KCH-I
Capture Jet™ condensate hood

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

Product 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

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

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.

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.
- 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.

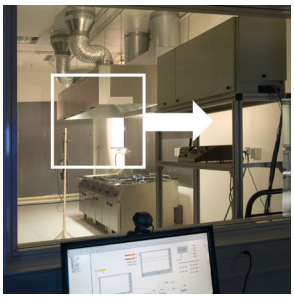
How does it work?

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

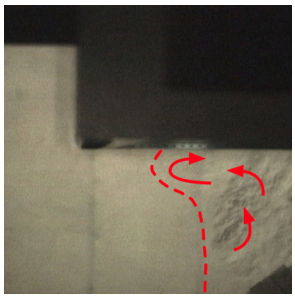
These nozzles form one or several air curtains. Carefully located and oriented, they prevent the grease, steam, smoke and heat etc. released by the cooking appliances from escaping and orient them toward the filters. It is this capture efficiency improvement that enables reducing the ventilation volumes.

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

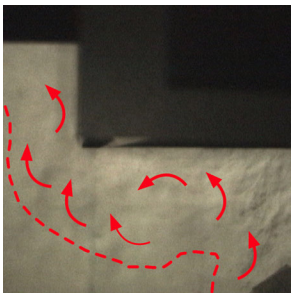
Schlieren tests on a Halton hood with the Capture Jets ON and OFF



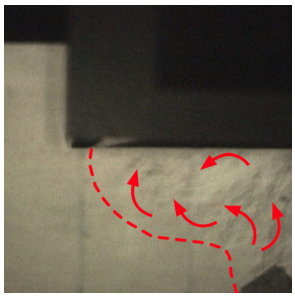
The Schlieren system shows the convective flows of cooking appliances so that the hoods' capture efficiency can be reliably and objectively measured.



Capture Jets ON @3600 m^3/h.
The convective flows do not escape on the hood front. They are efficiently extracted.



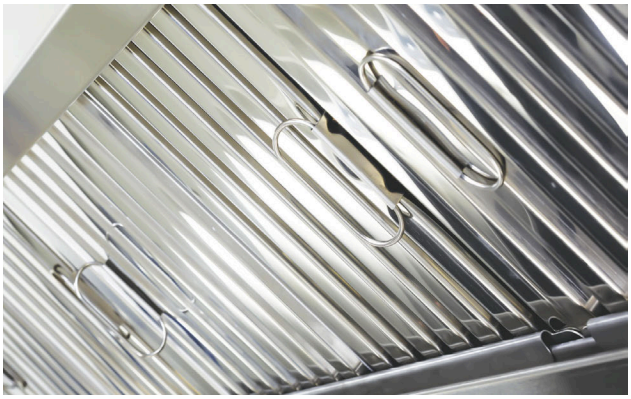
Capture Jets OFF @3600 m^3/h.
With a traditional hood, a significant part of the convective flows escapes.



Capture Jets OFF @6000 m^3/h.
With 2400 m^3/h more airflow, a traditonal 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.

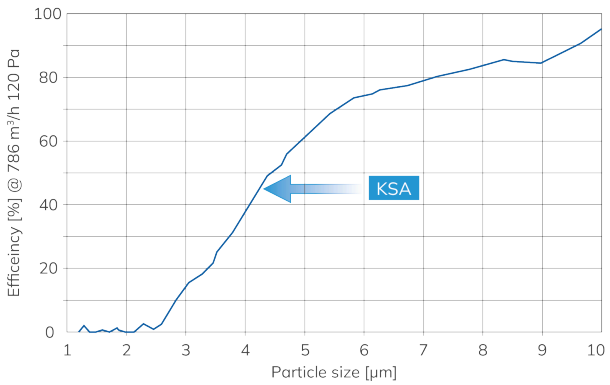
Benefits

- 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.
- 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.

