



- Pre-engineered and pre-installed from factory
- Globally cost efficient and totally respectful of the products
- Available for hoods, ventilated ceilings and front cooking solutions
- Low pH Agent and proven design
- Aesthetically pleasing
- UL Listed (complying with UL 300)
- ULC Listed (complying with ULC/ORD-C1254.6)
- Complying with NFPA\* 17A, NFPA\* 96, LPCB LPS 1223 and CE Marked

In today's commercial kitchens, higher temperature cooking oils and high efficiency appliances (with a slow cooling down) such as deep-fat fryers have combined to make fire suppression more challenging than in past years. All the more challenging so the risk clearly identified concerning the deep fat fryers is associated to one less known: there are more kitchen fires starting from stoves or ranges, which are not equipped with heat safety switches contrarily to fryers. All the more challenging so the cooking fires natural behaviour is to spread the all building throughout the kitchen exhaust ductwork. The need to protect people and property from fire is crucial.

Halton's selected Ansul® R-102™ fire suppression system. It is an automatic, pre-engineered system, designed specifically for professional kitchens to protect the ventilation systems associated with cooking equipment.

Its heart lies in its ability to quickly detect and suppress fires. Ansul® R-102™ uses an advanced extinguishing agent to ensure rapid flame knock-down and vapour securement.

The integration by Halton of Ansul® R-102™ system in Halton's products provides a cost efficient global solution, from the design of the ventilation systems to the fire suppression system. The factory pre-installation is a guarantee of efficiency and respect of both products.

\* National Fire Protection Association

# Fire hazard is a major concern in professional kitchens.



Kitchen fires are among the most dangerous and frightening fires:

- A fire can begin on a cooking appliance, or in a hood, and quickly spread through the entire kitchen, restaurant or building via the exhaust ductwork;
- Statistics show that many restaurants never reopen after a major fire.

**Why do many restaurants never reopen after a major fire?** The operator or owner of the property has to accept not only their business interruption and the damages due to fire and firefighting but also, the liability towards other tenants, visitors or third parties as well as unfavorable reports in the media.

**Why are fat fires so specific?** Fat fires are self igniting and after ignition, the temperature rises dramatically. Fat fires are fuelled by fat vapours which are highly flammable. That's why they can only be extinguished by isolating oil from the oxygen and reducing the oil temperature.

**Halton integrates in its hoods, ventilated ceilings and show cooking solutions Ansul® R-102™ fire suppression systems for the best fire hazard control, the lowest installation times while respecting the products integrity and guaranteeing a better ease of cleaning, in accordance with Halton's HACCP certification.**

## Ansul® R-102™ systems for kitchen safety.

Ansul® R-102™ is a wet chemical fire suppression system designed exclusively for professional kitchens. It is recognised worldwide by restaurant owners, insurance companies and local fire inspectors as the most efficient solution to controlling the high fire hazard in professional kitchens, without endangering guests or staff of the restaurant. It reacts quickly to a fire before it has the opportunity to grow and spread, automatically, with or without staff intervention and 24 hours a day. It covers all the kitchen types whatever its configuration and whatever the cooking appliances are, from the simplest one to the most complex.



Ansul® R-102™ system has been tested in accordance with several standards and in worst case scenarios. It has provided the evidence that it will put out fires under any circumstances.

# Benefits of Halton's Ansul® R-102™ factory integrated fire suppression systems.



- Better integration quality during the products manufacturing phase
- Factory integration can be the unique solution for products with UV-C or water wash technologies or for show cooking tailor made products
- Reduced installation and commissioning time on site
- Globally cost efficient integration
- Fully compliant with Halton's products HACCP certification
- Design into the system from the outset

