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KVW

Capture Jet™ Island Hood

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

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.

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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The KVW Island 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 KVW 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™ technology 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 technology 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.
- H.E.L.P. ™ computer design program for exhaust airflow and kitchen air conditioning load calculations available.
- 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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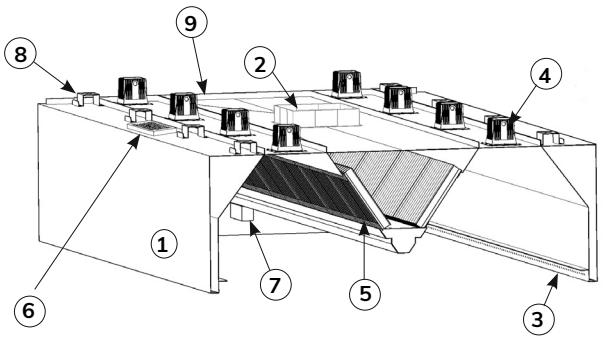

Part	Description
1	18 Ga. Stainless steel
2	Exhaust duct collar
3	Capture Jet air
4	Light fixture
5	KSA grease filters
6	Integrated Capture Jet fan intake
7	Grease collection cup
8	Hanger brackets
9	Double wall construction

Construction

The KVW hood combines Capture Jet™ technology, Halton Culinary Lights (HCL) light fixtures, airflow measurement T.A.B. ports and KSA 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 hood ends have double side wall construction. A collection cup is fitted into the grease drain channel for easy removal of the grease extracted by the KSA multi-cyclone filters.

Dimensions

KVW	inches
Length	48.....168
Width	60.....84
Height	24.....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 to heavy duty cooking loads 180 cfm to 400 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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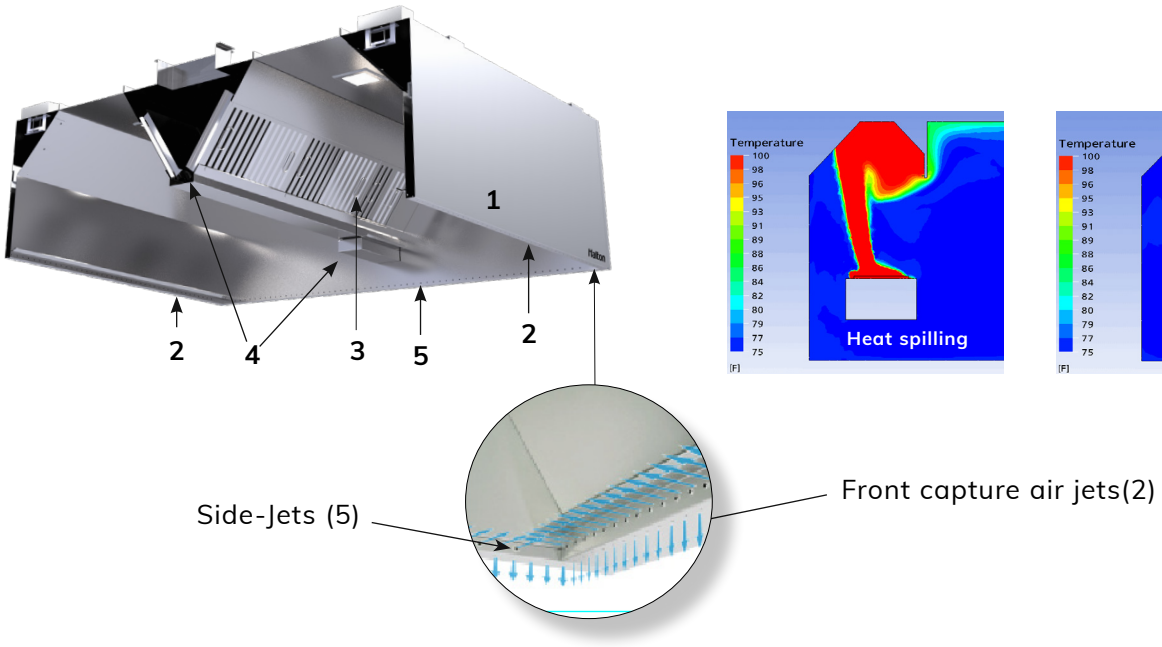

Function

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/cup (4).

The capture air improves efficiency, and allows the hood to operate at lower exhaust airflows. The side jets allow for enhanced performance at the ends of the hood (5).

