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KVC

Capture Jet™ Hood with Supply Air

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

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.

Integrated Supply Air
Better comfort and capture efficiency.

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.

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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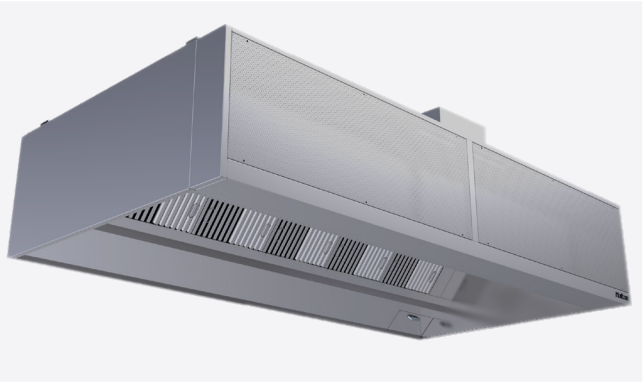

The KVC Capture Jet™ hood is a highly efficient kitchen ventilation hood that removes contaminated air and excess heat emitted by cooking equipment, helping to provide a comfortable and clean environment.

The KVC hood uses the advanced Halton Capture Jet™ to improve the capture and containment of the effluent generated by the cooking equipment. Overall exhaust airflow rates can be reduced up to 40% from those of traditional kitchen hoods.

The Capture Jet™ is based on the high entrainment efficiency of a compact, low velocity jet. The capture air jets efficiently induce ambient air at the critical front face area of the hood, minimizing the spillage of the contaminated air and maintaining good air quality in the chef's work area.

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

- Improved indoor air quality with reduced energy use. Halton Capture Jet™ with Full Perimeter reduces the exhaust airflow rates required and improves the capture and containment efficiency of the hood.
- High efficiency grease filtration using UL and NSF classified Halton KSA multi-cyclone filters for removal of up to 95% of particles with a size of 10 microns per ASTM F2519.
- T.A.B.™ (testing and balancing) ports, which allow accurate and effective commissioning.
- Halton LED HCL Culinary Lights provide the best visual comfort while contributing to improved safety and energy savings
- Optional LED puck lights and LED dimming is available for Capture Jet hoods. Dimming is controlled by a knob on the switch panel or through Halton HMI Touch Screen.

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

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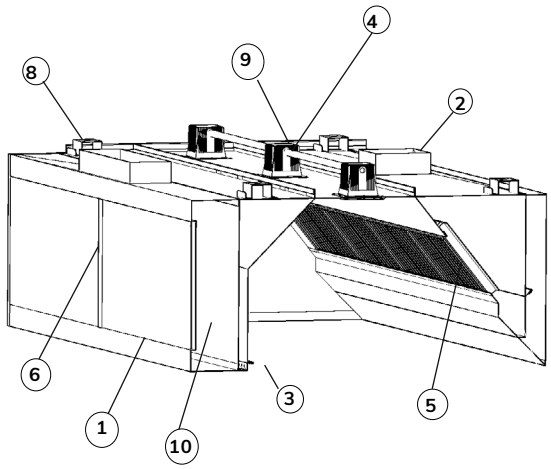

Part	Description
1	18 Ga. Stainless steel AISI 304
2	Exhaust duct collar
3	Capture Jet air
4	Light fixture
5	KSA grease filters
6	Integrated Capture Jet fan intake (not visible in picture)
7	Grease collection cup (Not shown)
8	Hanging brackets
9	Double wall construction
10	Integrated Supply air plenum

Construction

The KVC hood comprises of Capture Jet™ with Halton Culinary Lights (HCL), airflow measurement T.A.B. ports and KSA multi-cyclone grease filters. The hood shall bear ETL or UL label. The ETL/UL listed range hood without exhaust fire damper per standard UL 710 and be fabricated in compliance with NFPA-96, and shall bear the NSF seal of approval.

The exposed parts are manufactured from 18 ga. stainless steel.

The hood ends have double side wall construction. A concealed collection cup is fitted into the grease drain channel for easy removal of the grease extracted by the KSA multi-cyclone filters.

