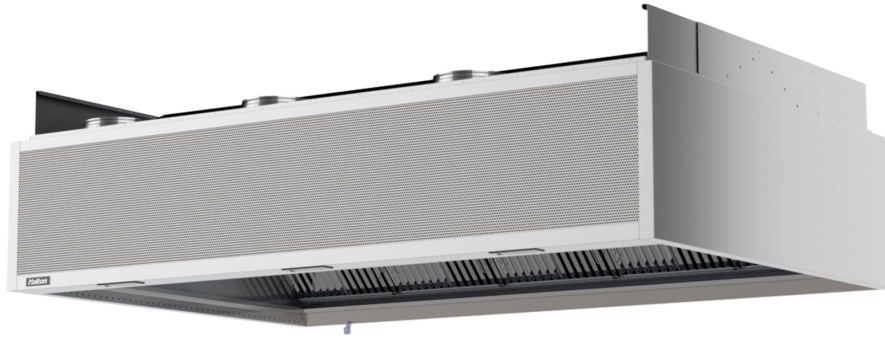


KCH-F

Capture Jet™ condensate hood with supply air

◦ For heavy steam-producing equipment ◦ Capture Jet™ technology ◦ KSA aerosol separators ◦ Halton Skyline culinary & Human Centric Lighting ◦ Integrated low velocity makeup air



Product certification(s)



Pending certification(s)

Components certification(s)



Anti drips design
Prevents the formation of condensation drips for a better hygiene



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



KSA aerosol separators
Up to 95% efficient on 10 microns particles



Integrated low-velocity makeup-air
Better comfort for the staff and capture efficiency on smoke



Halton Skyline
Daylight similar Culinary and Human Centric lighting



Option for decarbonized stainless steel
An ecological and sustainable choice

Recommended combinations



Further increase the energy savings and improve staff's comfort <> Go for [M.A.R.V.E.L. airflow and energy optimization technology](#)

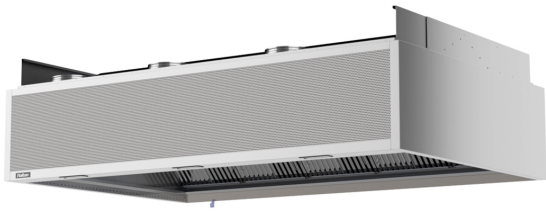


Don't risk bankrupt or business downtimes because of a cooking fire <> Go for [FSS Fire Suppression System pre-installed from factory](#)



Optimize the ductwork cleaning costs and further improve your safety <> Go for [KGS grease deposition level monitoring system for ductwork](#)

Description and main technologies



Applications

Halton Capture Jet™ hoods and ventilated ceilings are suitable for [LEED](#) (1), [BREEAM](#) (2), [DGNB](#) (3), [RE2020](#) (4), and any other similar program or certification, particularly when combined with M.A.R.V.E.L. airflow and energy optimization technology. Specially designed for heavy steam producing equipment, they are particularly suitable to central kitchens, asian steam cooking and food industry.

Description

The *Capture Jet™* technology enables significant reductions in airflow rates leading to savings on construction costs, mainly due to the reduced size of ducts and HVAC equipment.

It typically pays for itself upon the startup of the kitchen or within few months. The energy savings it generates then directly contribute to an increase in profitability, while the staff benefits from improved working conditions.

KCH hoods are also designed to evacuate the condensation drips that may form inside their containment volume when used with heavy steam-producing equipment. The hoods are equipped with a gutter system installed on all four sides of the containment volume. This system collects water drips flowing down the sides and the hood's ceiling, whose diamond-point shape facilitates their flow. These provisions greatly improve hygiene by limiting the risk of condensation drips falling on the cooking appliance.

KCH-F hoods are lastly equipped with a low-velocity makeup air built into the front face.

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 drastically reducing the exhaust volumes on top of that achieved by the Capture Jets. This results 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 also improves the working conditions for the staff.

Improved safety and maintenance savings

- Designed to channel excess condensation on hoods' interior surfaces to a perimeter gutter system to greatly improve hygiene.
- KSA cyclonic aerosol separators are constructed of stainless steel in compliance with EN 16282-6. They are up to 95% efficient at capturing particles of 10 microns or larger.
- KSA separators also have a good efficiency-to-pressure loss ratio and are certified UL 1046, NSF, and LPS 1263.
- The filtration level achieved efficiently slows down the build-up of grease deposits in the exhaust plenums and ductwork that could otherwise constitute a serious hygiene and fire safety hazard.
- The cleaning frequency of the ducts is reduced, resulting in maintenance savings.

Other features and benefits

- Construction compliant with NF EN 16282-2 (5).
- Integrated fan to supply air to the Capture Jets. No connection to the supply ductwork is required.
- The Capture Jets are automatically switched off when the ventilation system is turned off or operates at minimum airflow.
- **Halton Skyline** (HCL) LED culinary light provides the best visual comfort while contributing to further improve safety and energy savings.
- When extended to the whole kitchen and surrounding areas, the Human Centric version of **Halton Skyline** (HCL) directly contributes to chefs' and their teams wellbeing.
- Better capture efficiency and comfort for the staff thanks to a low-velocity diffuser built into the front.
- Exhaust airflow rates are determined using an EN 16282-1 based calculation method, which takes into account the loads of the cooking or dishwashing equipment, the makeup air strategy, the configuration of the hoods or ventilated ceilings, and their capture and containment efficiency.
- Capture and containment efficiency tested in accordance with the ASTM 1704 standard.
- Quick and easy commissioning. Hoods delivered "ready to install", with all accessories included, such as light fitting, T.A.B.™ airflow measurement taps, and dampers for quick balancing on-site.
- Sturdier and easier to clean (less parts and fewer joints). Stainless steel construction.

(1) LEED - Leadership in Energy and Environmental Design (2) BREEAM

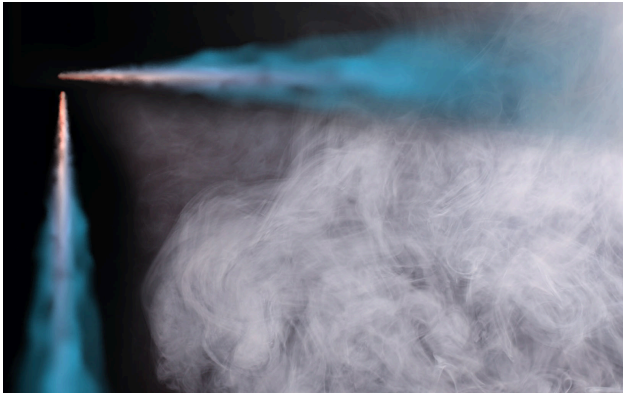
- Building Research Establishment Environmental Assessment Method
(3) DGNB - German Sustainable Building Council (4) RE2020 - French
Environmental Regulation 2020 (5) NF EN 16282-2 Equipment for
commercial kitchens - Components for ventilation in commercial kitchens

- Part 2 : kitchen ventilation hoods - Design and safety requirements (6)
HACCP - Hazard Analysis Critical Control Point



Capture Jet™ technology

◦ High capture efficiency ◦ Energy savings



The *Capture Jet™* technology enables significant reductions in airflow rates leading to savings on construction costs, mainly due to the reduced size of ducts and HVAC equipment.

