

KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology

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

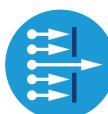


Component certification(s)

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.



Water Wash technology
Automatically washes down the filters.



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.

KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology



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 Water Wash 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 hot water wash down is especially suited to facilities with cooking operation producing substantial volumes of grease and requires reduced maintenance.

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

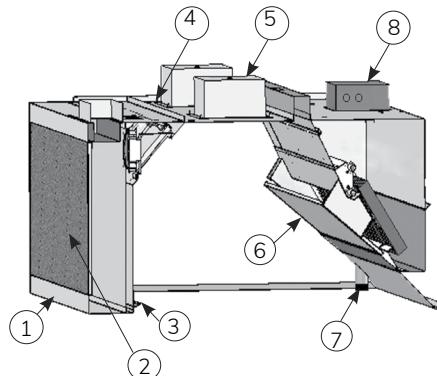
Other features and benefits

- Automatic Water Wash features allow for almost continuous operation without extended shut down for cleaning.
- Improved indoor air quality with reduced energy use. Halton Capture Jet™ with Side-Jet 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.
- UL Listed Control Panel for water wash cycle.
- T.A.B.™ (testing and balancing) ports, which allow accurate and effective commissioning.
- Standard LED light fixtures.
- 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.

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

KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology



Part Description

1	18 Ga. stainless steel
2	Integrated supply air plenum
3	Capture Jet air
4	Double wall construction
5	Light fixture
6	KSA grease filter
7	Wash Drain connection
8	Exhaust duct collar

Construction

The KVC hood comprises of Capture Jet™ technology, airflow measurement T.A.B. ports and KSA multi-cyclone grease filters. 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. 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 Jet® system is installed in a plenum, which has been studied in detail using computational fluid dynamics (CFD) to ensure optimum results.