Dimensions

KVC	inches
Length	40.....192
Width	49.....84
Height	24.....30

Quick Data

Length	Recommended Exhaust air volumes	Recommended Capture Jet air volumes
40.....192	* 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 0.25” WC
	*Average operating range from light to 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.

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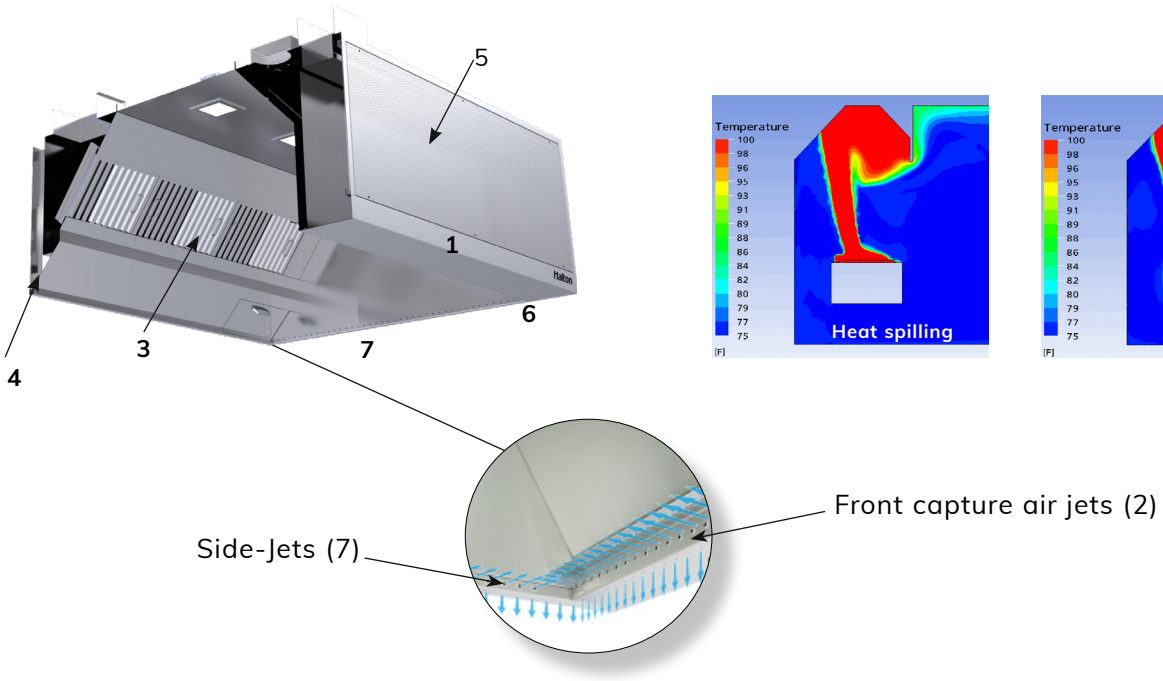

Function

The kitchen hood above cooking appliances contains the rising warm air and contaminants (1). The capture air 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. The extracted grease and other air contaminants flow into a drain channel and toward the collection tray (4).

Make up air is distributed into the space at low velocity through the front plenum of the hood (5). The capture air improves efficiency, and allows the hood to operate at lower exhaust airflows. Capture Jet air (6) is used to increase air velocity in the working zone near the cooking equipment in order to compensate for the effects of radiant heat emitted by the cooking equipment. The Side Jets for enhanced performance (7).

Modifications & Options

- Closure Panels - for canopies below ceiling level
- Backsplash
- Side Skirts
- KFR - Filter Removal Tool
- LED puck Lights or LED Dimmable Lighting
- Recessed Fluorescent or Incandescent Lighting
- Incandescent Globe Type Lights
- MEP - Master Electrical Panels
- 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
- Automated Balancing Damper option with M.A.R.V.E.L. II demand controls
- 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