It typically pays for itself upon the startup of the kitchen or within few months. The energy savings it generates then directly contribute to an increase in profitability, while the staff benefits from improved working conditions.

Benefits

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

- No specific duct required for the Capture Jets. In addition to the reduction of the ducts and HVAC systems size, it reduces installation cost and the CapEx.
- It generates important energy savings on cooling/heating the makeup air (less air out, less air in!).
- The reduction of the draft risk and noise levels also improves the working conditions for the staff.

How does it work?

The Capture Jet™ technology is based on the use of one or several sets of aerodynamic nozzles, supplied with an extremely low airflow.

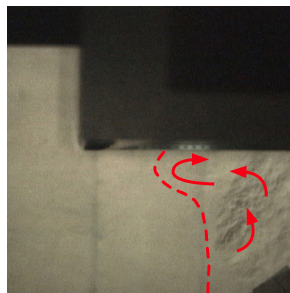
These nozzles form one or several air curtains. Carefully located and oriented, they prevent the grease, steam, smoke and heat etc. released by the cooking appliances from escaping and orient them toward the filters. It is this capture efficiency improvement that enables reducing the ventilation volumes.

KCH hoods are equipped with two sets of nozzles (one vertical and one horizontal), on the front and sides of the hood.

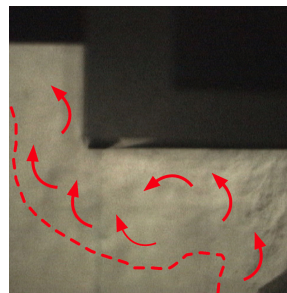
Schlieren tests on a Halton hood with the Capture Jets ON and OFF



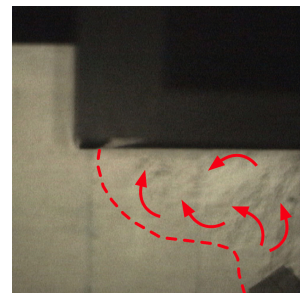
The Schlieren system shows the convective flows of cooking appliances so that the hoods' capture efficiency can be reliably and objectively measured.



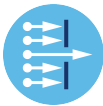
Capture Jets ON @3600 m³/h.
The convective flows do not escape on the hood front. They are efficiently extracted.



Capture Jets OFF @3600 m³/h.
With a traditional hood, a significant part of the convective flows escapes.



Capture Jets OFF @6000 m³/h.
With 2400 m³/h more airflow, a traditional hood captures again all convective flows.



KSA aerosol separator

◦ Cyclonic effect ◦ Reduced cleaning costs ◦ Improved hygiene and safety

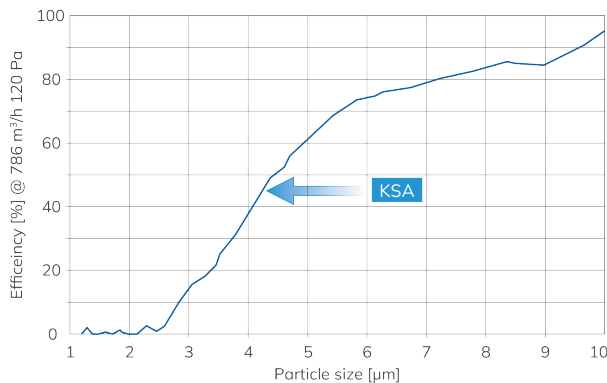


KSA cyclonic aerosol separators efficiently limit grease and particles deposition inside the exhaust plenums of Halton's hoods and ventilated ceilings and in the ductwork.

They are a cost-effective solution to reduce the duct cleaning costs while directly contributing to a better hygiene and fire safety.

Benefits

- KSA cyclonic aerosol separators are constructed of stainless steel in compliance with EN 16282-6. They are up to 95% efficient at capturing particles of 10 microns or larger.



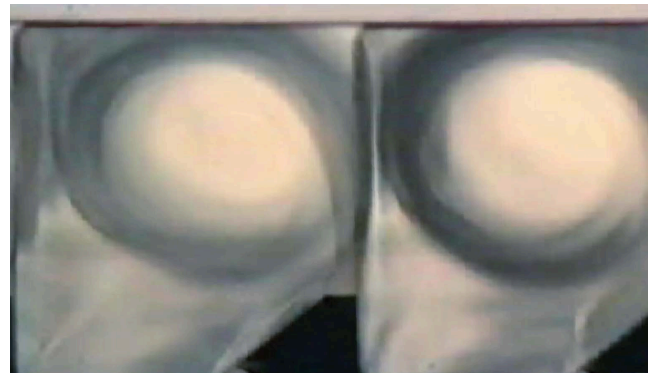
Tests on KSA aerosol separators' efficiency carried out on a Halton hood exhaust plenum by VTT laboratory, according to VDI 2052 (part 1).

- KSA separators also have a good efficiency-to-pressure loss ratio and are certified UL 1046, NSF, and LPS 1263.
- The filtration level achieved efficiently slows down the build-up of grease deposits in the exhaust plenums and ductwork that could otherwise constitute a serious hygiene and fire safety hazard.
- The cleaning frequency of the ducts is reduced, resulting in maintenance savings.
- Reduced noise levels and fan energy consumption thanks to the favorable efficiency-to-pressure loss ratio.

How does it work?

KSA cyclonic filters are composed of vertical honeycomb profiles, opened only at top and bottom part. This design forces the air to swirl in a similar way as a cyclone when the air goes up and down inside to escape.

The centrifugal effect is both powerful and continuous – a mechanism that traditional separators lack. As a result, particles are projected onto the surface of the profiles, leading to improved separation performance.



Visualization of the cyclonic effect inside the KSA aerosol separator's profiles (Schlieren test)



Halton Skyline

◦ Culinary and Human Centric light



Halton Skyline is the first LED lighting technology specifically developed for the needs of commercial kitchens, starting with staff's comfort.

The light it provides is the closest possible to natural light thus offering many tangible benefits.

How does it work?

Halton Skyline is based on the use of two types of light sources, both equipped with highly efficient LEDs.

A broad beam spot (4000K - CRI of 83) - It is designed to provide a uniform and bright general lighting.

A focussed beam spot (2800K - CRI of 95) - It is used to further improve the lighting level and the color render of the food in strategic locations, above cutting machines or griddles for instance, or even the plating presentation area.

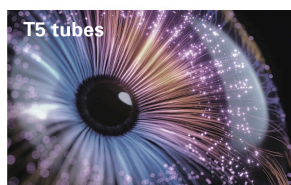
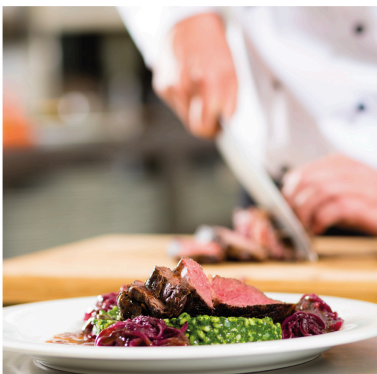
As an option, the wide beam spots can be equipped with two sets of LEDs to make the color temperature varying from 2200 to 6500K. This enables creating daylight-similar sequences to offer lighting conditions that are Circadian rhythm-friendly, with recognized biological and psychological benefits for the staff.