Dimensions

KVC-WW inches

Length	48....168
Width	48....84
Height	30

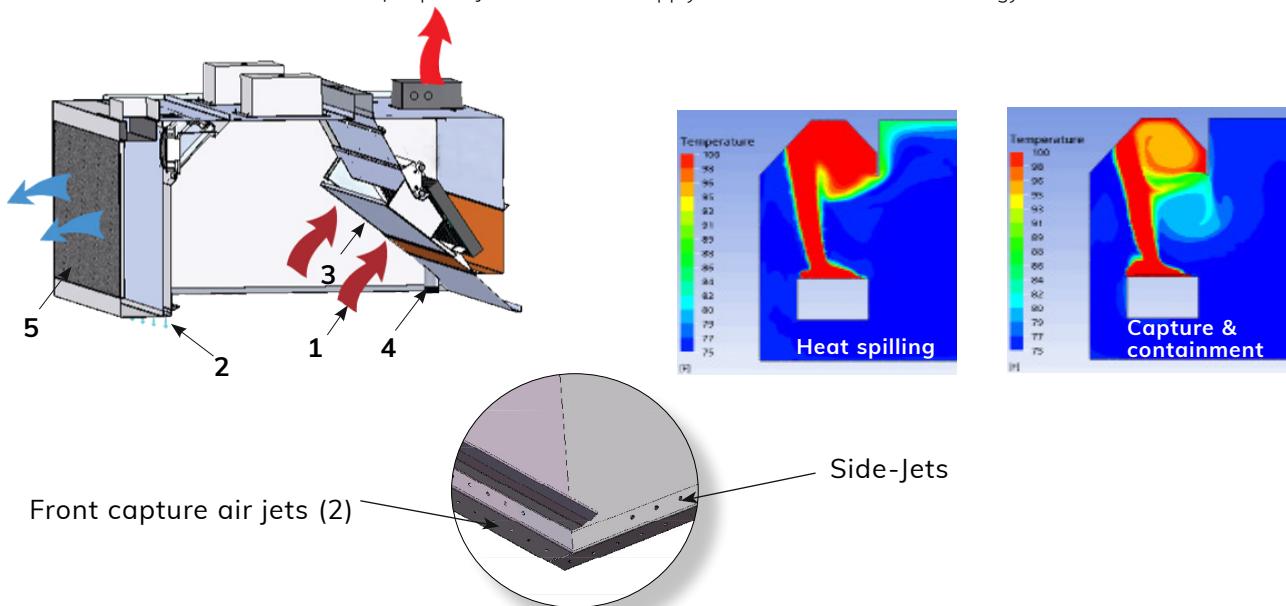
Quick Data

Length	Recommended Exhaust air volumes	Recommended Capture Jet air volumes
48....168	<p>* 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)</p> <p>*Average operating range from light to heavy duty cooking loads 135 cfm to 275 cfm per linear foot</p>	<p>Capture Jet average pressure 0.40" WC</p> <p>*Airflows established by a pressure reading *WC= Water Column</p>

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

KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology



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 Wash Drain (4).

Make up air is distributed into the space at low velocity through the front plenum of the hood (5). The vertical capture air improves efficiency, and allows the hood to operate at lower exhaust airflows. Capture Jet air 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.

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
- Face or Remote Mounted Switch Panels
- Factory Pre-piped 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

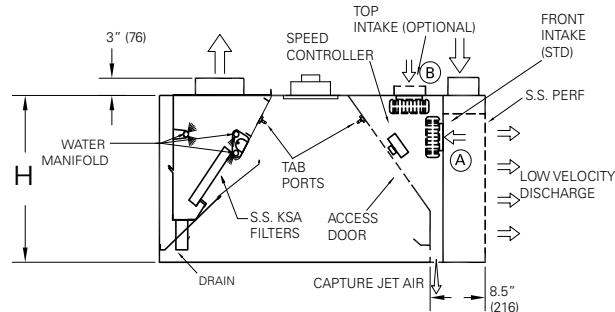
Supplemental instructions are included in shipment packing, detailing the job specific electrical wiring requirements for the control panel(s) and hood(s). If these cannot be found, please contact the factory prior to any electrical work.

KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology

Dimensions

KVC-WW - Wall model inches	
Length	48....168
Width	52....84
Height	30



Noted in drawings as:

L = Length

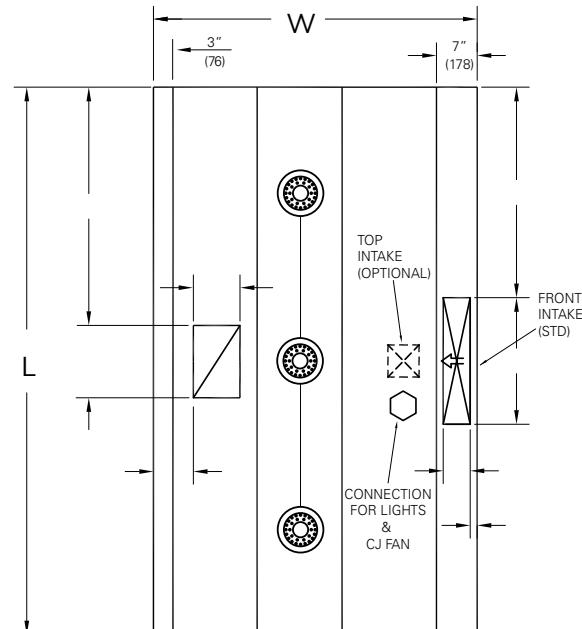
W = Width

H = Height

18 ga.

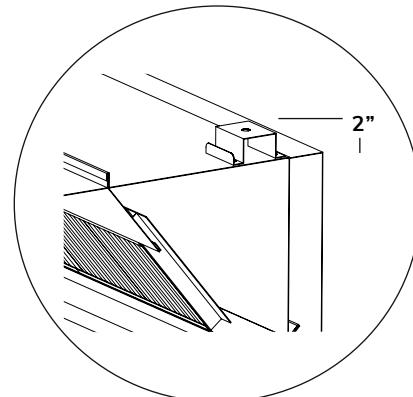
Weight (lb)

Estimated Crated Shipping Weight	inches	Weight
Width	48"	100 lbs / ft.
Width	54"	110 lbs / ft.
Width	60"	120 lbs / ft.