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Dimensions

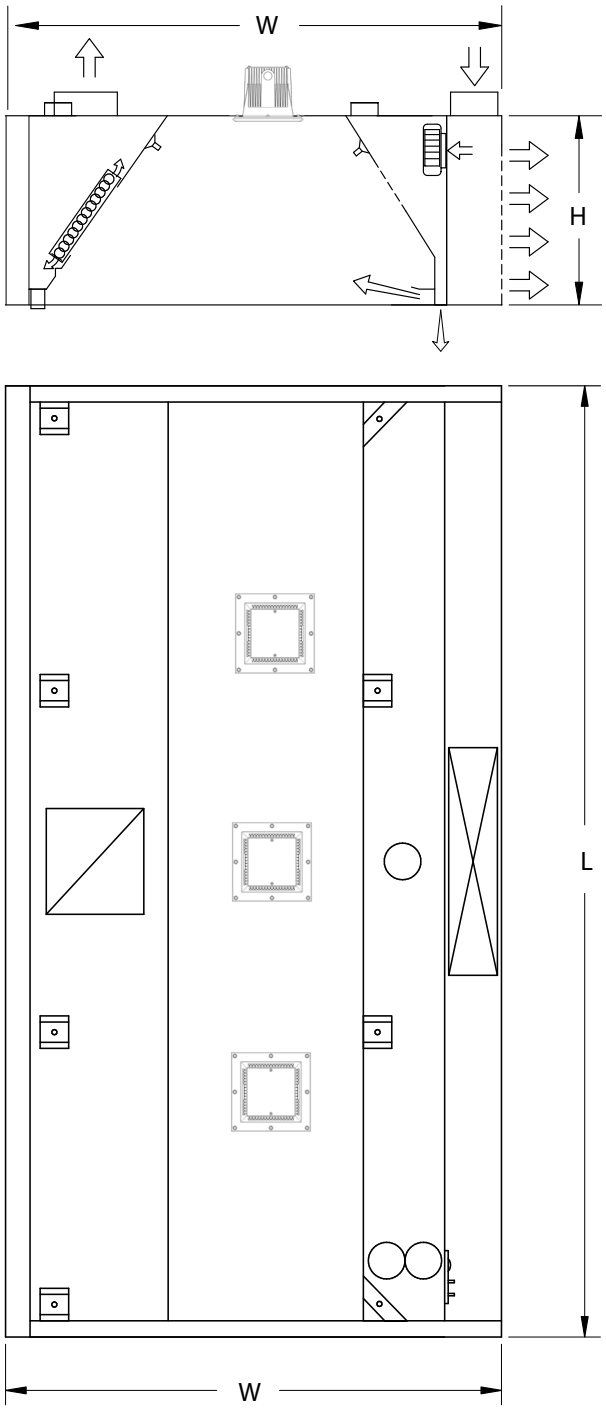
KVC- Wall model	inches
Length	40.....192
Width	49.....84
Height	24.....30

Noted in drawings as:

L = Length

W = Width

H = Height



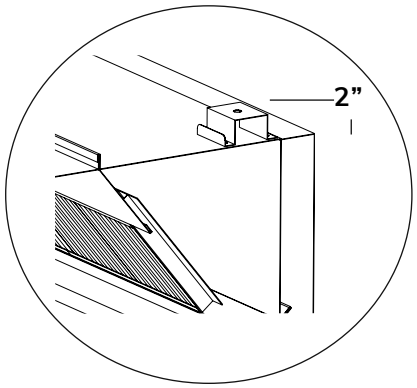
Weight (lb)

18 ga.

Estimated Crated Shipping Weight	inches	Weight
Width	49”	80 lbs / ft.
Width	54”	85 lbs / ft.
Width	60”	90 lbs / ft.

* Larger Widths – Consult Factory for weight

Mounting bracket 2” high (52mm)



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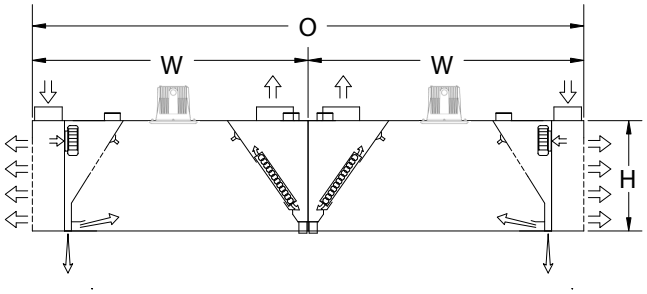
Dimensions

