

KWT

Galley Water Wash Hood with Supply Air



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Halton KWT galley ventilation hood is a water-wash hood for use in marine & offshore applications. The highly efficient KWT hood uses Halton Capture Jet™ technology, which allows the hood to operate with up to 30% lower exhaust airflow rates than traditional hoods. The KWT galley hood automatically washes down the grease filters without the need for removal of the filters from the hood. The washing cycle is fully automatic and programmable for use in different operating conditions. The washing process can be manually overridden, when required.

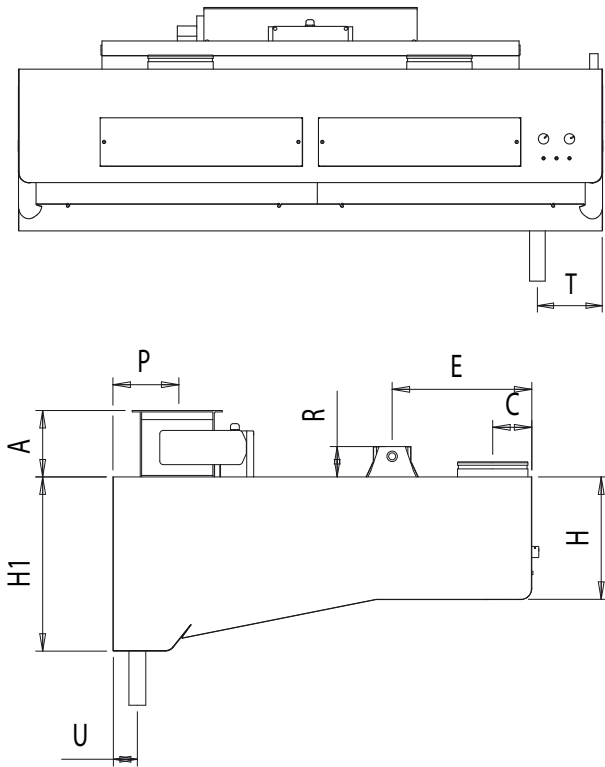
- Automatic periodic cleaning of the exhaust plenum and KSA grease filters
- The design follows USPHS requirements
- Minimal maintenance requirements, reducing the work load for personnel cleaning the filters

- High level of hygiene facilitated
- Prevention of the build-up of grease deposits, which pose a serious fire hazard
- Halton Capture Jet™ technology, reducing the required exhaust airflow rate and improving the capture and containment efficiencies of the hood, while reducing energy use
- Draught-free air supply directly to the work area from the low-velocity supply unit located on the front panel of the hood
- High-efficiency grease filtration using *UL-classified Halton KSA multi-cyclone filters
- Supplied as standard with lighting, fire damper, balancing dampers for both supply and exhaust air and T.A.B.™ airflow measurement taps, which allow accurate and effective balancing of airflows, and efficient commissioning

*Underwriters Laboratories, USA

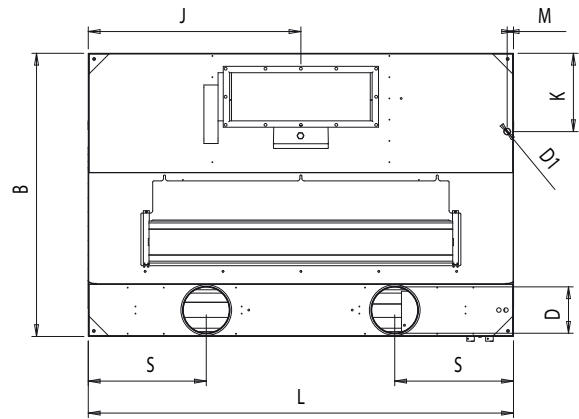
PART	MATERIAL	THICKNESS	NOTE
Front and side walls	Stainless steel AISI 304	2 mm	AISI 316 available as an option
Main body	Stainless steel AISI 304	1,25 mm	AISI 316 available as an option
Light fixture	Painted steel, plastics, electronics	-	-
Fire damper	Stainless steel	-	-
Wash piping	Stainless steel, brass	-	-
Cables	Halogen free	-	-