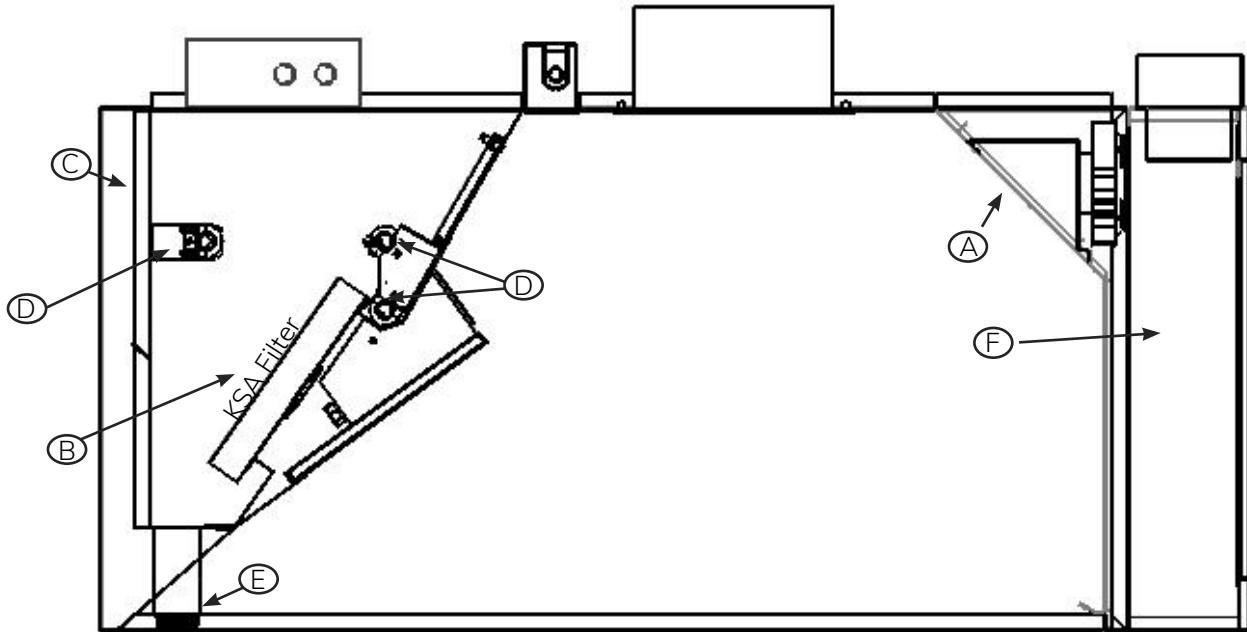
*Larger Widths – Consult Factory for weight

Mounting bracket 2" high (52mm)



KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology



Item	Description
A	Capture Jet Fan Access
B	Multi-cyclone KSA Extractors
C	Water Wash Intake Supply
D	Water Wash Nozzle Manifolds
E	Drain Pipe Connection
F	Integrated Supply Air Plenum

KVC-WW

Capture Jet™ Hood with Supply Air and
Water Wash Technology

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 collar, pressure measurement T.A.B. ports, HCL Culinary lights, Capture Jet™ air supply nozzles, KSA grease filters, and wash drain 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 required exhaust airflow calculations will be based on the input power of the appliance served.

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.

Capture Jet™ System

The hood shall be designed with Capture Jet™ 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 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 w.c 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 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 M.A.R.V.E.L. 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). 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.

Motor Starter

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

KVC-WW

Capture Jet™ Hood with Supply Air and Water Wash Technology

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 upper manifold shall wash the plenum removing the daily accumulation of grease particulate. 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.

[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 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 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.

The company has a policy of continuous product development, therefore we reserve the right to modify design and specifications without notice.

For more information, please contact your nearest Halton agency. To find it: www.halton.com