larger as tested by an independent testing laboratory. The pressure loss over the extractor shall not exceed 0.50" of water at flow rates approved by U.L. for heavy load cooking. Sound levels shall not exceed an NC rating of 55. Baffle or slot type extractors shall not be used.

HCL Halton Culinary Lights

Each hood shall be equipped with Halton Culinary LED Lights (HCL). Constructed from stainless steel frame and Aluminum housing, the light fitting comprises flush-mounted broad beam spots with a diffusion angle of at least 80°. Each light is comprised of a patented mixing chamber and a specific reflector. Both shall provide a good balance between direct and diffuse light components without dazzling the staff to mitigate eye fatigue. The shielding angle shall exceed DIN 12464-1 requirement and be at least 30°. The illuminance on the working surfaces shall be code required 50-foot candles at the cooking surface with a CRI Color Rendering Index greater than 80. The wattage per fixture will be 14W. The LED's lifetime shall be 50,000 hours. The internal power supplies shall have at least the same lifetime. They shall enable switching on/off or dimming the light (0-100%) with one or several switches.

Control Panel

The master electrical panel consisting of one starter per motor with overload protection will be supplied. Control panel to be hood or remote mounted (for constant volume systems). M.A.R.V.E.L. controlled systems come with an HMI touch screen to monitor variable volume operation and incorporate the use of V.F.D.'s to control fan operation.

Access Panels

Each hood is provided with an access panel for easy access of the UV cassettes. The ballast access panel is located within the hood to provide access to components within the ballast box.

Water Wash

The hood shall include three full length wash manifolds equipped with brass spray nozzles. When the wash cycle is initiated, the exhaust fan shall shut off. The wash sprays shall come on for the length of time programmed in the control panel. The two forward manifolds shall wash the interior and exterior of the grease extractor. All controls and components for operation of the water wash system shall be housed in the Ventilator Control Cabinet.

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Capture Ray™

The system includes one stainless steel plenum to house the ultra violet cassettes. 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

The UV control panel is suitable for a single phase power supply and is constructed to meet the UL listed protection standard.

The cassette access plate includes a hinged door for ease of maintenance and replacement of the UV bulbs.

The cassettes are mounted on a rack and are easily removed by disconnecting the electrical connectors on the cassettes end. The door comes equipped with safety switches. If the door is not secured in the closed position, the system will not operate.

The control panel is connected to the electrical box of the fan via a relay which detects any electrical fan failures. The system will not operate, if the fan does not work. The fan is not supplied by Halton.

The hood manufacturer supplies a master electrical panel consisting of overload protection, a main disconnect switch, terminal block wiring and control circuits that are pre-wired and contained in enclosures.

M.A.R.V.E.L. (Demand Control Kitchen Ventilation)

Capture Jet™ hoods when used in combination with M.A.R.V.E.L. Demand Control Ventilation system shall optimize energy performance of the system by independently modulating the hood exhaust based on cooking activity. The reduction in fan energy as well as operating cost during non-peak or idle appliance use provides capture and containment of the heat load also ensuring a comfortable work environment.

[Optional] Halton SafeGuard

Provide a fully integrated commercial kitchen ventilation system manufactured by Halton, known as Halton SafeGuard, which includes: Halton Capture Jet hoods, M.A.R.V.E.L. demand-controlled kitchen ventilation, Halton FireWatch™ cooking surface and exhaust air duct temperature monitoring, Halton AirWatch™ indoor environment quality sensors, kitchen grease duct safety monitoring system and a centralized control platform with Halton Connect, cloud connectivity with remote monitoring capabilities. The system shall be factory-tested, UL 710 listed, and fully compliant with NFPA 96 and ASHRAE 90.1 standards. Hoods must be made of stainless steel, feature HCL or LED lighting, and accommodate fire suppression nozzles. The system shall dynamically adjust airflow based on cooking activity, thereby reducing exhaust and supply air requirements by up to 64% and integrate with BMS via BACnet/IP or MSTP. Final installation must include commissioning by a certified ASA representative who will also provide operator training.

Fire Suppression System

The kitchen hood fire extinguishing system shall protect the kitchen hood against grease fires by a completely automatic fire control system, which consists of wet chemical. The fire detection system shall be capable of detecting fire in the hood, duct, or surface equipment and shall automatically discharge liquid extinguishing agent into the plenum chamber, exhaust duct collar, and cooking appliance areas to ensure against re-ignition or re-flash. System components shall include a spring-loaded fusible link detector, wall mounted emergency pull stations, wall mounted actuator and cabinet, and a mechanical or electric gas valve installed in the gas line serving the cooking equipment. System installation shall be made by an authorized representative of the system manufacturer and conform to U.L. 300 requirements and local codes.

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Mississauga, ON L4W 3R7, Canada
Tel: 905-624-0301 Fax: 905-624-5547