Halton Capture Jet™ hoods' light fittings are equipped with Halton Skyline broad beam spots (4000K colour temperature).

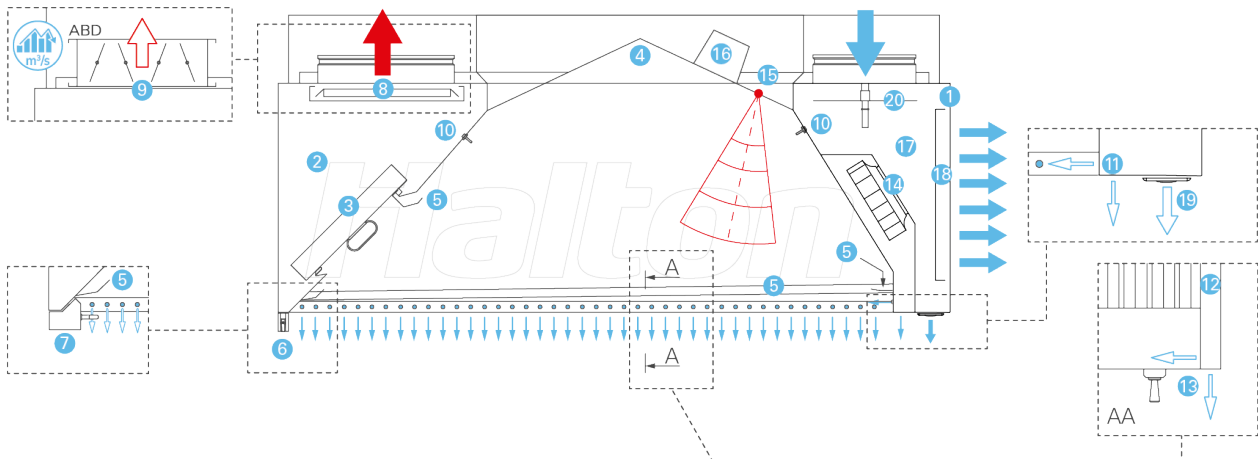
Benefits

- Very good illuminance levels and uniform light, with a good balance between the direct and diffuse components.
- Remarkably respects the natural food color and texture.
- Improved safety and best visual comfort, without alteration over time.
- Consumes up to 2,8 times less than fluorescent tubes while having a luminous efficacy of 120 lm/W.
- 50,000 hours lifetime for both the LEDs and the drivers.
- Saves the replacement of up to 125% of the fluorescent tubes, adding significant maintenance savings to the energy savings.

Integrated in Halton's suspended metal ceilings or thanks to standalone modules, Halton Skyline can be extended to the whole kitchen and beyond. It then opens the way to the most advanced and Human Centric lighting global solution.



Construction

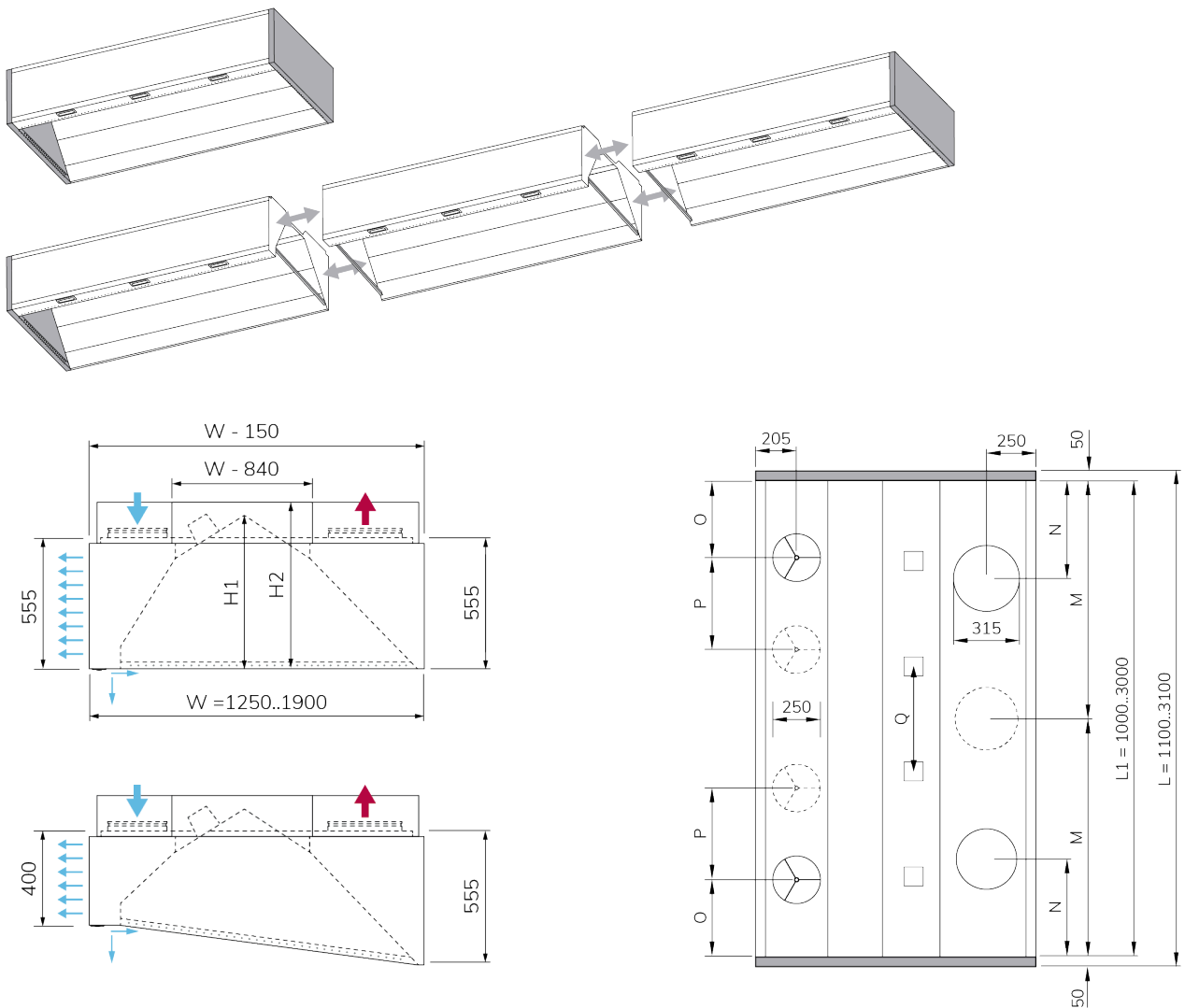


1. Visible outer envelope in stainless steel AISI 304 (1,0 mm).
2. Exhaust plenum constructed from stainless steel AISI 304 (1 mm thick) and galvanized steel (top).
3. KSA aerosol separators.
4. Special diamond-point shaped roof.
5. Perimeter gutter system.
6. Condensates drain.
7. Collection tray as an option.
8. Exhaust connection(s) and sliding damper(s).
9. When the kitchen is equipped with M.A.R.V.E.L. airflow and energy optimization technology (MRV), the sliding damper is replaced by ABD automated balancing damper.
10. T.A.B.™ (Testing And Balancing) pressure port(s) for quick airflow calculation during ductwork balancing operations.
11. Front Capture Jet™ nozzles.
12. Double skin sides.
13. Side Capture Jet™ nozzles.
14. Integrated Capture Jet™ fan.
15. Halton IRIS™ infrared sensor (used for the optional M.A.R.V.E.L. or FireWatch technologies). *
16. Halton Skyline LED culinary LED spots flush-mounted on the hood roof (with individual protective cover on top).
17. Makeup air plenum.
18. Perforated front face with honeycomb structure for a low velocity makeup air.
19. Personal supply air nozzles.
20. Supply air connection and adjustment damper (type MSM).

