

# Halton – High Heat and High Grease Emissions? Not to worry with Mist On Demand!



# Cold Mist: The Unique Solution for Emission Control of Heavy Duty Cooking Appliances

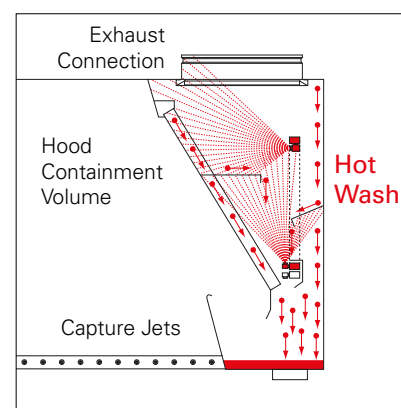
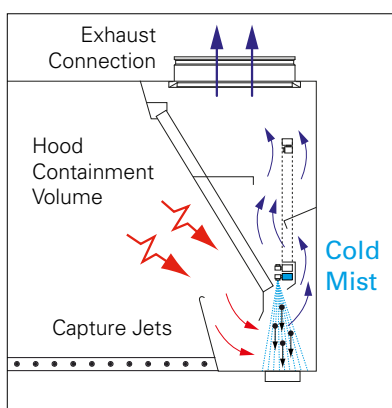


Heavy duty cooking appliances, such as charcoal and charbroilers have always been difficult to deal with.

They are indeed characterized by high heat loads leading to high temperatures inside the exhaust ductwork. They also generate a large quantity of FOG (Fat, Oils and Grease) in addition to carbonated particles, especially in the case of open flame and solid fuel cooking.

The risk of fire is maximised, constituting a major concern.

Grease deposits combined with high temperatures and even sparks: this is the potentially explosive cocktail created by heavy duty cooking appliances.



Cold Mist technology is the best solution for efficiently driving the safety and emissions down to the level of standard cooking appliances.

- The Cold Mist provides highly efficient filtration:

It creates a Cold water Mist curtain inside the exhaust plenum of the canopy. The smoke generated by the cooking appliances is forced to pass through it. Airborne particles and part of the odours are then captured and conveyed to the drain. This is well known, and proven to be a very efficient method of removing FOG (Fats, Oils and Grease) from the air stream.

- The Cold Mist acts as a spark arrester and air cooler:

If sparks enter the canopy the Cold Mist takes the heat away through adiabatic and evaporative cooling and therefore greatly reduces the risk of fire propagating in the ductwork. The temperature is at the same time reduced to an acceptable level. The fire risks are reduced to a minimum and “burning on” of the cooking grease is suppressed.

Hot Water wash technology makes Halton’s MOD canopies maintenance free

At the end of the cooking period or at predetermined times during the day, the automatic wash cycle thoroughly cleans the inside of the exhaust plenums, removing all grease and residue by a combination of hot water and detergent. Maintenance of the Mist canopies is then reduced to the strict minimum as only the external surfaces have to be cleaned regularly.

# Be safe while saving up to 80% on Cold Mist Water consumption

Halton's patented IRIS™ sensors allow the assessment, in real time, of the state of the cooking appliances, activating the Cold Mist only when it is strictly required.



IRIS™ sensors were developed for real-time measurement and control of the thermal signature of each type of cooking appliance. They emit a beam that can instantaneously measure changes in the surface temperature of the kitchen equipment. The sensors are controlled by our special algorithm that rapidly determines when the Cold Mist has to be activated. Heat and pollutants generated by the cooking activities are then treated efficiently and appropriately with the lowest water consumption.

The canopies can be equipped with 1–3 sensors, depending on their length. The number and position of the sensors may vary to suit each particular cooking range. The sensors are installed on the air supply plenum of the canopies so that the necessary pressure is maintained and they do not get dirty.

3528\$ savings on water consumption measured on only one of the eleven canopy sections installed at University College of Birmingham (UCB)



The University College of food, Birmingham (UCB) has a large number of cold mist / hot wash canopies installed that are currently under a Halton service & maintenance agreement. UCB have key environmental targets that must be met every year to reduce the environmental impact of the site and by doing so secure core funding. They were keen to evaluate the potential savings the MOD technology could provide and agreed to a 1 month trial in 1 section of cold mist canopy. Two adjacent sections of canopy were then selected, each covering the same cooking equipment and both connected to pipework the same way.

Type	Water used per month (m <sup>3</sup> )	Operating cost per month	Footprint per year
Section with Cold Mist On Demand (MOD)	17.3	66 \$ (£ 43)	792 \$
Section with continuous Mist (according program)	95.4	360 \$ (£ 235)	4320 \$
Difference	78.1	294 \$	<b>3528\$</b>

Operating costs based on 2.36 \$ (£ 1.54) per m<sup>3</sup> for water supply and 1.40 \$ (£ 0.95) per m<sup>3</sup> for water drainage.



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