Modifications & Options

- Closure Panels - for canopies below ceiling level
- KFR - Filter Removal Tool
- LED puck Lights or LED Dimmable Lighting
- Recessed Fluorescent or Incandescent Lights
- Incandescent Globe Type Lights
- MEP - Master Electrical Panels
- Comfort Jet for chefs and operator comfort
- Face or Remote Mounted Switch Panels
- Factory Pre-Piped Fire Protection
- Custom/Design Stainless Steel Exterior Textures and Finishes
- Powder Coating in a Variety of Colors
- 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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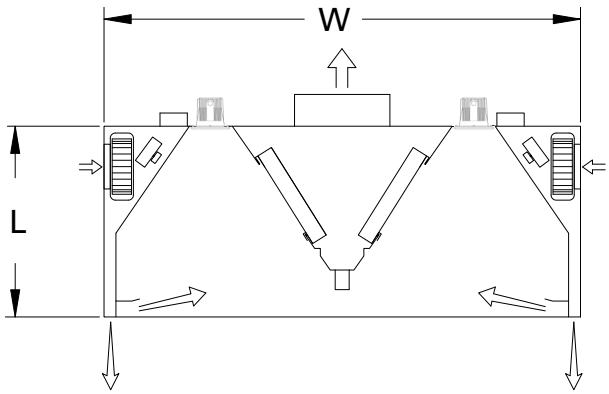
Dimensions

KVW- Wall model	inches
Length	48.....168
Width	60.....84
Height	24.....30

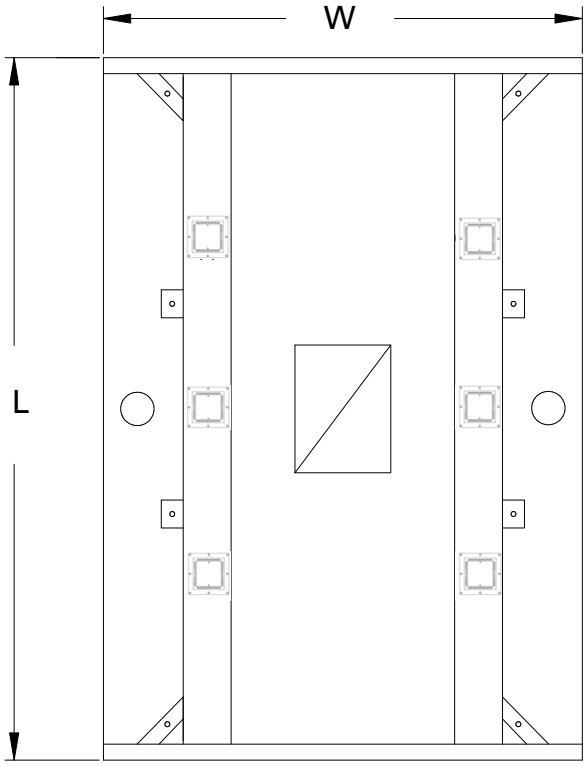


Noted in drawings as:

L = Length

W = Width

H = Height



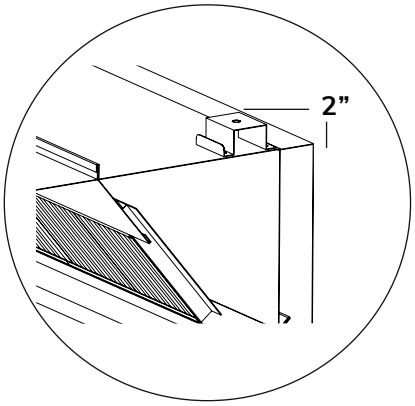
Weights (lb)

18 ga.

Estimated Crated Shipping Weight	Inches	Weight
Width	60”	95 lbs / ft.
Width	72”	115 lbs / ft.
Width	84”	125 lbs / ft.