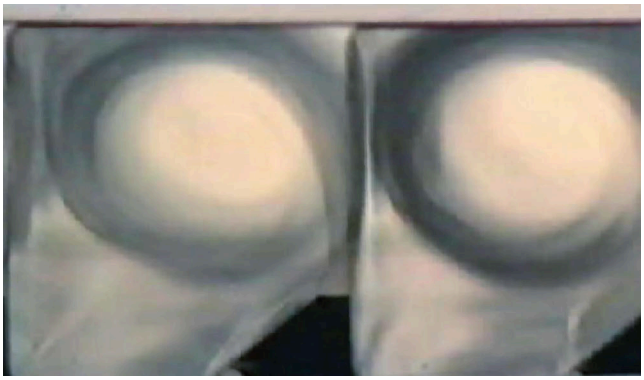
How does it work?

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.



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



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.

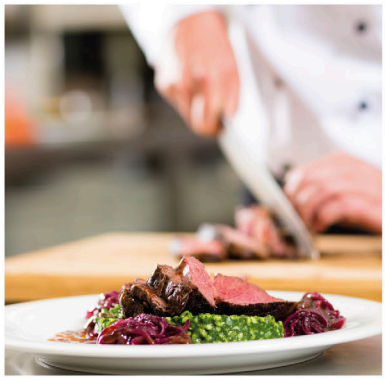
As an option, the wide beam spots can be equipped with two sets of LEDs to make the color temperature varying from 2200 to 6500K. This enables creating daylight-similar sequences to offer lighting conditions that are Circadian rhythm-friendly, with recognized biological and psychological benefits for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

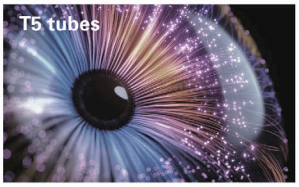
> Halton Capture Jet™ hoods' light fittings are equipped with Halton Skyline broad beam spots (4000K colour temperature).

Benefits

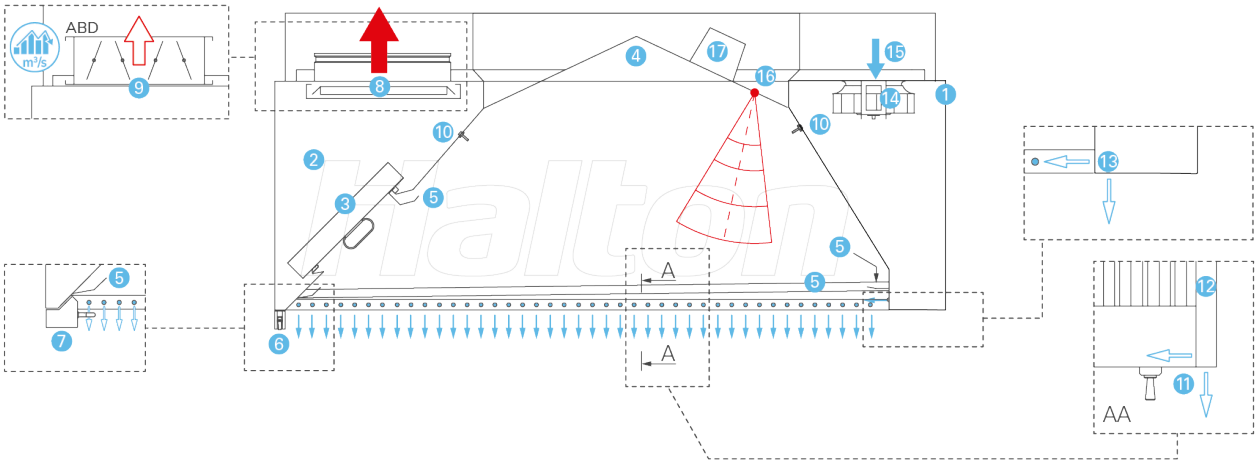
- Very good illuminance levels and uniform light, with a good balance between the direct and diffuse components.
- Remarkably respects the natural food color and texture.
- Improved safety and best visual comfort, without alteration over time.
- Consumes up to 2,8 times less than fluorescent tubes while 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