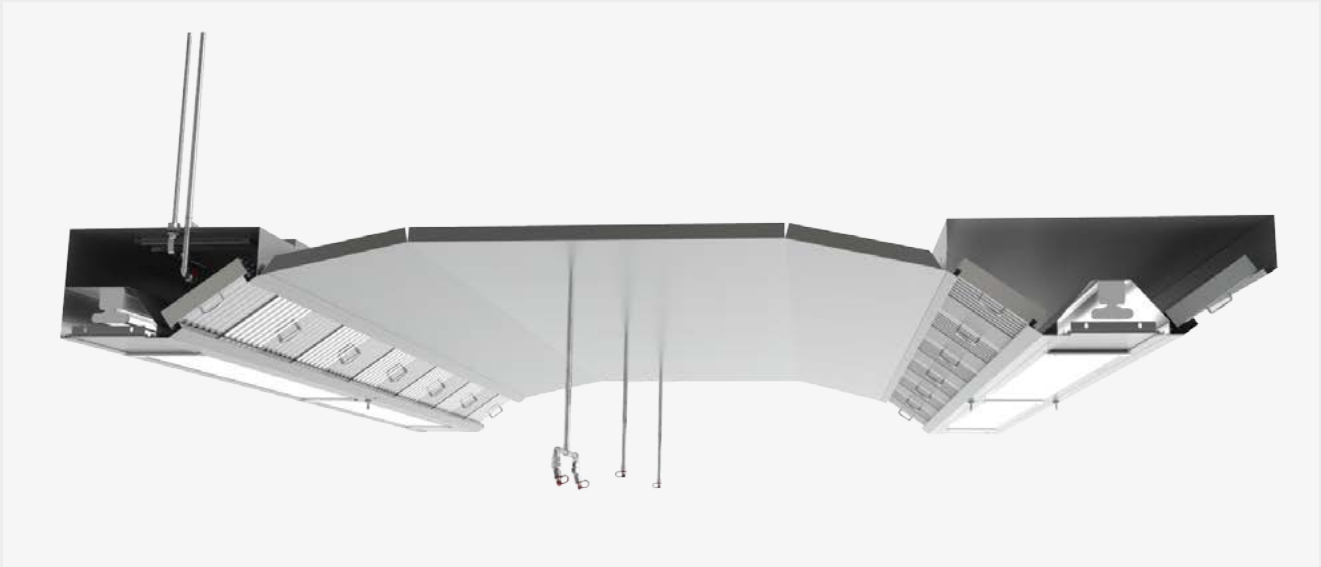


## ▪ Full package with maintenance

A fire suppression system has to be checked regularly to permanently guarantee its efficiency.

Halton's maintenance departments, or its registered partners provide full service packages, from designing to installation and maintenance. Contact your nearest Halton representative for a service quotation.

# Who better than Halton for Halton's products?



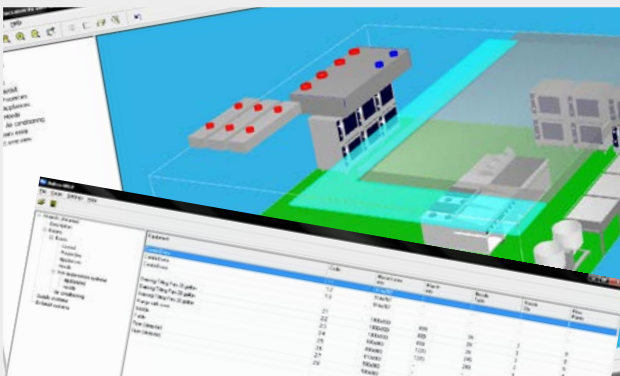
## For ease of installation

There is no better integration of any kind of fire suppression system than the one factory made, or factory pre-installed.

The piping routines can be included in the manufacturing process. It is also during the manufacturing process that it is possible to gain a wide access to the inside and outside of the exhaust plenums. It is therefore easier to design the fire suppression system in such a way that the product integrity is considered, the integration

is harmonious and the cleanability level remains the same. It is all the more important for Halton products which are HACCP certified.

Each fire suppression system is carefully designed by our engineers and commissioned by our certified teams, in order to comply strictly with all Ansul requirements.



## Efficient internal preselection tools

HELP (Halton Energy Layout Program) is a graphical and internal designing tool that calculates exhaust flow rates according to the configuration of the kitchen as well as the type and efficiency of the ventilation system. HELP integrates a preselection of the nozzles to cover the 3 protection levels required and guarantee a fast and efficient extinguishing of a fire if it occurs. HELP is a tool daily used to constitute the design proposal which Halton provides to all their customer projects.





### Operation

When a fire starts on one or several cooking appliances (1), it increases almost instantaneously (2). The detectors (3) installed inside the exhaust plenum (4) are directly exposed to the heat. When the temperature exceeds the rating of the most exposed link, it separates (5). The spring tension trips the Automan® regulated release mechanism, puncturing the seal of the gas (N<sub>2</sub>) cartridge (6). It then pressurizes the tank(s) (7). The liquid agent is discharged through the piping network (8) to feed all the nozzles (9) to extinguish the fire at its source and prevent its spread to the ductwork. The nozzles are therefore shared out on 3 different protection levels:

- Origin of the fire (cooking appliances) (10)
- Exhaust plenum (11)
- Connection of the plenum to the ductwork (12).