* M.A.R.V.E.L. or FireWatch options require controllers that are typically installed on the top of the light fittings.

M.A.R.V.E.L. ready option: To allow for later installation of M.A.R.V.E.L. airflow and energy optimization, each hood can be equipped only with its ABD slim automated balancing damper, which is typically very difficult to install afterward.

Dimensions



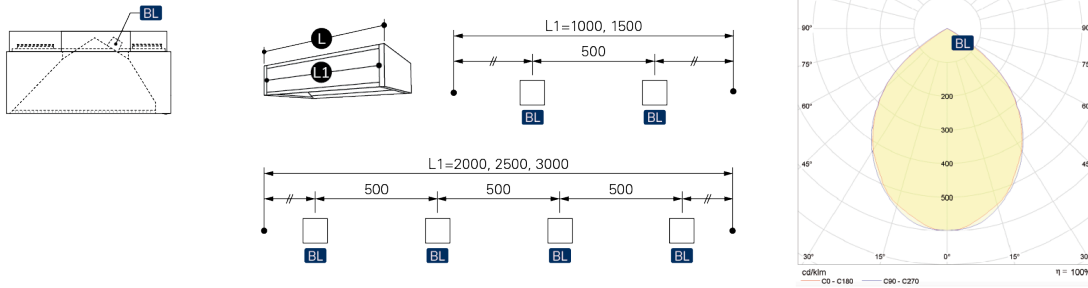
[mm]	1x	2x	3x	2x	4x		Q
L	M	N	M, N	O	O, P		
1100	L1/2	-	-	450	-	■ ■	500
1600	L1/2	325	-	450	-	■ ■	500
2100	L1/2	450	-	450	450, 500	■ ■ ■ ■	500
2600	-	450	L1/2, 450	450	450, 500	■ ■ ■ ■	500
3100	-	450	L1/2, 450	-	450, 500	■ ■ ■ ■	500



W [mm]	1300	1400	1500	1600	1700	1800	1900
H1	572	595	618	641	665	688	721
H2	627	650	673	696	720	743	776

- Above 3100 mm, hoods are an assembly of separate sections to make transportation and site handling easier.
- Number of connections to be determined based on the sections length and on the calculation of the airflow rates.
- Rectangular connections on request.

HCL Halton Skyline culinary and human centric light fittings

Specific documentation available



		CRI ⁽¹⁾	 [°K]	UGR ⁽²⁾	[lm]	[W]	[lm/W]
HCL2-827-2	■ ■	Ra>80	2700	<19	1537	17	96
HCL2-830-2	■ ■	Ra>80	3000	<19	1653	17	100
HCL2-840-2	■ ■	Ra>80	4000	<19	1717	17	105
HCL2-930-2	■ ■	Ra>90	3000	<19	1356	17	82
HCL2-940-2	■ ■	Ra>90	4000	<19	1431	17	87
HCL2-827-4	■ ■ ■ ■	Ra>80	2700	<19	3075	33	93
HCL2-830-4	■ ■ ■ ■	Ra>80	3000	<19	3305	33	100
HCL2-840-4	■ ■ ■ ■	Ra>80	4000	<19	3434	33	105
HCL2-930-4	■ ■ ■ ■	Ra>90	3000	<19	2713	33	82
HCL2-940-4	■ ■ ■ ■	Ra>90	4000	<19	2862	33	87

(1) The Colour Rendering Index (CRI) defines the ability of a light source to respect colours. It is measured on a scale of 1 to 100, 100 being the CRI of natural sun light.

(2) The UGR (Unified Glare Rating) is a unified formula for evaluating glare, defined by the CIE Technical Report 117-1995. A UGR of 19 is the recommended value for offices.

The light fitting enclosures are constructed from stainless steel and galvanized steel. They are mounted flush and are fixed with screws. They are equipped with Halton Skyline wide beam spots protected by a safety glass mounted flush, ensuring both the highest hygiene and IP54 protection on the front.

Wide beam spots - The highly efficient mid-power LEDs (4000K by default, CRI > 80) used in the broad beam spots are housed in an aluminum mixing chamber, sealed with specially frosted diffusion glass. The mixing chamber is mounted above a highly reflective silver-coated reflector. While providing excellent glare protection, this configuration ensures uniform lighting with a well-balanced combination of direct and diffuse components, minimizing shadows and enhancing the clarity of textures and shapes in the ingredients and preparations.

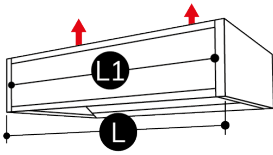
As an option, the wide beam spots can be equipped with two sets of LEDs to make the color temperature varying from 2200 to 6500K. This enables creating daylight-similar sequences to offer lighting conditions that are Circadian rhythm-friendly, with recognized biological and psychological benefits for the staff.

Option(s):

- Other light color temperatures or Color Rendering Indexes (CRI)
- Human Centric version with tunable color temperature and intensity.
- Spots integrated on a full width and flush-mounted light beam.

Admissible and calculated airflows

Admissible airflows



L	L1	KSA	$\uparrow Q_E \text{ min..max}^{(1)}$		$\downarrow Q_s \text{ max}^{(1)}$		$\swarrow Q_{CJET}^{(2)}$	
[mm]	[mm]	[Nb]	[m³/h]	[l/s]	H=555	H=400	[m³/h]	[l/s]
1600	1500	3	1515...2358	420...654	200 l/s/m	157 l/s/m	97	27
2100	2000	4	2020...3144	560...872	720 m³/h/m	565 m³/h/m	112	31
2600	2500	5	2525...3930	700...1090	MSM @100%	MSM @100%	127	35
3100	3000	6	3050...4716	840...1308	$\Delta P_{st}=48...52 \text{ Pa}$	$\Delta P_{st}=45...70 \text{ Pa}$	142	39

(1) $Q_E \text{ Min..Max/KSA} = 505..786 \text{ m}^3/\text{h}$ | $\Delta P_{T.A.B.} \text{ Min..Max} = 50..120 \text{ Pa}$