KVC - Island model	inches
Length	40.....192
Width	49.....84
Height	24.....30
Overall Width	98....168



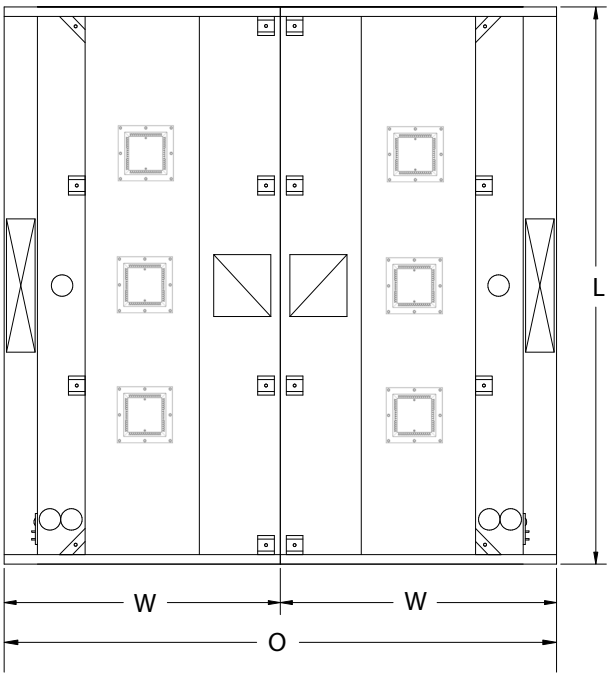
Noted in drawing as:

L = Length

W = Width

H = Height

O = Overall Width



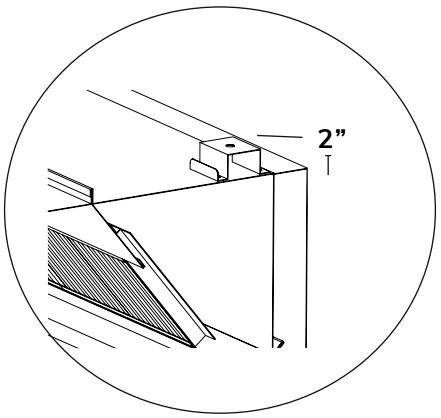
Weight (lb)

18 ga.

Estimated Crated Shipping Weight	inches	Weight
Width	49”	85 lbs / lin. ft.
Width	54”	90 lbs / lin. ft.
Width	60”	95 lbs / lin. ft.
Width	66”	100 lbs / lin. ft.
Width	72”	105 lbs / lin. ft.

* Larger Widths – Consult Factory for weight

Mounting bracket 2” high (52mm)



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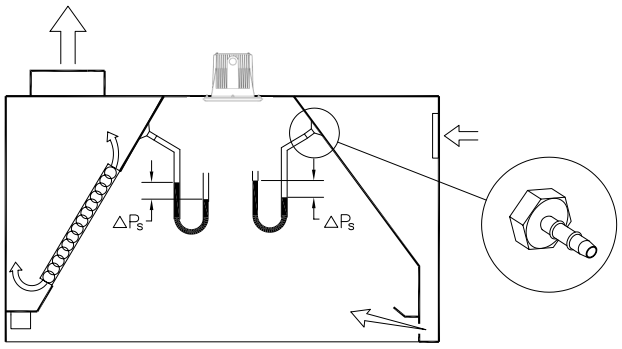
Balancing of Capture Jet™ Hoods

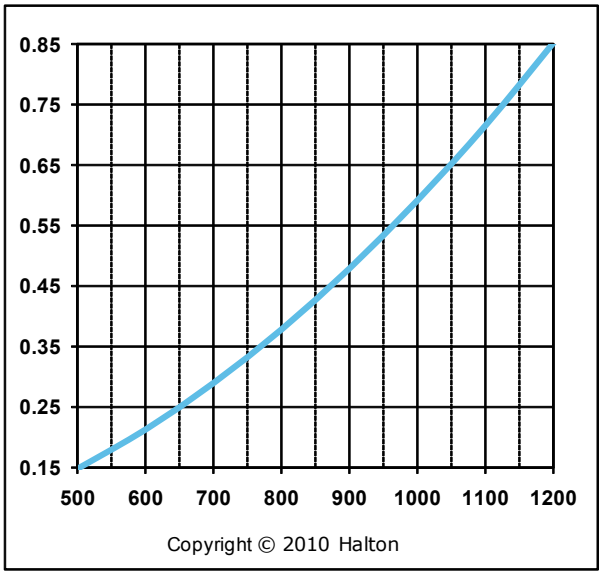
The Capture Jets™ and exhaust air flows are easily and accurately determined by manually measuring the pressure difference from the T.A.B. ports mounted in each plenum. Corresponding air flows can be read from the diagrams provided.