### Action of the liquid agent

The agent is sprayed in fine droplets (atomized) onto a grease fire (wherever it is located). It provides excellent flame knock-down, surface-cooling, and fire-securing capabilities. When the agent reacts with the hot grease, it forms a layer of foam on the surface of the fat. This soap-like blanket of foam acts as an

insulator between the hot grease and the atmosphere, helping to prevent flammable vapours from escaping and reducing the chance for flame reignition.

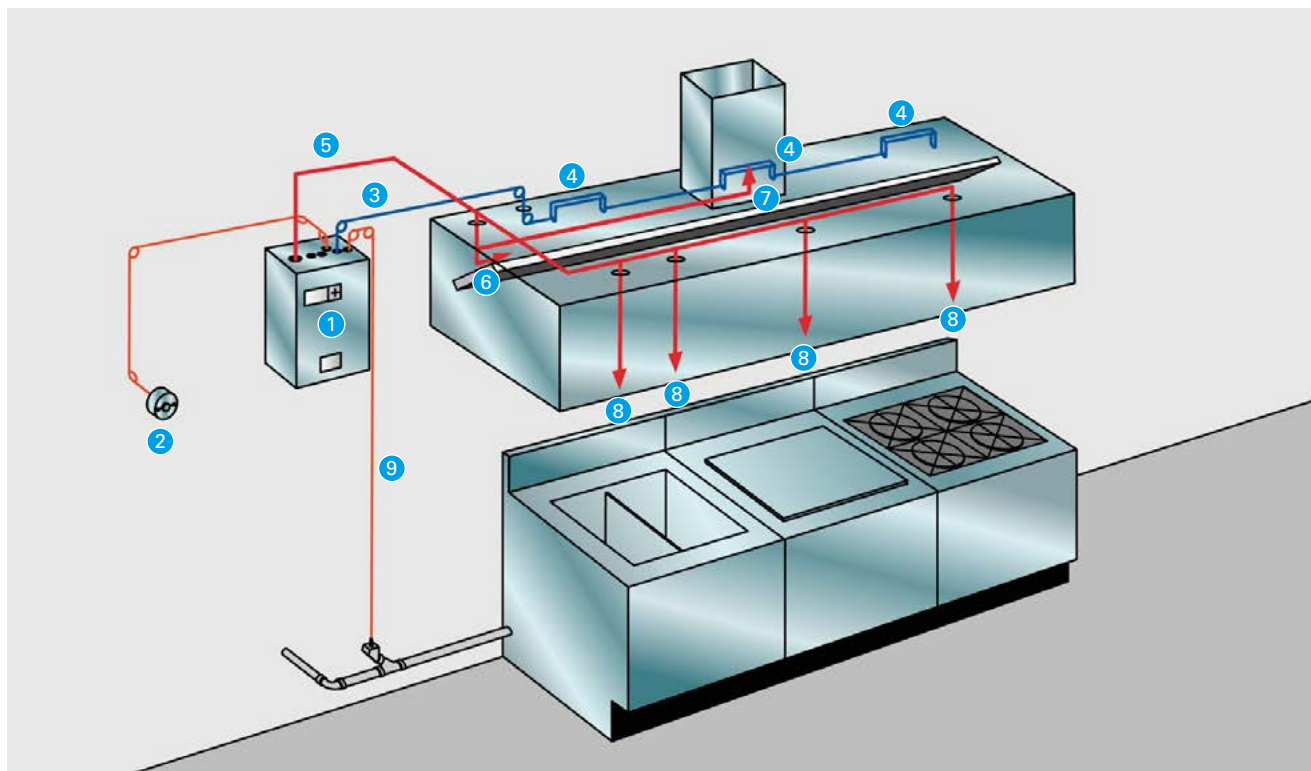
### Post fire clean-up

Post-fire cleanup can be readily accomplished by flushing the area with water or steam. Ansul<sup>™</sup> Low pH Liquid Fire Suppressant is compatible with metals commonly found in kitchens (i.e., stainless steel, aluminum, galvanized metal, copper and brass etc).

### Remote function

A remote manual-pull station is provided in order to increase the level of protection to staff and equipment. Cooking appliances should be switched off and exhaust fans should be left on. The forced draft of these fans assists the movement of the liquid agent through the ventilating system, thus helping in the fire suppression process. This also provides a cooling effect in the plenum and duct after the fire suppression system has been discharged. Make-up air fans shall be shut down upon system actuation. All these requirements have to be checked with local authorities.