(2) Side Jets with W=1300 mm

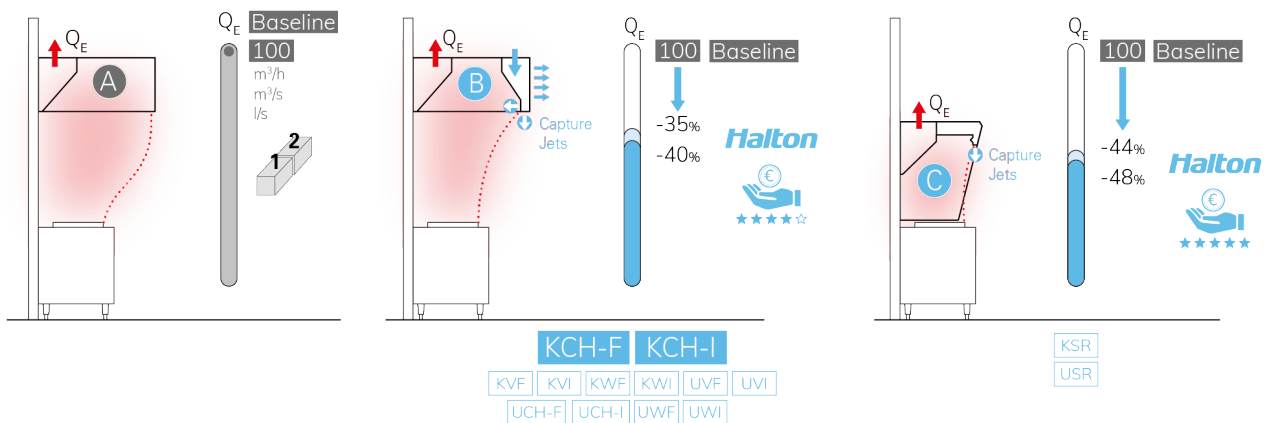
Calculated airflows

The calculated exhaust airflow rates are determined with a EN 16282-1 based calculation method. It relies on the evaluation of the convective flows' volume (air mixed with heat, steam, grease, smoke and other pollutants) generated by the cooking appliances, depending on their type, on the energy they use and their installation conditions (central, on a wall, in an angle).

The air volume required to remove the convective loads is then calculated depending on:

- The hood or ventilated ceiling installation height;
- The makeup-air strategy (mixing or displacement);
- The hood or ventilated ceiling capture efficiency according to ASTM 1704-12 standard.

KCH-F hood reduces the exhaust airflow rates⁽¹⁾ by up to 40% compared to traditional hoods.



(1) This scale is indicative and based on wall mounted hoods, opened on 3 sides, equipped with a same cooking bloc, whatever it is. The variation in exhaust airflow reduction for a given hood type is due to the makeup-air type (mixing or displacement). Other parameters do impact the final airflow rates. Our sales teams are at your disposal to provide you with a calculation note, depending on your kitchen configuration.

Green Steel label



Manufactured with decarbonized stainless steel (option)

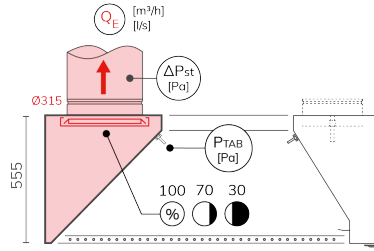
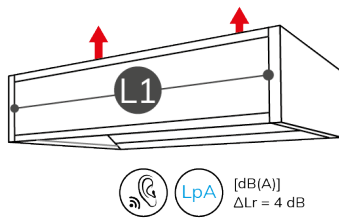
Halton's innovations are recognized for significantly reducing its clients' carbon footprint from the very first day of operation and throughout the product's lifecycle. Our efforts to reduce the environmental impact of our products start from the moment they are manufactured. Solar energy, geothermal energy, optimization of raw material usage, and waste recovery are just some of the measures Halton implements at its production sites.

Halton is taking things even further! Gradually, and in Europe first, Halton is offering the option to manufacture Capture Jet™ hoods using decarbonized stainless steel.

A further 60% reduction in CO₂ emissions! This is the average reduction, with equal mechanical properties, in the environmental impact of manufacturing this green steel. This represents 850 kg less CO₂, or the equivalent of driving 4,595 km in a conventional car, flying 5,600 km on a medium-haul flight, or traveling 423,636 km by the french high-speed train (TGV) (1).

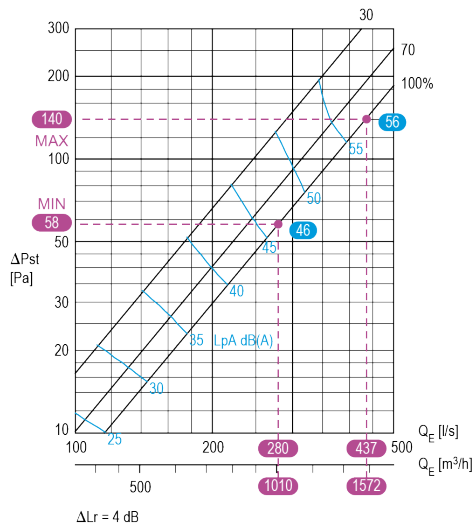
(1) According to the ADEME ([The French Agency for Ecological Transition](#)) resource site which popularizes and promotes environmental data.

Pressure losses and sound levels (exhaust)



