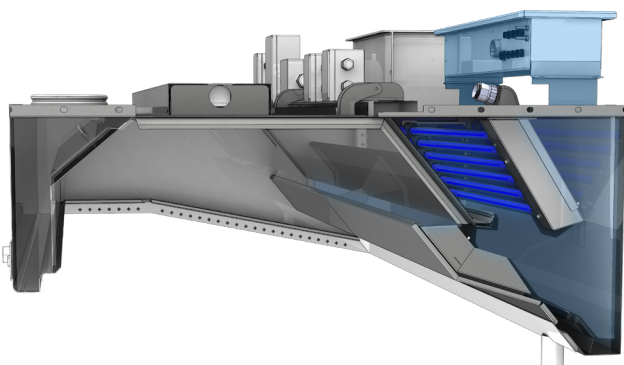


# UV-LIGHT TECHNOLOGY

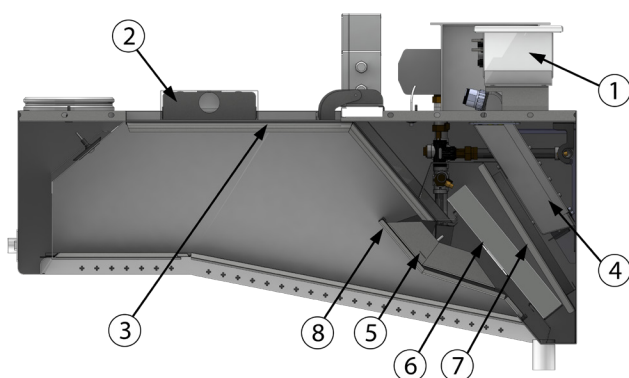
Superior grease filtration technology for Halton galley hoods



## UV HOOD DESCRIPTION

1. UV control junction box, including ballast and control unit
2. Lighting fixture
3. Maintenance hatch
4. UV system, including rack and lamps
5. Magnetic proximity safety switches
6. KSA filters
7. Mesh filters
8. Deflector plates

**Note:** Automated washing system is not required, but it is recommended for use in hoods with UV-light technology.



## APPLICATIONS

Halton's UV-light technology is the most efficient solution for hoods with medium to high utilization rate, and for cooking processes producing all sizes of grease particles. Based on Halton's patented highly efficiency Capture Jet™ solution and advanced mechanical KSA filter technology, the UV-light technology with scheduled maintenance keeps the plenum and duct virtually grease-free and mitigates the cooking odor and emissions.

The grease vapor and effluents that are not collected by high-efficiency filters pass over the lamps. This causes a chemical reaction that destroys the grease and converts it into carbon dioxide and water vapor. The chemical action carries over into the duct and helps keep the duct and exhaust fan clean.

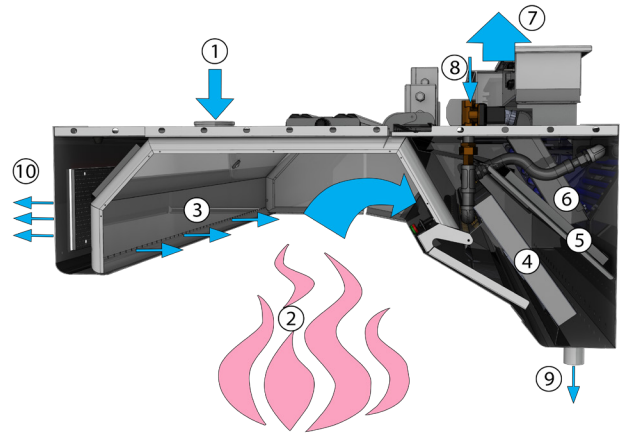
This helps to reduce a serious fire risk and expensive cleaning of the ducts. UV-light technology is compatible with Halton KW3, KWT, KWH, KVF, KVI hoods.

## FEATURES

- Cleaner exhaust ducts and hood interior for improved hygiene
- Reduced risk of fire
- Reduced duct cleaning costs
- Comfortable working conditions
- Scientifically proven results with world-wide references
- Easy maintenance through large service hatch that enables easy access e.g. to light fixture, hood control box, fire damper
- Easy access to UV-lamps. Lamps can be changed individually. Service life of UV-lamps appr. 13 000 hours.
- Prefabricated cables connected with fast connectors. Hood control box with fast connections.
- Several safety features. UV operation shuts-down automatically in case pressure is too low or the deflector plates are opened.
- Up to 16 hoods can be controlled with the new user friendly Touch Screen, or up to 12 hoods with the basic Control Panel.
- The UV-light technology is an excellent choice for hoods in new-builds but also for refurbishments as the equipment does not change hood's outer dimensions.

**UV-HOOD OPERATION PRINCIPLE**

1. Supply air enters the Capture Jet™ plenum.
2. Contaminated air and heat rises from the cooking appliances.
3. Contaminated air is directed into the hood by Halton patented Capture Jet technology.
4. 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.
5. Mesh filter balances the airflow inside exhaust plenum and apply more filtration to the air. Together with KSA filter this doubles filtration efficiency.
6. Based on Halton's patented highly efficiency Capture Jet™ solution and advanced mechanical KSA filter technology, the UV-light technology with scheduled maintenance keeps the plenum and duct virtually grease-free and mitigates the cooking odor and emissions.  
The grease vapor and effluents that are not collected by high-efficiency filters pass over the lamps. This causes a chemical reaction that destroys the grease and converts it into carbon dioxide and water vapor. The chemical action carries over into the duct and helps keep the duct and exhaust fan clean. Cleaned exhaust air contains small amounts of Ozone which further cleans the ducts downstream. All excess Ozone converts back into Oxygen.