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.

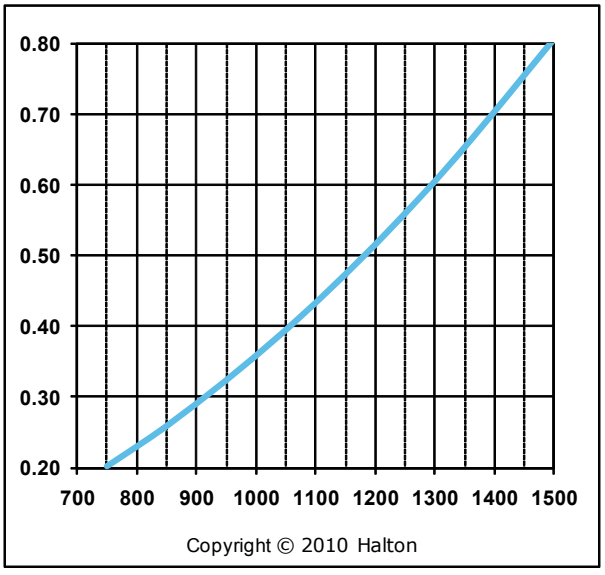


Exhaust air flow vs. pressure differential

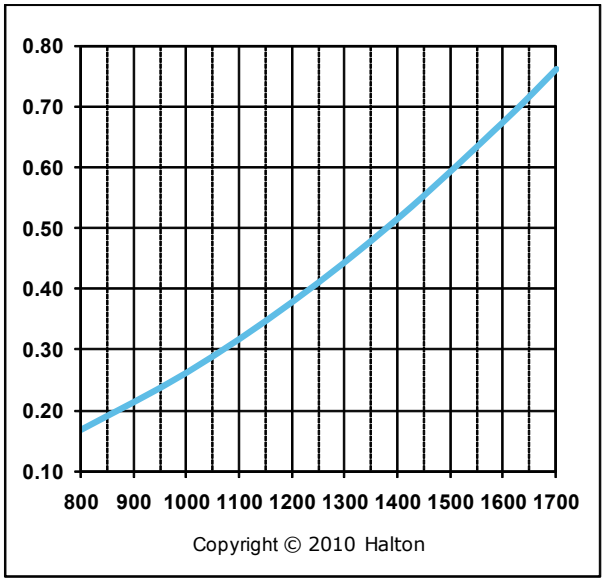
KVE/KVC- 2 Filters



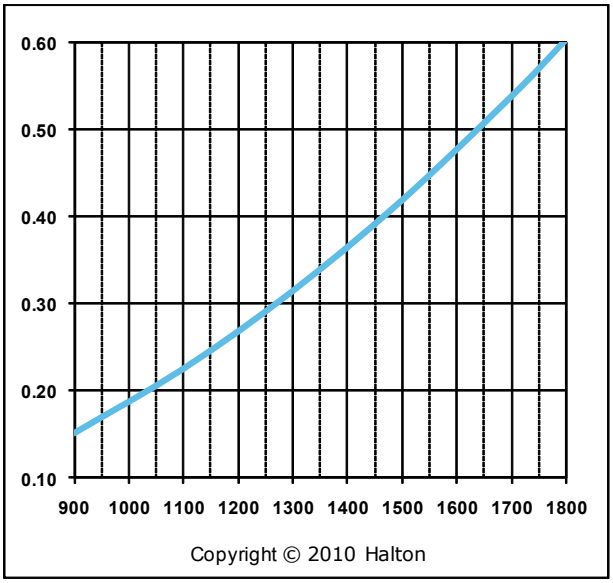