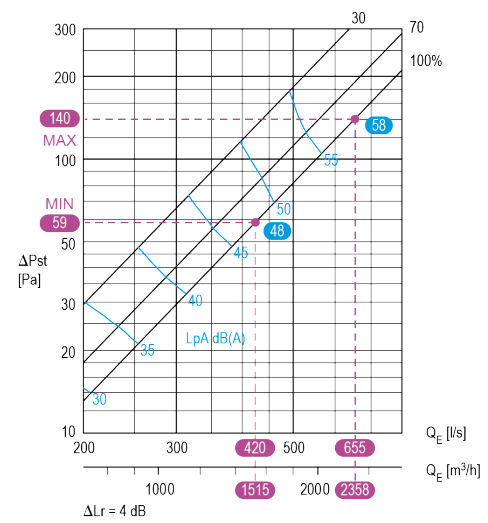
L1 = 1000 mm

2 KSA



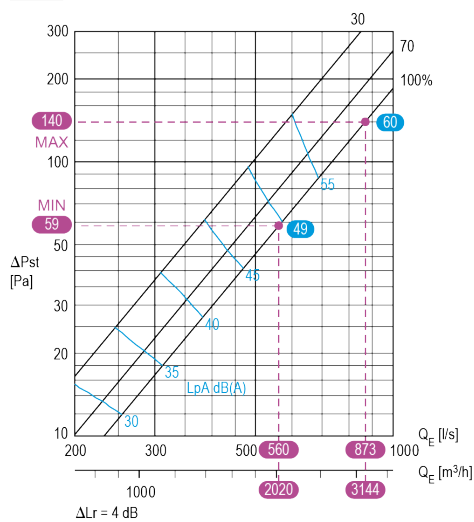
L1 = 1500 mm

3 KSA



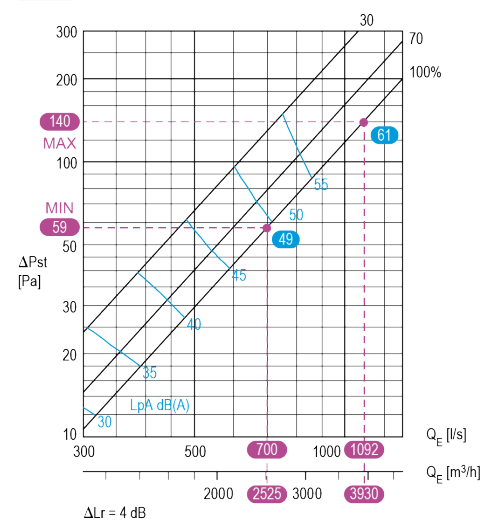
L1 = 2000 mm

4 KSA



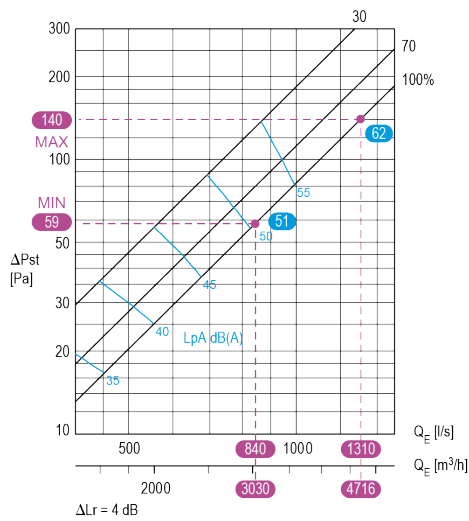
L1 = 2500 mm

5 KSA

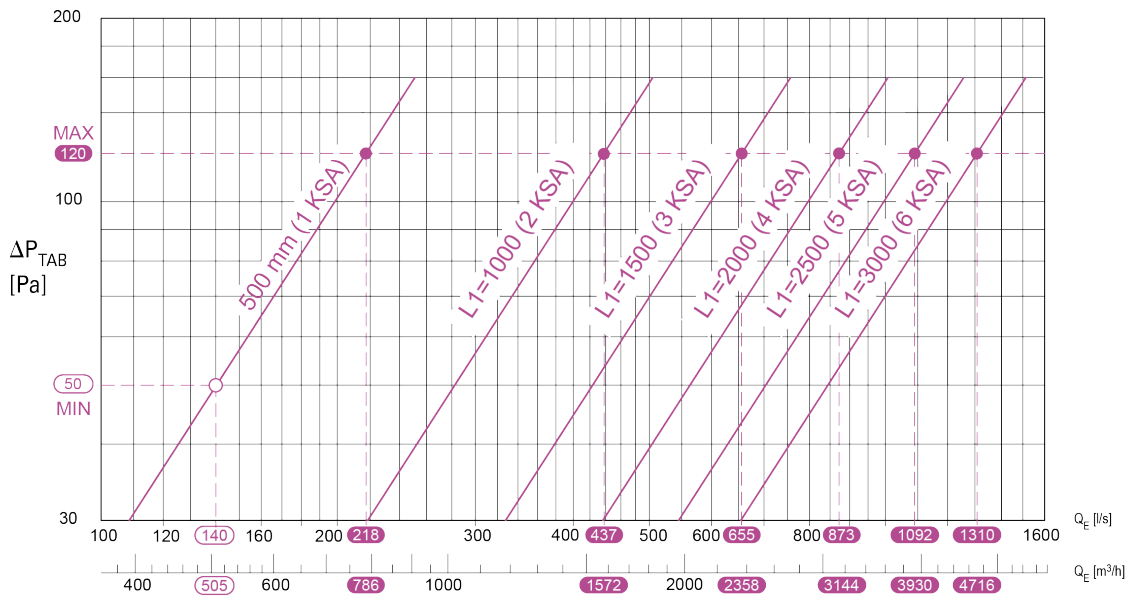


L1 = 3000 mm

6 KSA



Airflow measurement (T.A.B.™ reading or use of hood k factor)

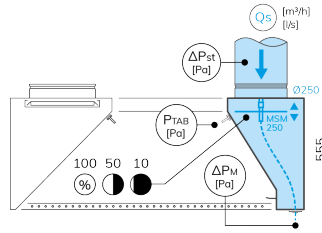
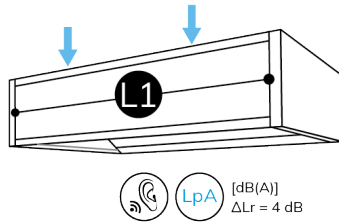


$$Q_E = k \times \sqrt{P_{TAB}}$$

$$Q_E = k \times \sqrt{P_{TAB} \text{ [Pa]}}$$

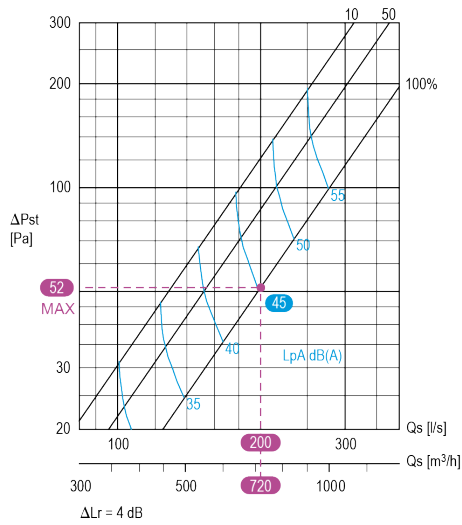
KSA	k [m³/h]	k [l/s]
1	71,8	19,9
2	143,6	39,8
3	215,4	59,7
4	287,2	79,6
5	359	99,5
6	430,8	119,4

Pressure losses and sound levels (supply)