* Larger Widths – Consult Factory for weight

Mounting bracket 2” high (52 mm)



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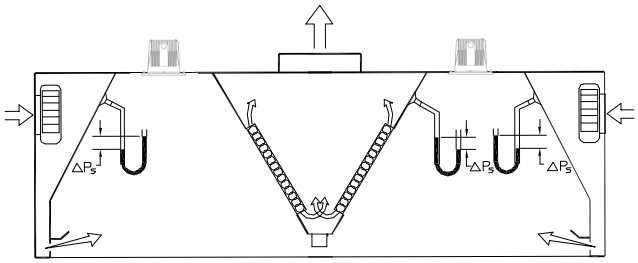
Balancing of Capture Jet™ Hoods

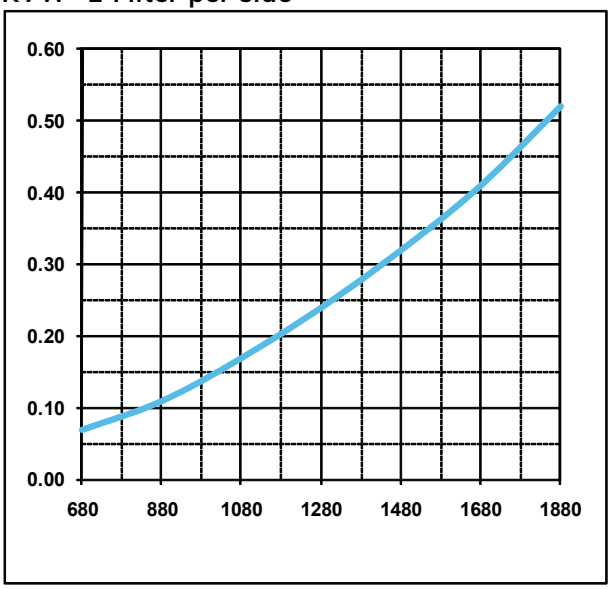
The Capture Jet™ and exhaust air flows are easily and accurately determined by manually measuring the pressure difference from the T.A.B. ports mounted in each plenum. Corresponding air flows can be read from the diagrams provided.

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.