7. 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.
8. The waste from the washing cycle is drained from the hood via the drain connection.
9. Supply air is distributed to the workspace at low velocity through the front panels (available on model KWT)

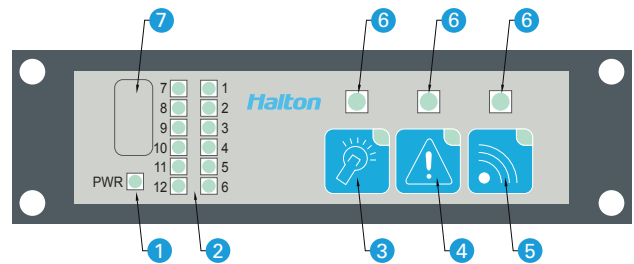
**TOUCH SCREEN**

The Halton Touch Screen is the central point of the hood system. It is used for displaying system status, alarms and other information and allows user to perform all necessary maintenance tasks. The touch screen is flush mounted on a control cabinet. If the hoods also have the Halton washing system, the touch screen can be mounted on the washing control cabinet. Each touch screen manages up to 16 hood sections. The graphical interface is intuitive and easy to learn. It is custom made for each system to ensure efficiency and to minimize learning time. The touch panel functionality can extend to manage hood washing and M.A.R.V.E.L functions. Administrative functions are password protected. When mounted on a control cabinet the touch screen is IP65.



**CONTROL PANEL**

The Halton UCS Control Panel can be used as an alternative for the Touch Screen as a control interface for the UV-light system. This compact panel can be integrated to a hood surface or control cabinet door. The simple user interface is easy to use. Each Control Panel can manage up to 12 UV hood sections. The full control of the hood settings and readings are available through a handheld device using Bluetooth connection.



1. Power indication light, 2. Maximum number of UV sections handled by the control panel, 3. UV lamps alarm and push button, 4. Maintenance alarm and push button, 5. Communication alarm and push button, 6. Default warning lights, 7. Bluetooth transmitter for PDA.

## COMPONENTS

### HOOD CONTROL BOX

The hood control box houses all the power connections, controller equipment and ballasts needed for the UV operation. Maintenance hatch provides easy access to the controller box and cables. Everything inside the control box is pre-wired and programmed ready. Customer only needs to connect supply power and pre-fabricated data cables between hood modules before UV commissioning.

### HOOD CONTROLLER AND UV MODULES

The hood controller inside the hood controller box manages the entire UV system of a single hood section in which it is installed. It calculates the running hours of the lamps, the status of the system and any possible alarm or communication issues. There can be up to twenty four UV hoods connected to each other in one hood group, when using Touch Screen, or up to twelve UV hoods with Control Panel.

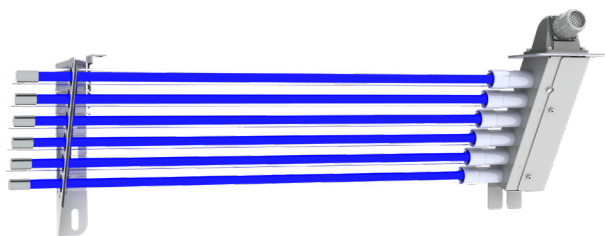
Each controller in a group of hoods is preprogrammed with the information it needs to operate and is given the appropriate numeric address [1 to 16] so it understands its location within the system regardless of the physical cabling arrangement. This essentially means that each hood is a slave that communicates on its own and the Touch Screen or the Control Panel is the master that manages all hoods in the system and acts as the user interface.

### SAFETY MAGNETIC SWITCHES

Two magnetic limit switches are installed to detect the removal of the deflector plates. When the contact breaks, the UV system will automatically shut down.

### THE UV-LIGHT RACK

The UV lamps are mounted into a UV-light rack that is integrated to the hood extract chamber. There are six UV lamps connected to the three UV light ballasts inside the control box. The UV lamps are specially manufactured for Halton.



The UV-light rack consists of six UV lamps that are connected to three UV-light ballasts

### UV-LAMPS

The Halton UV lamps are germicidal short wavelength low-pressure mercury vapor lamps, which produce ultraviolet radiation at wavelengths lethal to micro-organisms. The connectors of the UV lamps are specially manufactured for Halton. The length of the hood determines if short or long lamps are used. Minimum length of UV hood is 1250 mm. Short lamps are for hoods 1250-2000 mm and long lamps for hoods with length above 2000 mm.

#### Short lamp

Lamp wattage: 41 W  
Lamp current: 425 mA  
Lamp voltage: 120 V  
UV output at 253,7nm: 16 W / 150  $\mu$ W/cm<sup>2</sup>  
Rated life: 13,000 h

#### Long lamp

Lamp wattage: 75 W  
Lamp current: 425 mA  
Lamp voltage: 220 V  
UV output at 253,7nm: 33 W / 240  $\mu$ W/cm<sup>2</sup>  
Rated life: 13,000 h

### MAINTENANCE HATCH

The hinged maintenance hatch enables quick and easy access to the light fixture and UV-control box.

### AUX MODULE

The auxiliary module is required for the external alarm signals. It conveys different UV alarms to the customer systems and also receives alarms or commands from the customer system. These alarms can be used to monitor and control the UV system remotely. The AUX module is located in the control cabinet.

### CABLES

All internal and constant-length cables are prefabricated by Halton. Cables with varying length (between hood groups, user control panel & AUX module etc.) can be prefabricated to order if the length of each cable is known before delivery. Otherwise, Halton supplies only cable connectors.

### CABLE CONNECTORS

Hood control box connectors available in plastic.