GENERAL KWT drawings



DIMENSIONS TABLE

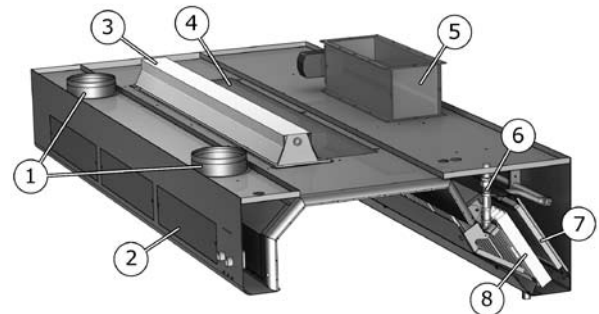
KWT Dimensions			
A	185	J	L/2
B	1100-1900	K	332
C	110	L	1100-3000
D	100-200	M	27
D1	R3/4" female	P	190
E	400	S	500
H	350	T	200
H1	500	U	70
		R	90



KWT CONSTRUCTION

The KWT hood comprises a Capture Jet™ air supply module, a light fixture, adjustment dampers, airflow measurement taps and KSA grease filters. All parts of the hood are manufactured from polished stainless steel (AISI 304). The joints at the lower edges of the device are watertight. A drain pipe connection is fitted into the exhaust plenum in order to enable removal of the grease and dirt extracted by the KSA multi-cyclone filters and to drain the washing water.

The Capture Jet™ / supply plenum is thermally insulated through the use of non-fibre-releasing material to prevent condensation on the inner face above the cooking equipment.



PARTS:

1 Supply air connection and adjustment damper, 2 Supply air panels, 3 Light fixture, 4 Access hatch, 5 Exhaust air connection, fire damper and adjustment damper, 6 Water wash piping, 7 Fine filters (available as an option), 8 KSA grease filters

Light fixture

Light fixture sizes		
Hood dimension	Weight	Length
L < 1500 mm, 2x18 W	3,2 kg	680 mm
L >= 1500 mm, < 2000 mm, 2x36 W	5,8 kg	1258 mm
L >= 2000 mm, 2x58 W	6,8 kg	1580 mm

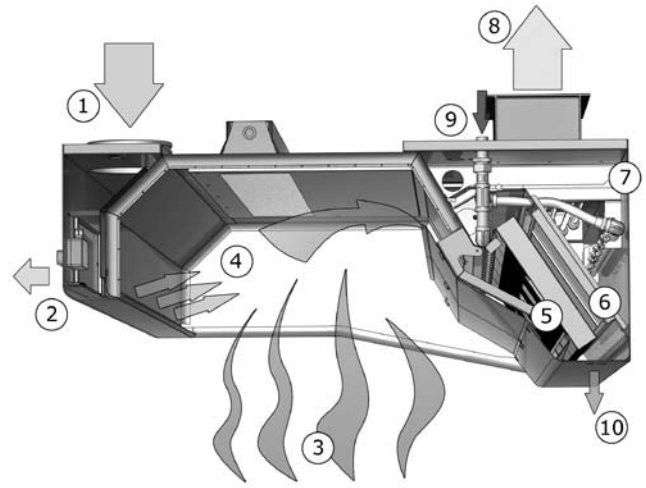
The hood has two 18W, 36W, or 58W fluorescent tubes in a standard lighting fixture depending on the dimensions of the hood.

PRODUCT OPTIONS AND ACCESSORIES

- Non-standard spigots: choice of size and position
- Two-stage filtration - a combination of KSA filter and fine filter
- Three-stage filtration - a combination of KSA filter, fine filter and ultraviolet-light technology
- AISI 316 construction

FUNCTION

1. Fresh air enters the supply air plenum.
2. Supply air is distributed to the workspace at low velocity through the front panels of the hood.
3. Contaminated air and heat rises from the cooking appliances.
4. Contaminated air is directed into the hood by Halton patented Capture Jet technology.
5. One-stage filtration: KSA multi-cyclone filters remove grease and contaminants from the air stream with the aid of centrifugal effect. According to independent laboratory tests KSA is the most efficient mechanical grease filter on the market.
6. Two-stage filtration: Fine filter balances the airflow inside exhaust plenum and apply more filtration to the air. Together with KSA filter this doubles filtration efficiency.
7. Three-stage filtration: Most grease particles are first filtered with two-stage mechanical filtration. Remaining grease is then eliminated with Halton's Capture Ray ultraviolet light technology.
8. Cleaned exhaust air contains small amounts of Ozone which further cleans the ducts downstream. All excess Ozone converts back into Oxygen.