## Description



CODE	DESCRIPTION
1	Ansul® Automan® control cabinet
2	Manual pull station for system release
3	Detection chain
4	Fusible(s)
5	Agent distribution network

CODE	DESCRIPTION
6	Exhaust plenum agent spraying nozzle
7	Exhaust ductwork agent spraying nozzle(s)
8	Cooking equipment agent spraying nozzle(s)
9	Control line of the gas valve (dry contact)

## Components

### Automan® control cabinet



The standard Automan control Cabinet is made of stainless steel and integrates:

- the Automan® Regulated Release Mechanism with a visual status indicator visible on the control cabinet cover (1);

- a gas cartridge (2);
- one agent tank (3).

Depending on the gas cartridge capacity, the standard Automan Control cabinet can be used with 1 or 2 additional tanks. Higher capacities can be obtained with specific configurations.

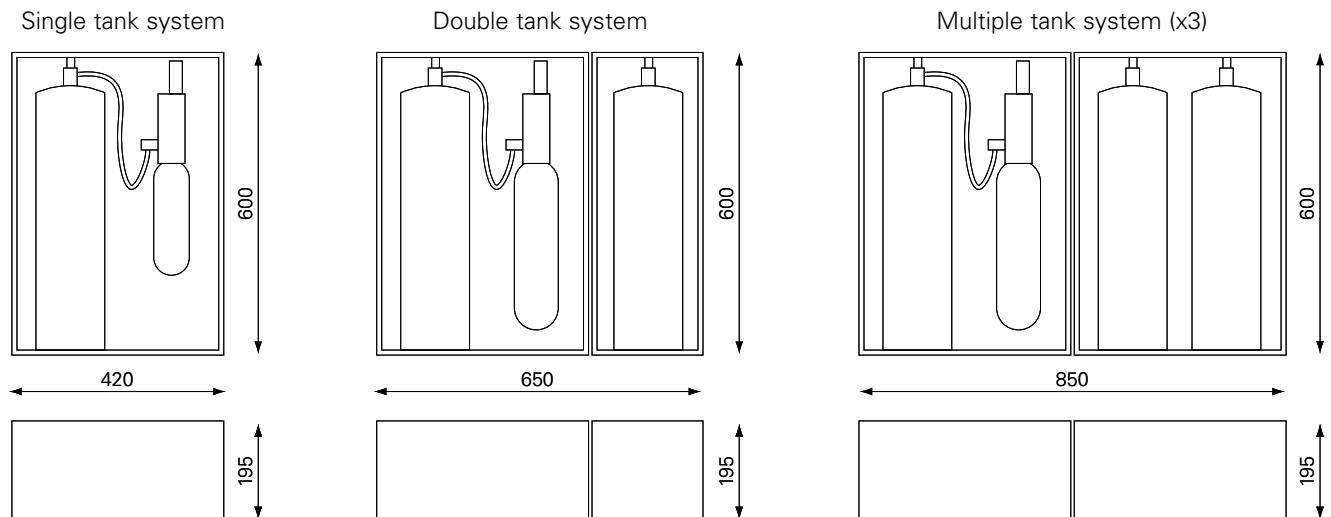
The regulated Release mechanism is of the spring-loaded type, mechanical or pneumatic, capable of providing the expellant gas supply to the agent tank(s) when a fire is detected. It contains a regulator deadset at 7.6 bar (4) with an external relief of approximately 12.4 bar. It has automatic release capabilities by a fusible link detection system and remote manual release by a mechanical pull station.

The gas cartridge is of the self contained type with a positive seal, filled with Nitrogen (N). It does not require any maintenance.  
It is compatible with mechanical gas shut-off devices

or, when equipped with a field or factory-installed switch, with electric gas line or appliance shut-off devices.

### Automan® control cabinet dimensions

(Main configurations with 1, 2 and 3 agent tanks of 11.4 l capacity)



### Agent tank(s) and liquid agent



The tank is constructed of stainless steel. Tanks are available in two sizes: 5.7 l (1.5 gal) and 11.4 l (3 gal). The tanks have a working pressure of 7.6 bar, a test pressure of 22.8 bar, and a minimum burst pressure of 41.4 bar.

The tank includes an adaptor/tube assembly. The adaptor is chromeplated steel with a 1/4 in. NPT female gas inlet and a 3/8 in. NPT female agent outlet. The adaptor also contains a bursting disc seal which prevents the siphoning of agent up the pipe during extreme temperature variations.

The extinguishing agent is a mixture of organic salts designed for rapid flame knockdown and foam securement of grease related fires. Ansulox™ Low pH Liquid Fire Suppressant has been tested, and is listed with Underwriters Laboratories, Inc. (EX-3470) as part of the Ansul® R-102™ Restaurant Fire Suppression System.