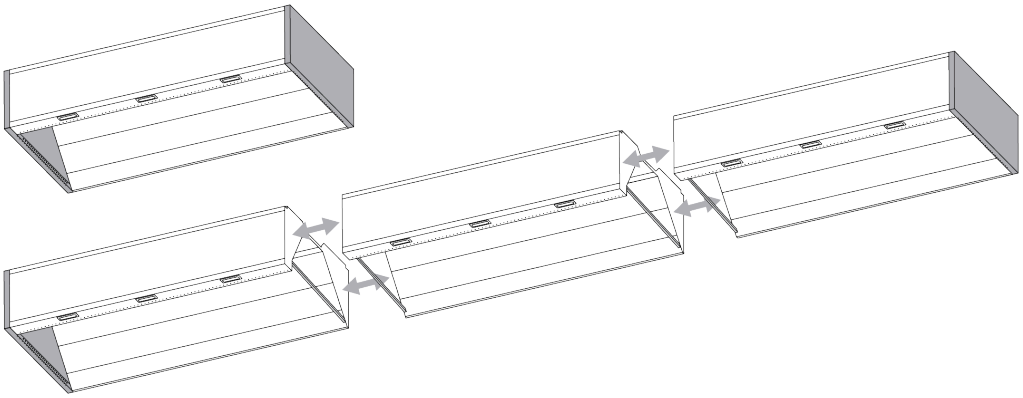


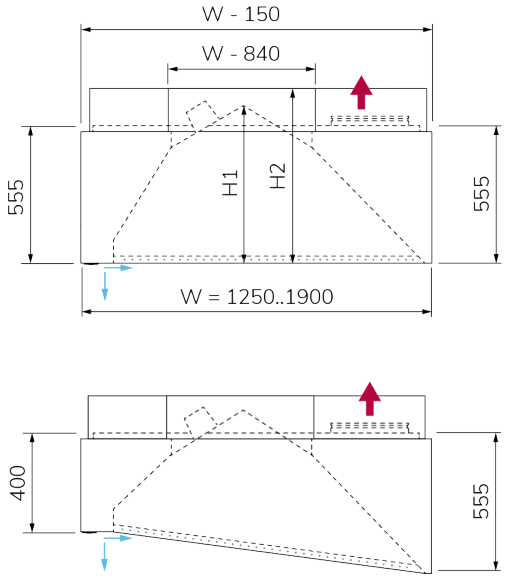
1. Visible outer envelope in stainless steel AISI 304 (1,0 mm).
2. Exhaust plenum construted from stainless steel AISI 304 (1 mm thick) and galvanized steel (top).
3. KSA aerosol separators.
4. Special diamond-point shaped roof.
5. Perimeter gutter system.
6. Condensates drain.
7. Collection tray as 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. Capture Jet™ fan air inlet.
16. Halton IRIS™ infrared sensor (used for the optional M.A.R.V.E.L. or FireWatch technologies). *
17. Halton Skyline LED culinary LED spots flush-mounted on the hood roof (with individual protective cover on top).

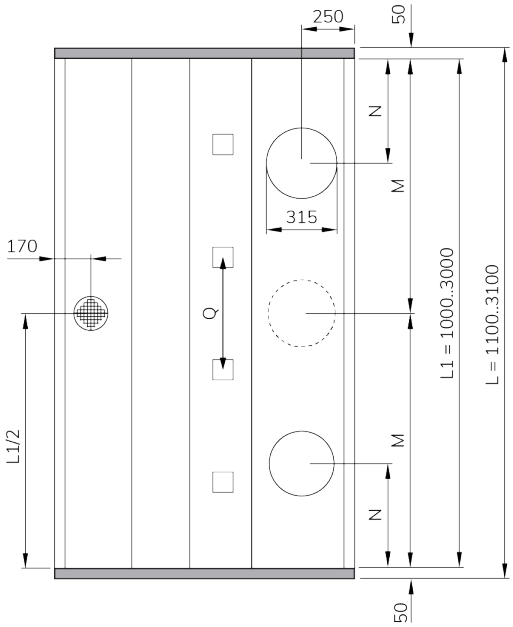
* M.A.R.V.E.L. or FireWatch options require controlers that are typically installed on the top of the light fittings.