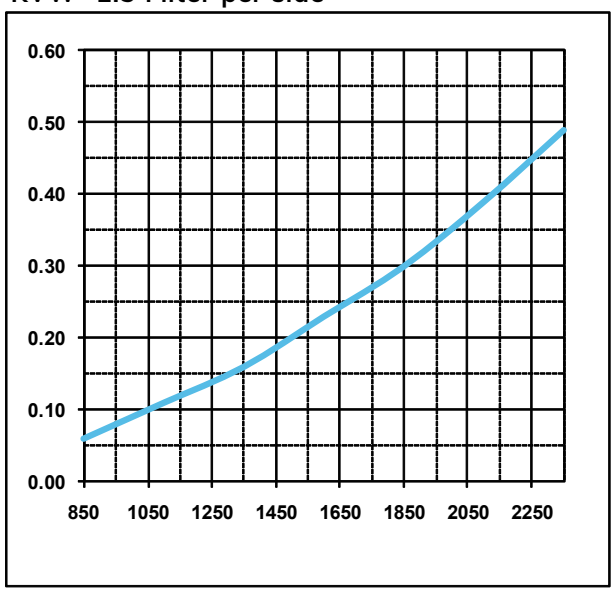


Exhaust air flow vs. pressure differential

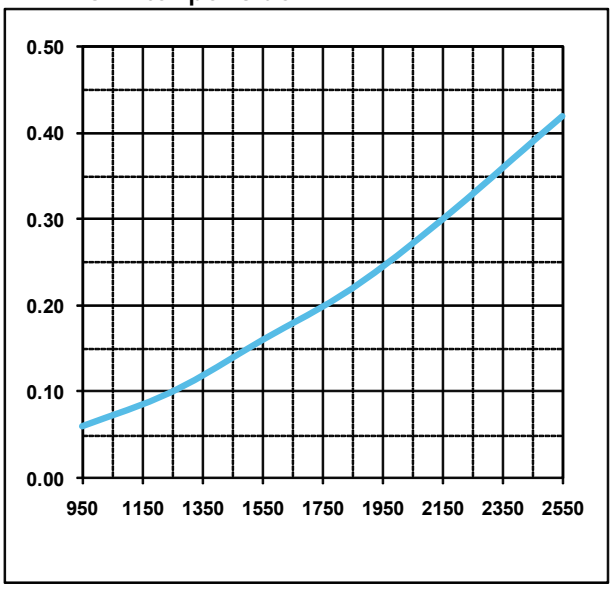
KVW- 2 Filter per side



KVW- 2.5 Filter per side



KVW- 3 Filter per side



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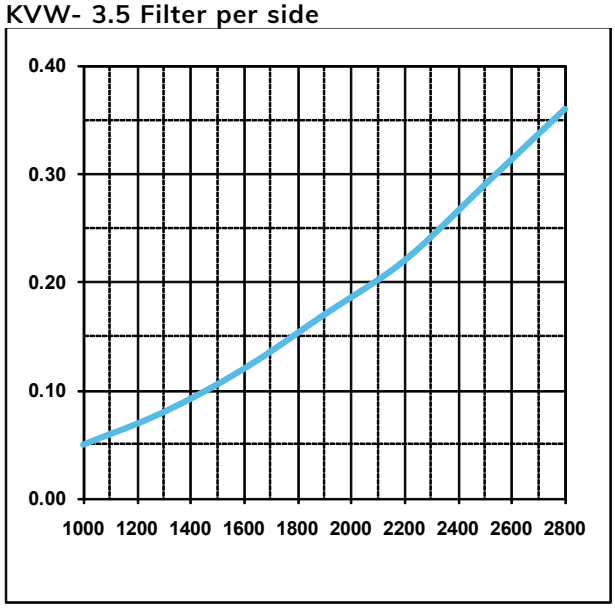
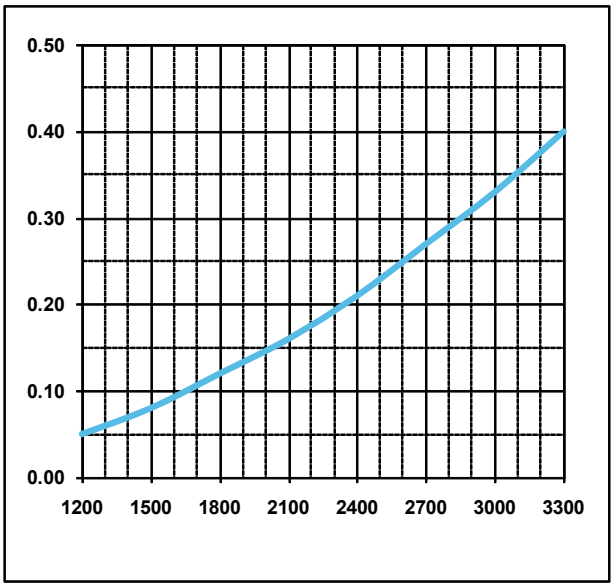


KVW- 4 Filter per side



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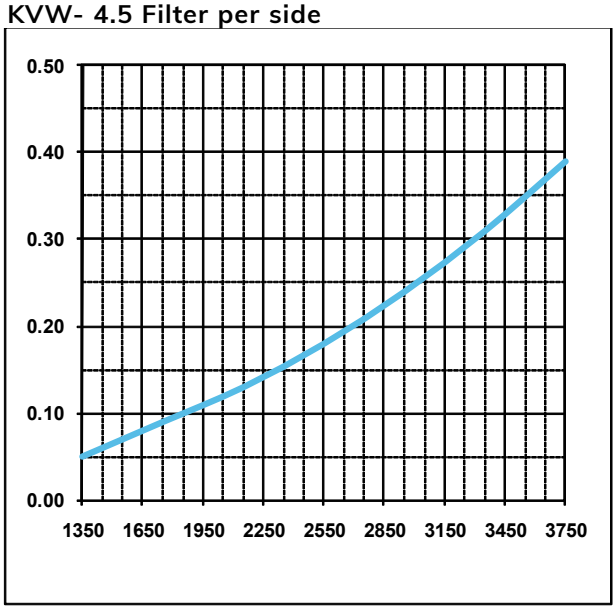
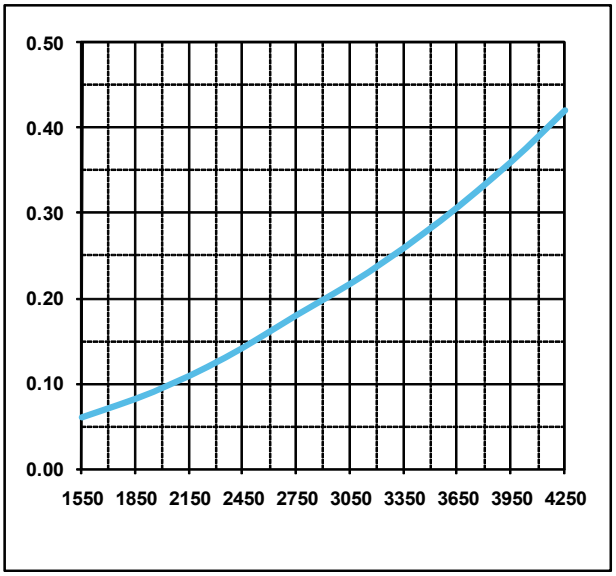