## Spraying nozzles



The nozzles are used to spray the liquid agent:

- on the cooking appliances;
- inside the exhaust plenum of the hoods, ventilated ceiling or any other kitchen ventilation solution;
- at the connection to the exhaust ductwork systems.

Each discharge nozzle is tested and listed with the Ansul® R-102™ system for an application type, corresponding to different requirements in terms of agent quantity to be used (with the designation 1/2, 1, 2, and 3), opening angle of the spray and maximum distance to the cooking appliance. Each nozzle must have a metal or rubber blow-off cap to keep the nozzle tip orifice free of cooking grease build-up.

The selection and the position of each nozzle must match very specific requirements depending on the type and dimensions of cooking appliances to be treated and the exhaust solution carried out.

## Detectors



The detectors build up a detection chain along the exhaust plenum of the kitchen ventilation systems. They consist of three basic components: the bracket (1), the linkage (2) and the fusible link (3).

The fusible links are designed to separate at a specific temperature. The first one which separates release the wire rope, thereby actuating the regulated release mechanism.

The selection and the position of each detector has also to suit very specific requirements depending on the type and dimensions of exhaust plenum.

For Water Wash products, specific requirements have to be implemented as standard detectors cannot be systematically used.

## Remote manual pull station



The remote manual pull station permits quick, sure manual actuation of the system by anyone regardless of fire fighting experience. It is equipped with a break rod indicating manual system operation.

The remote manual pull station should be mounted at a point of egress and positioned at a height determined by the authority having jurisdiction.







[www.halton.com/foodservice](http://www.halton.com/foodservice)

#### France

Halton SAS  
Zone Technoparc Futura  
CS 80102  
62402 Béthune Cedex  
Tel. +33 (0)1 80 51 64 00  
Fax +33 (0)3 21 64 55 10  
[foodservice@halton.fr](mailto:foodservice@halton.fr)  
[www.halton.fr](http://www.halton.fr)

#### Germany

Halton Foodservice GmbH  
Tiroler Str. 60  
83242 Reit im Winkl  
Tel. +49 8640 8080  
Fax +49 8640 80888  
[info.de@halton.com](mailto:info.de@halton.com)  
[www.halton.de](http://www.halton.de)

#### USA

Halton Co.  
101 Industrial Drive  
Scottsville, KY 42164  
Tel. +1 270 2375600  
Fax + 1 270 2375700  
[info@haltoncompany.com](mailto:info@haltoncompany.com)  
[www.haltoncompany.com](http://www.haltoncompany.com)

#### Asia Pacific

Halton Group Asia Sdn Bhd  
PT 26064  
Persiaran Teknologi Subang  
Subang Hi-Tech Industrial Park  
47500 Subang Jaya,  
Selangor Malaysia  
Tel. +60 3 5622 8800  
Fax +60 3 5622 8888  
[sales@halton.com.my](mailto:sales@halton.com.my)  
[www.halton.com](http://www.halton.com)

#### United Kingdom

Halton Foodservice Ltd  
11 Laker Road  
Airport Industrial Estate  
Rochester, Kent ME1 3QX  
Tel. +44 1634 666 111  
Fax +44 1634 666 333  
[foodservice@halton.co.uk](mailto:foodservice@halton.co.uk)  
[www.halton.co.uk](http://www.halton.co.uk)

#### Japan

Halton Co. Ltd.  
Hatagaya ART-II 2F  
1-20-11 Hatagaya  
Shibuya-ku  
Tokyo 151-0072  
Tel.+ 81 3 6804 7297  
Fax + 81 3 6804 7298  
[salestech.jp@halton.com](mailto:salestech.jp@halton.com)  
[www.halton.jp](http://www.halton.jp)

#### Canada

Halton Indoor Climate  
Systems, Ltd.  
1021 Brevik Place  
Mississauga, Ontario  
L4W 3R7  
Tel. + 905 624 0301  
Fax + 905 624 5547  
[info@haltoncanada.com](mailto:info@haltoncanada.com)  
[www.haltoncanada.com](http://www.haltoncanada.com)

#### Middle-East

Halton Middle-East FZE  
Jebel Ali Free Zone  
Office/Warehouse S3B3WH08  
P.O. Box 18116  
Dubai  
United Arab Emirates  
Tel. + 971 (0)4 813 8900  
Fax + 971 (0)4 813 8901  
[sales@halton.ae](mailto:sales@halton.ae)  
[www.halton.com](http://www.halton.com)

The company has a policy of continuous product development, therefore we reserve the right to modify design and specifications without notice. For more information, please contact your nearest Halton agency. To find it: [www.halton.com/locations](http://www.halton.com/locations)