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







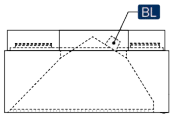
[mm]	1x	2x	3x		
L	M	N	M, N		Q
1100	L1/2	-	-	■■	500
1600	L1/2	325	-	■■	500
2100	L1/2	450	-	■■■■	500
2600	-	450	L1/2, 450	■■■■	500
3100	-	450	L1/2, 450	■■■■	500

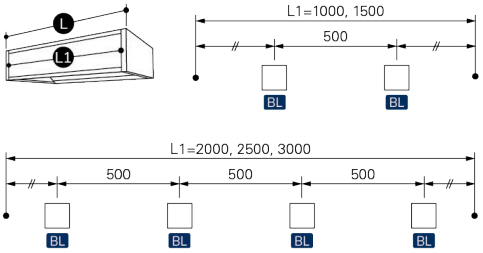
W [mm]	1300	1400	1500	1600	1700	1800	1900
H1	572	595	618	641	665	688	721
H2	627	650	673	696	720	743	776

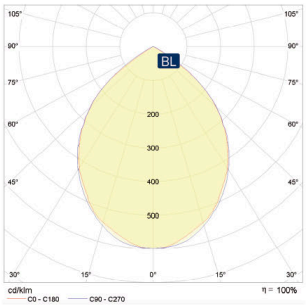
- Above 3100 mm, hoods are an assembly of separate sections to make transportation and site handling easier.
- Number of connections to be determined based on the sections length and on the calculation of the airflow rates.
- Rectangular connections on request.

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.

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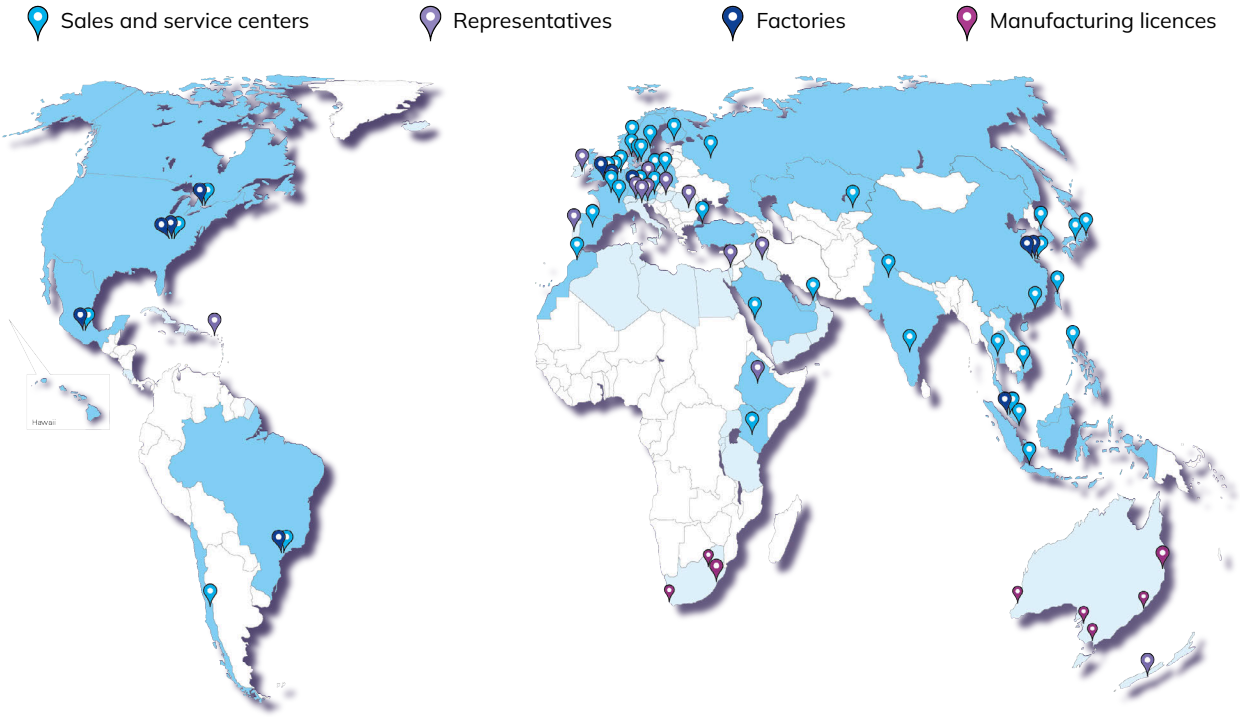
Halton Manufacturing and Sales Facilities in the world



Halton Foodservice partnerships

ALLIED MEMBER FCSI FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL

Halton