KVW- 5 Filter per side



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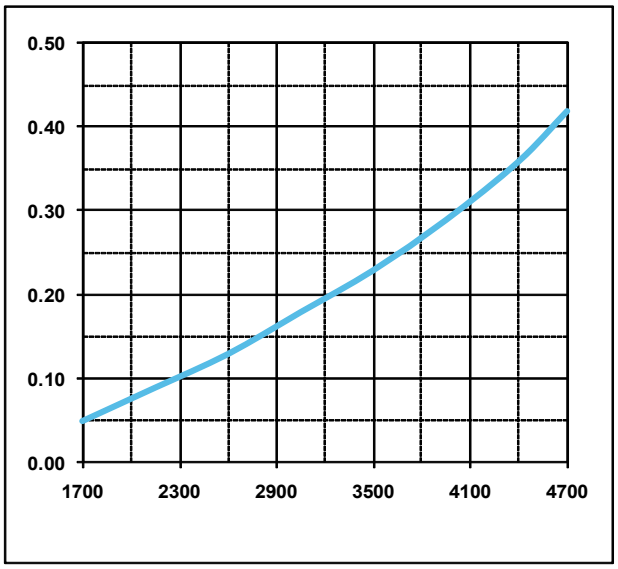
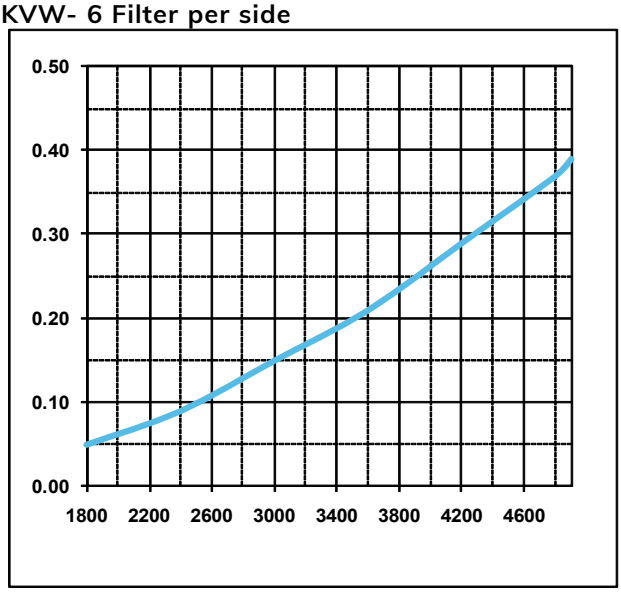


KVW- 6 Filter per side



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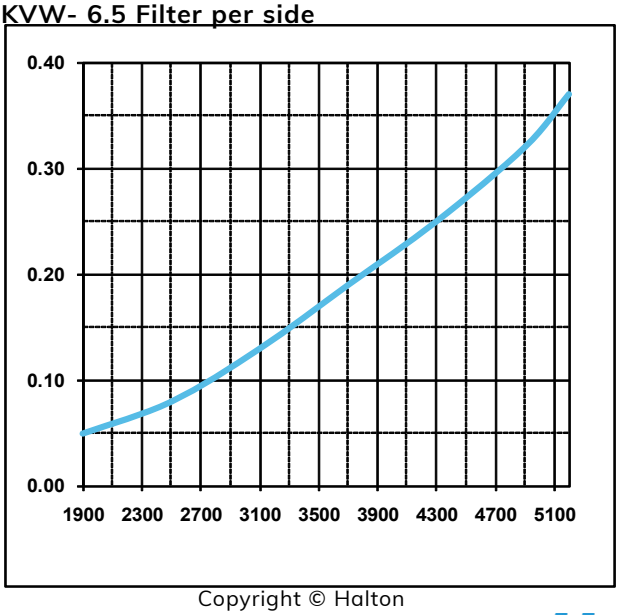