KVE/KVC- 2.5 Filters



KVE/KVC- 3 Filter



KVE/KVC- 3.5 Filters



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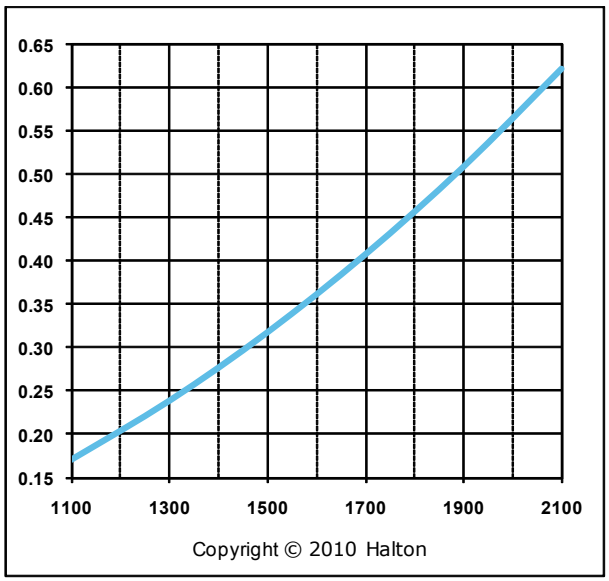
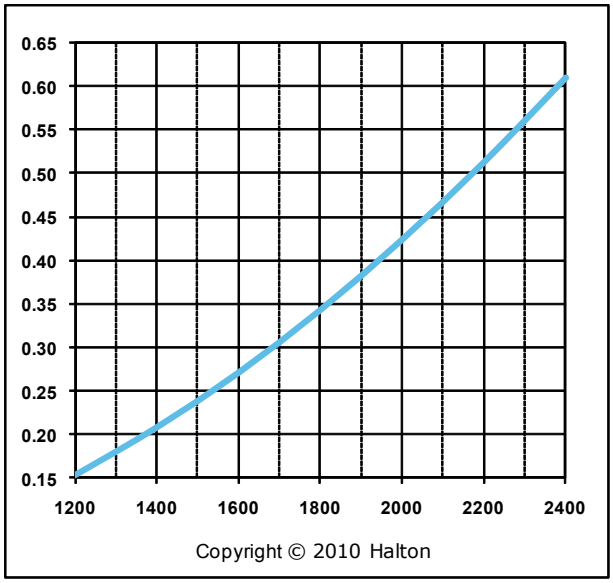
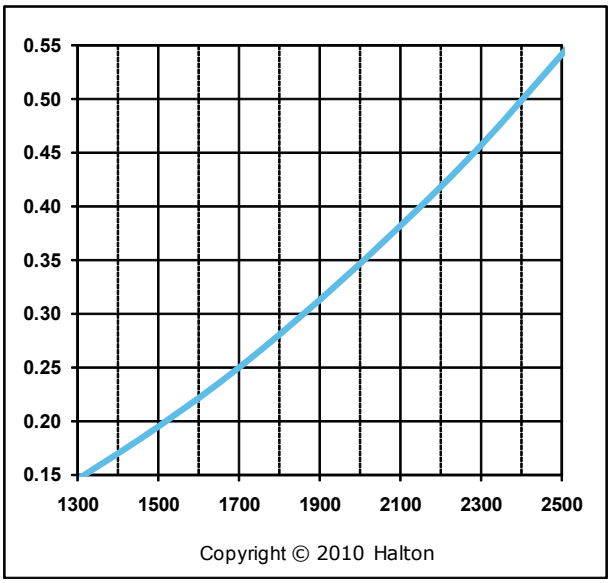
KVE/KVC- 4 Filters