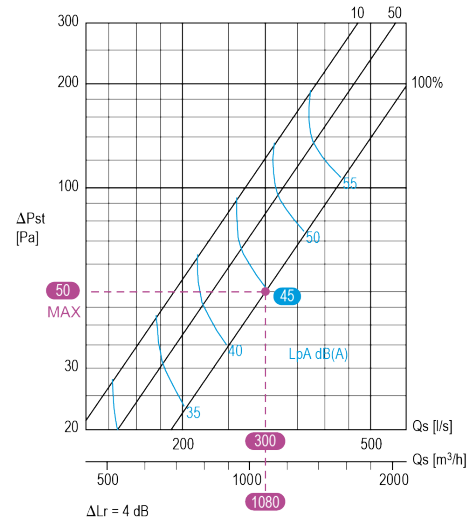
L1 = 1000 mm

ΔP_{st} LpA f Q_s %



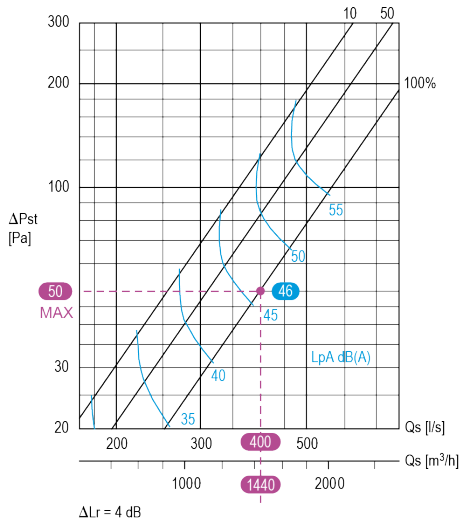
L1 = 1500 mm

ΔP_{st} LpA f Q_s %



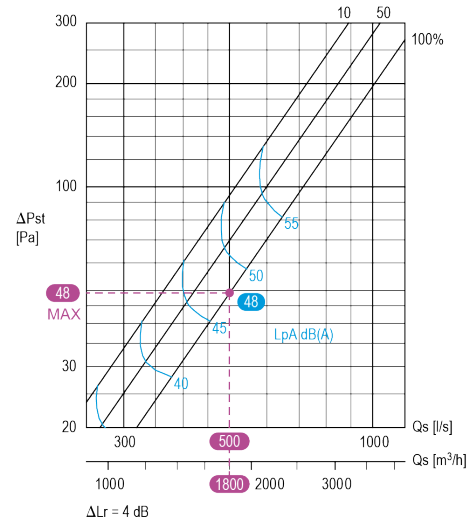
L1 = 2000 mm

ΔP_{st} LpA f Q_s %

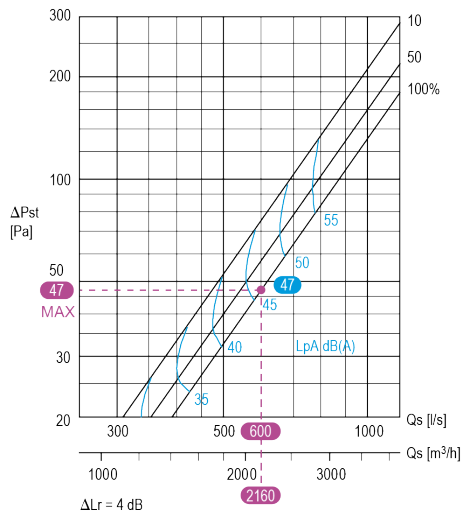


L1 = 2500 mm

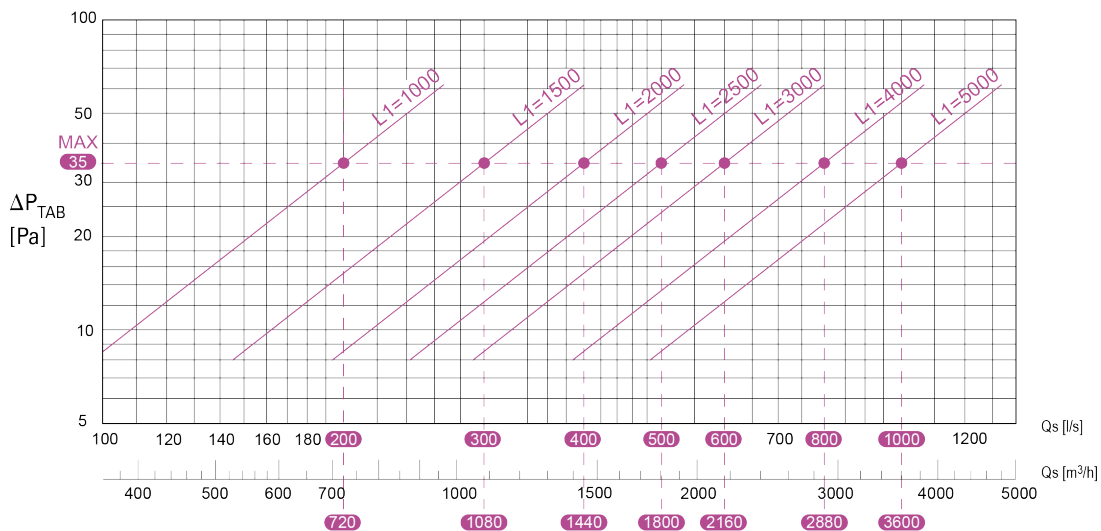
ΔP_{st} LpA f Q_s %



L1 = 3000 mm

 ΔP_{st} LpA f Q_s %


Airflow measurement (T.A.B.™ reading or use of hood/MSM k factor)

 Q_s f P_{TAB} $L1$

 Q_s f P_{TAB} $L1$

$$Q_s = k \times \sqrt{P_{TAB} \text{ [Pa]}}$$

L1 [mm]	k [m³/h]	k [l/s]
1000	121,7	33,8
1500	182,6	50,7
2000	243,4	67,6
2500	304,2	84,5
3000	365,1	101,4

Or

 Q_s f ΔP_M $MSM^{2..4}$

MSM250

$$Q_s = \sum Q_s \text{ (MSM 2..4)}$$

$$Q_s \text{ (MSM 2..4) [l/s]} = 51 \times \sqrt{\Delta P_M \text{ [Pa]}}$$

$$Q_s \text{ (MSM 2..4) [m³/h]} = 183,6 \times \sqrt{\Delta P_M \text{ [Pa]}}$$

Suggested specifications

KCH-F / KCH-I

The hoods shall be Halton brand - range KCH-F / KCH-I.

- KCH-I is the extract-only model.
- KCH-F is equipped with an integrated makeup air system on the front.

The hoods shall be supplied ready for installation. All technologies and systems shall be delivered fully pre-wired.

The following specifications shall be strictly observed.

Capture Jet™ technology

- The Capture Jet™ technology relies on aerodynamic blowing nozzles that generate single or dual air curtains. These significantly enhance the capture and containment efficiency for smoke, steam, and heat.
- The nozzles shall be designed to deliver high air velocity at the outlet without creating drafts that could counteract the intended effect. Their total flow shall not exceed 5% of the calculated exhaust airflow rate.
- The hood shall feature dual air curtains: one vertical and one horizontal, positioned along the front and sides.
- The Capture Jets shall enable up to a 40% reduction in exhaust airflow rates while removing the same heat, steam or smoke load compared to traditional systems.
- The Capture Jets shall be supplied by an integrated fan, providing the airflow and static pressure required for optimal efficiency. A connection to the supply ductwork shall not be required.
- The Capture Jet™ fan shall automatically switch off when the ventilation system is turned off or operates at minimum airflow.

Exhaust airflow rates

- The exhaust airflow rates shall be determined using an EN 16282-1⁽¹⁾ based calculation method. They shall take into account:
 1. The convective loads released by the cooking or dishwashing equipment, whether defined by EN 16282-1, the manufacturer, or a third party;
 2. The type and installation configuration of the exhaust device(s).
- The calculation method shall also consider the capture efficiency of the hoods or ventilated ceilings.
- Both the exhaust airflow rates and capture efficiency shall be substantiated with a calculation note.
- Any modifications to the installation height, input power, type, dimensions or location of the cooking or dishwashing equipment shall be communicated to the manufacturer, as these factors significantly impact the exhaust airflow rates and capture efficiency.

Makeup air design

- The design of the makeup air, including the type, size, and location of the diffusers, as well as the means of achieving a proper balance between exhaust and supply, shall be entrusted to the manufacturer. This design impacts the exhaust airflow rates, capture efficiency, and is also crucial in preventing cross-contamination.
- The makeup air shall, as much as possible, be managed through the diffusers integrated into the front of the hoods. If their capacity does not meet the total needs of the kitchen, additional diffusers shall be of the laminar-flow type.

Outer casing and general

- The construction shall be compliant with NF EN 16282-2.
- The hood's roof shall have a diamond-point shape to facilitate the drainage of condensation droplets toward a gutter system.
- The gutter system shall be installed on the four sides of the lower part of the hood's containment volume, with an additional gutter above the exhaust plenum's aerosol separators. All gutters shall be connected to the hood's exhaust plenum to evacuate the condensation.
- Constructed from 1.0 mm AISI 304 (DIN EN 1.4301) stainless steel, with a 320 grit on the visible side.
- The joints of the lower edges shall be fully welded for better robustness, cleanability and a better aesthetic.
- All exposed welds are ground and polished to the metal's original finish.
- Sides shall be double-skin.