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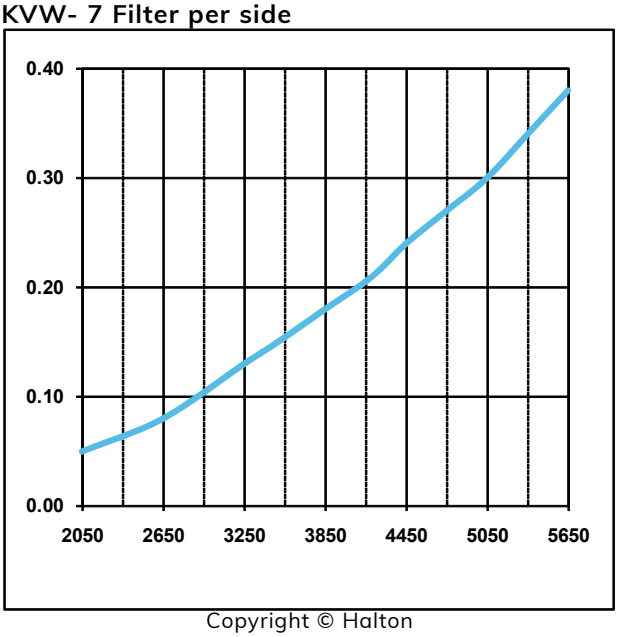
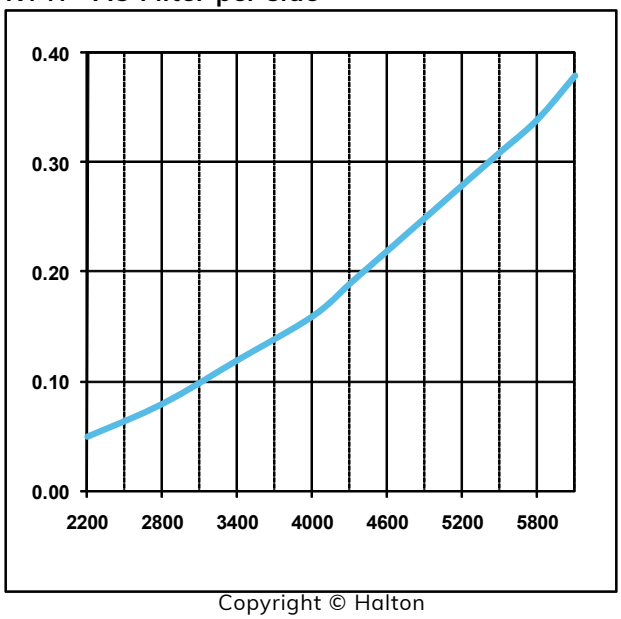
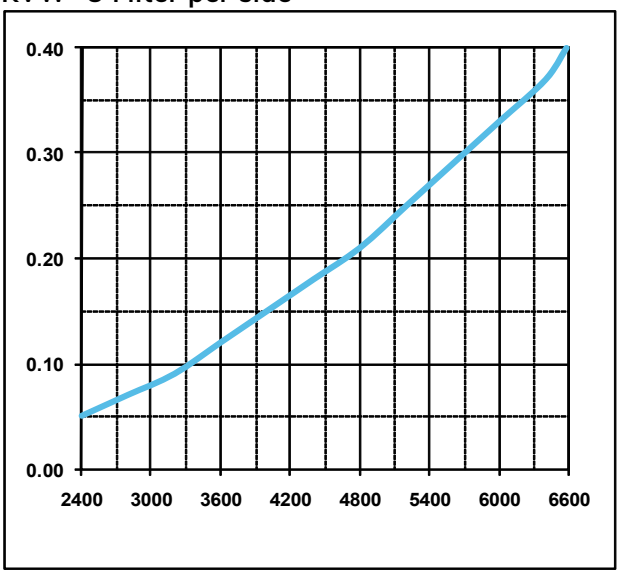
KVW- 7 Filter per side