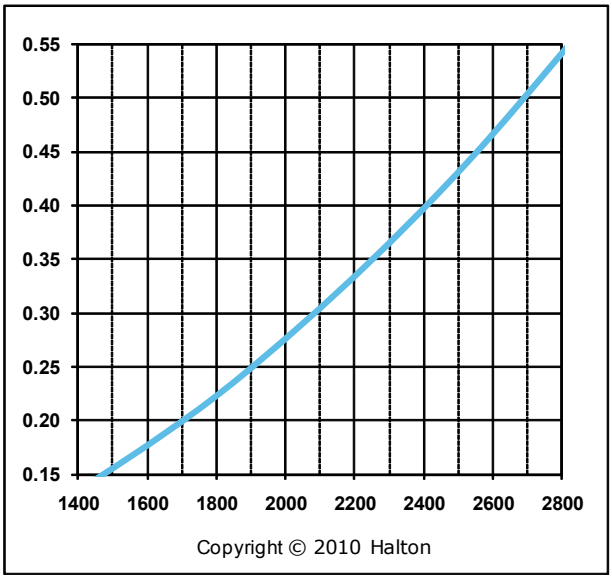
KVE/KVC- 4.5 Filters



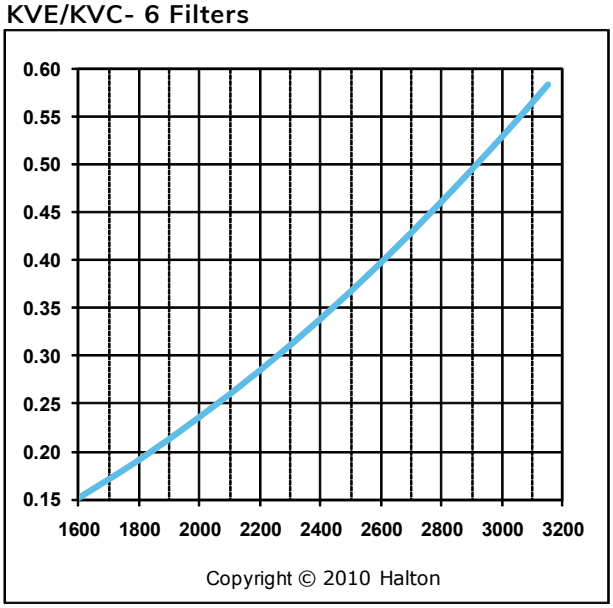
KVE/KVC- 5 Filters



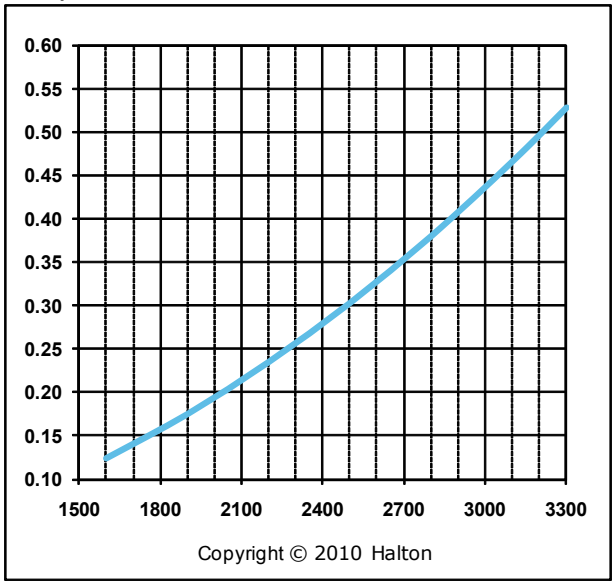
KVE/KVC- 5.5 Filters



KVE/KVC- 6 Filters



KVE/KVC- 6.5 Filters



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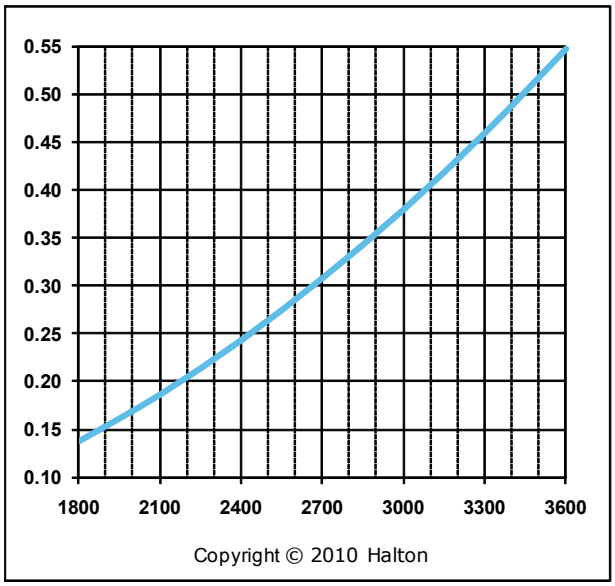
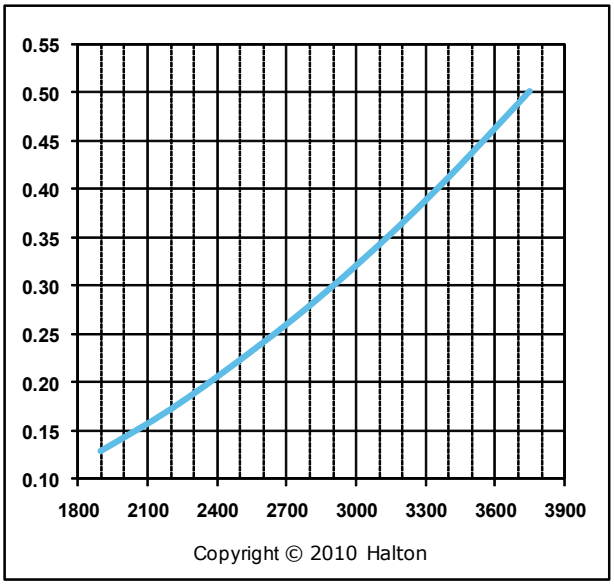
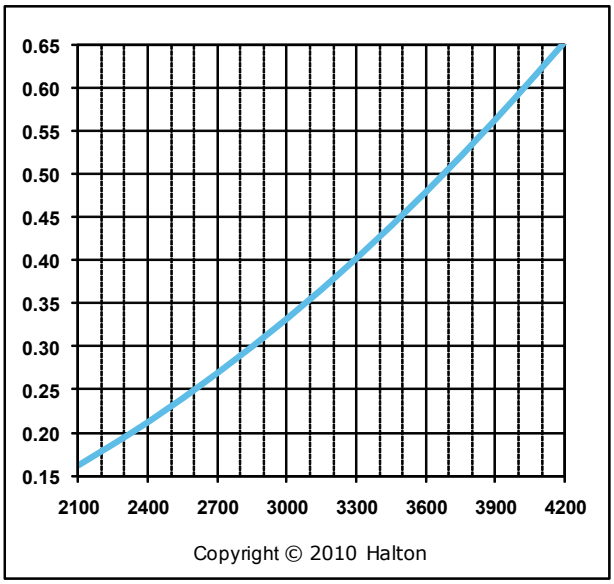
KVE/KVC- 7 Filters



KVE/KVC- 7.5 Filters, 2 Collars



KVE/KVC- 8 Filters, 2 Collars



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Suggested specifications

General

Kitchen hood inner liner shall be constructed from 18 gauge stainless steel where exposed. The kitchen hoods shall be supplied complete with outer casing / main body, inner liner, exhaust duct, pressure measurement T.A.B. ports. 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 contain required exhaust airflow calculations based on the input power of the appliance served.

Capture Jet™ Technology

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. The Capture Jet™ fan with Side-Jet technology shall be internally mounted with a speed control and will not require a fire damper or electronic shut down in fire mode.

Supply Air Plenum

The integral front discharge make up air plenum shall be manufactured of the same material as the hood.
The face of the plenum will be perforated stainless steel to deliver low velocity air to the space and to minimize room turbulence while refreshing the occupied zone.

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.

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.

[Optional] Light Fixtures

Hood lights shall be U.L. Listed puck LED fixtures, suitable for grease hoods. 20 Watts per fixture, 50 foot candles at cooking surface. Option: Recessed fluorescent, recessed incandescent or incandescent globe type lighting.
The lighting shall be suitable for single phase power supply. Dimmable LED option is available. Standalone Hood based dimming control on the switch panel. When SafeGuard controls are used, all hoods connected to the system can have the light intensity adjusted through the HMI touch screen simultaneously.

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). Halton SafeGuard with 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.

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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[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 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.

[Optional] 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.

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Tel: 905-624-0301 Fax: 905-624-5547