Exhaust plenums

- Constructed from 1.0 mm AISI 304 (DIN EN 1.4301) stainless steel, with a 320 grit on the visible side.
- The lower part of the plenum's sides shall be welded for a durable tightness.
- The aerodynamic shape of the plenums' bottom part shall help the smoke and steam freely rising up without stagnating. This contributes to prevent the build-up of condensation drips that risk falling down on the cooking appliances.
- The exhaust plenums shall be equipped with KSA cyclonic aerosol separators. They shall be certified UL 1046, NSF and LPS 1263. Their efficiency shall be at least 95% on 10 microns particles or larger.
- The aerosol separators shall be constructed from stainless steel according to EN 16282-6.
- Each plenum shall be equipped with a T.A.B.™ (Testing And Balancing) pressure tap for quick airflow measurement.

[Option] Airflow optimization technology

- The exhaust hoods shall be equipped with an airflow optimization technology. It shall be Halton Brand, MRV (M.A.R.V.E.L.) model.
- The optimization technology shall automatically adjust the exhaust airflow rates, depending on the cooking activity, in real time and independently. If only one cooking zone is operating, only the airflow required for that zone would be automatically adjusted. The other zones shall continue to operate at a low flow rate.
- The control system shall be part of Halton™ Connect IoT (Internet of Things) control platform.
- Additional specifications in a dedicated section.

[KCH-F] Integrated makeup air

- The hoods shall be equipped with an integrated low-velocity diffuser on the front for the make-up air.
- The internal face of the plenums shall be insulated to avoid any risk of condensation on the containment volume side.
- The plenum shall be equipped with a T.A.B.™ (Testing And Balancing) pressure tap for quick airflow measurement.

Halton Skyline light fittings

- The hoods shall be equipped with Halton Skyline LED wide-beam spotlights, glued flush-mounted on the diamond-point ceiling.
- The spots shall be closed by a seamlessly glued safety glass plate for a better hygiene and ease of cleaning. Its protection against water spraying shall be IP54. The glass shall be fire-rated A1 i.e. non-flammable according to EN 13501-1.
- Spots' shielding angle shall exceed the specification of EN 12464-1 and be greater than 30° while its Unified Glare Rating (UGR) shall be lower than 19.
- The spots shall provide a uniform light, with good balance between the direct and diffuse components, to make forms and textures clearer and richer in contrast without dazzling the staff.
- They shall have a color temperature of 4000K and a Color Rendering Index (CRI) of at least 83.
- The illuminance on the working surfaces shall be at least 500 lx.
- The LEDs and drivers lifetime shall be at least 50,000 hours. The drivers shall be DALI compatible. The spots' efficiency shall be at least of 105 lm/W.
- As standard, the power supplies shall enable switching on/off or dim the light (1-100%) with one or several switches.

- **[Option]** A specific DALI user interface, with scenario and zoning functions, shall be used to control the light fittings.

[Option] Fire prevention Halton FireWatch

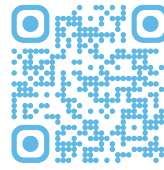
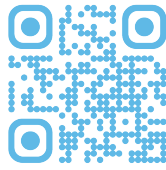
- The system shall be equipped with Halton FireWatch prevention technology
- Based on Halton Thermal Imaging (HTI) sensor, it shall continually monitor the variations in surface temperature for the cooking appliances and the temperature in the exhaust plenum to detect abnormalities that are a precursor to a fire event.
- The system shall alert the user of conditions that increase the likelihood of a fire on a Halton Touch Screen that shall also recommend to take action before the fire suppression system triggers.
- **[Option]** The system shall have an output to automatically switch off the cooking equipment's power supply in case of an alarm stage 2.
- The alarm shall be relayed with an external visual and/or sound indicator.

[Option] Fire Suppression System


- The fire extinguishing system shall be the Ansul® R-102™ or Piranha type.
- It shall be pre-installed from the factory for better integration.
- The detection chain and fusible link(s) shall be fully integrated inside the exhaust plenums to not be visible.
- The nozzles and pipework used inside the exhaust plenums, at the connections to the ductwork and above the cooking appliances shall not block or obstruct any of the extract devices' components neither interfering with their operation, whether during commissioning or maintenance.
- Unless technically impossible, no horizontal pipework shall be visible inside the containment volume of the extract devices or run along the exhaust plenums. The nozzles shall drop directly from the top of the exhaust devices equipped.
- The commissioning shall be carried out by the hood manufacturer or a certified partner. In all cases, it shall be an authorised representative of Ansul, and the installation shall comply with UL 300 requirements and local codes.


(1) The European Standards published by CEN are developed by experts, established by consensus and adopted by the Members of CEN. It is important to note that the use of standards is voluntary, and so there is no legal obligation to apply them (source: CEN).

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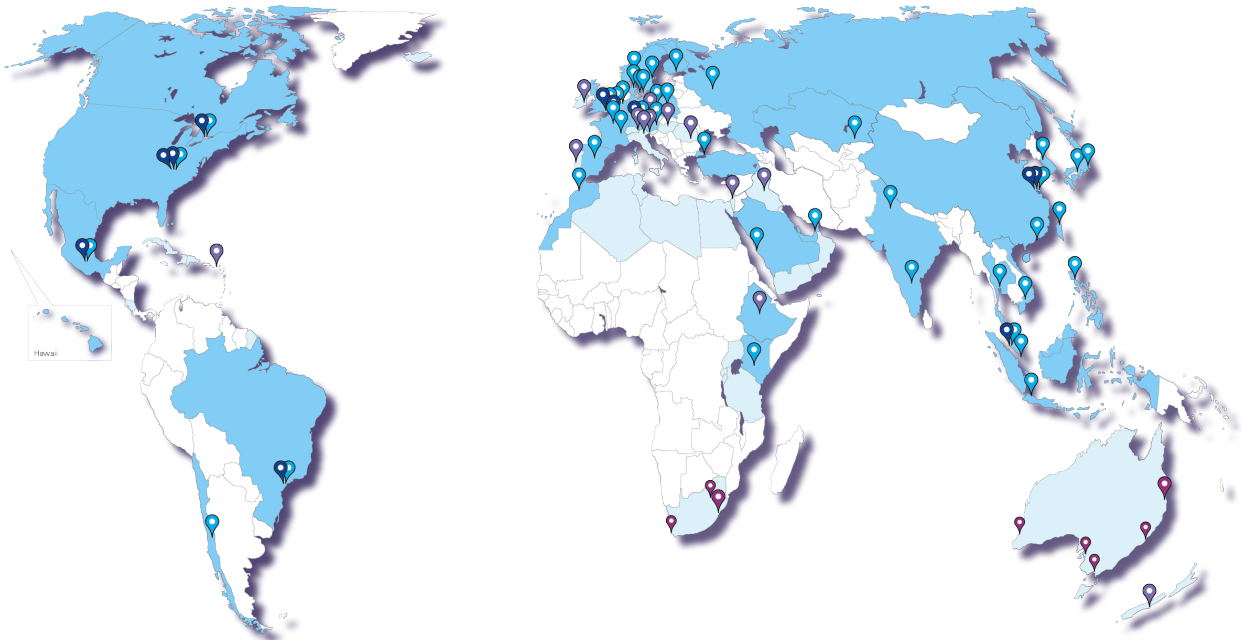
Halton Manufacturing and Sales Facilities in the world

 Sales and service centers

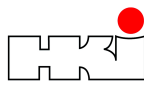
 Representatives

 Factories

 Manufacturing licences



Halton Foodservice partnerships



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