KVW- 7.5 Filter per side



KVW- 8 Filter per side



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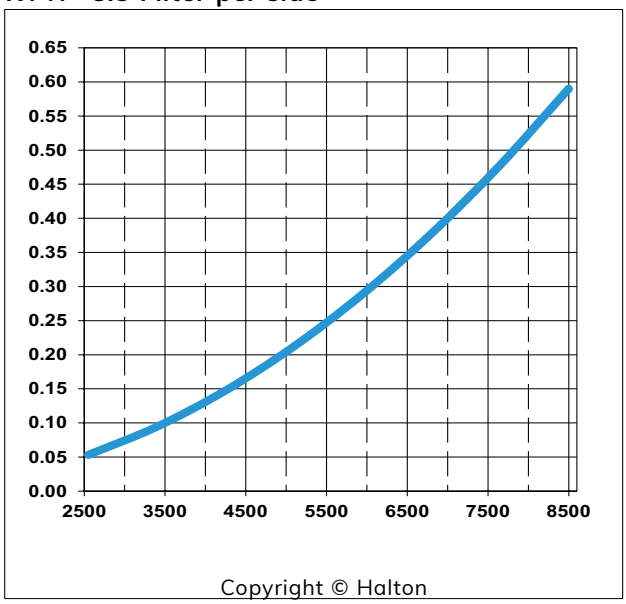
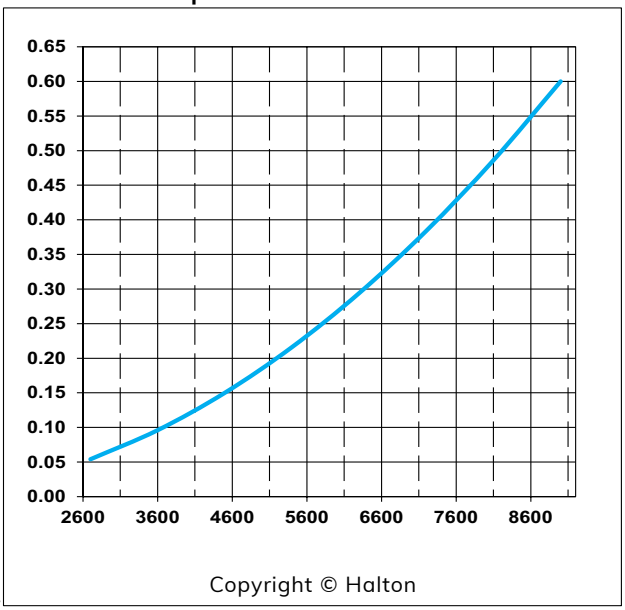


KVW- 9 Filter per side



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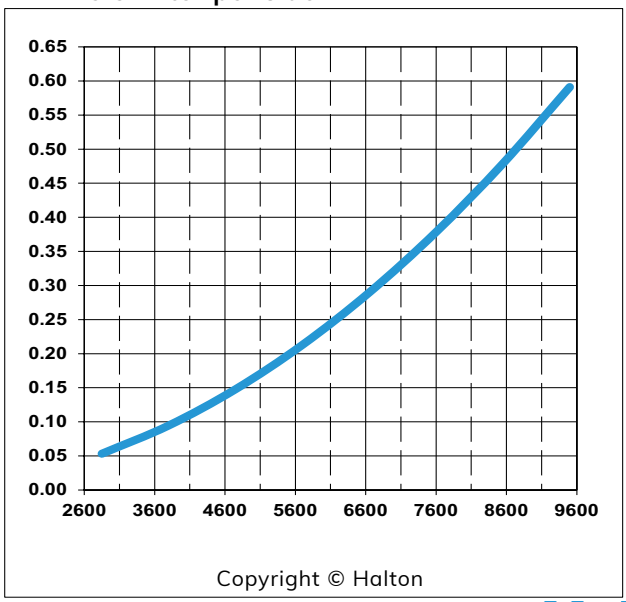

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Suggested specifications

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.

Capture Jet™ Hood 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. 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.

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.

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.

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.

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.

[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.

[Optional] Halton Comfort Jet

(add on face-mounted plenum -factory installed)

Halton's Comfort Jet plenum will be fabricated from the same material as the Halton hood it is installed on. Exposed external seams shall be ground and polished to match the original hood finish. Comfort Jet plenum is an optional add-on accessory and will follow the UL Listing of the Halton hood.

The Comfort Jet will include an active internal fan that will provide comfort air for the hood operator. The comfort air will be introduced through specially designed and tested adjustable diffusers, allowing the operator to optimize their comfort based on their cooking position. The diffusers will have adjustments in four directions, while not imposing any disruption to the cooking appliance's plume of heat or particulate.

The volume of airflow may be adjusted to suit the operator.

[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.

Halton Company
101 Industrial Drive
Scottsville, KY 42164 USA
Tel: 270-237-5600 Fax: 270-237-5700

Halton Indoor Climate Systems
1021 Brevik Place
Mississauga, ON L4W 3R7, Canada
Tel: 905-624-0301 Fax: 905-624-5547