KWT operation principle with three-stage-filtration concept

9. At scheduled times the washing control cabinet stops the hood operation and begins a washing cycle. Hot water with mild detergent is pumped into the hood spray nozzles, washing the essential parts of the exhaust plenum including UV-lights and filters.
10. The waste from the washing cycle is drained from the hood via the drain connection.

SUGGESTED SPECIFICATIONS

General

The water wash galley hoods shall be constructed from stainless steel AISI 304. The galley hoods shall be supplied complete with outer casing / main body, supply air plenum, supply air panels, pressure measurement taps, supply and exhaust air spigot connections with adjustment damper, installation hatch, fluorescent light fixture, capture air jet, grease filters, drain connection, adjustment wires for supply air, automatic washing system controlled by separate control cabinet with interfaces to ships safety systems. Classified fire damper in each exhaust connection. The manufacture of all galley hoods shall be controlled by an ISO 9001 registered quality system. The design of hoods shall follow USPHS requirements.

Construction

All parts shall be constructed of stainless steel sheet AISI 304 (thickness 1.25-2.0mm) with a polished finish.

The inside corners of the hood are rounded for easy cleanability according to USPHS requirements. The joints at the lower edges of the device are welded watertight. All visible screws are thumb screw type. The hood is equipped with a drain connection for removing the dirty water. There is a service hatch in each hood for easy access above hood.

Washing module

Grease filters shall have an automatic washing cycle utilising warm water and detergent via nozzles. The mixing of the detergent occurs within a separate control cabinet. The wastewater shall be removed from the hood by a direct drain connection. The casing of the control cabinet shall be constructed of stainless steel sheet AISI 304. The control cabinet shall conform to the EMC standard.

Supply air plenum

The supply air plenum shall be insulated with sealed glass wool. Plenum can be accessed through a maintenance hatch(es). Part of the galley supply air will be distributed through the low velocity supply air panels located at the front of the hood. Rest of the supply air is used in Capture Jet technology.

Capture Jet™ system

The hood shall be designed with capture air jet technology to reduce the exhaust airflow rate required and increase the capture and containment efficiencies of the hood, while reducing energy use.

Airflow measurement taps

Measurement taps shall be located on top of the hood for supply air and exhaust air measurement.

Demand based filtration

One-stage filtration:

The KSA grease filters shall be constructed of stainless steel AISI 304 and shall be UL classified.

The grease filters shall be supplied in modular size of 500x330x50 mm and shall be removable via two folding handles. The grease filters shall have a honeycomb design in order to allow high grease filtration efficiency with the aid of centrifugal effect in filter honeycombs.

Two-stage filtration:

Halton's two-stage filtration concept is recommended for hoods with medium or high utilization rate or cooking process producing medium to large grease particles, e.g. food prepared with electric ranges, griddles and all type of broilers. Two-stage filtration includes a combination of KSA filter and a fine filter. Fine filter material is stainless steel AISI 304.

Three-stage filtration:

Three-stage filtration is the best solution for hoods with high utilization rate. In the three-stage concept, most of grease particles are first filtered with two-stage mechanical filtration and remaining grease is then eliminated with Halton's Capture Ray ultraviolet-light technology, resulting in a clean exhaust ductwork.

Duct connections

The duct connections and adjustment dampers for supply and exhaust air shall be constructed from stainless steel. The dampers shall be adjustable. The supply air damper shall be adjustable via stranded wire cables with a high tensile strength.

Fluorescent light fixture

Each hood shall be delivered with a fluorescent light fixture providing an average illuminance of minimum 250 lux at the work surfaces of the cooking appliances.

The light fixture shall be suitable for a single-phase 230-VAC power supply and shall be manufactured to be of protection class IP 65.

The ballast and capacitor shall be located within the light fixture housing. A core electric cable connecting the light fixture to the junction box shall be provided.

The light fixtures shall be hinged to allow access to the hood roof.

Access hatch

Each hood shall be provided with an access hatch made of stainless steel AISI 304 with a shock-resistant plastic window. The heat tolerance of the window shall be up to +220 °C. The hatch shall be held in position with USPHS screws.