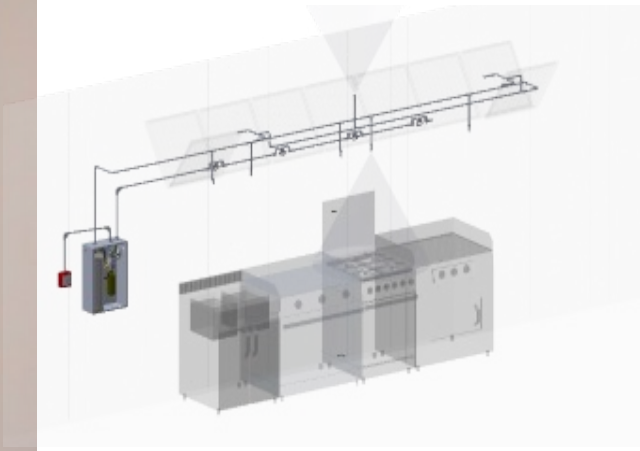
KITCHEN FIRE PROTECTION SYSTEM

KitchenX is a fixed fire suppression system developed specifically to cope with fires in the kitchen. The extinguishing agent is a liquid that quickly suffocates the fire and that emulsifies with the grease and forms a dense foam layer that prevents re-ignition.



The KitchenX system

A fire in a deep fryer, grill, griddle or other kitchen equipment is always dangerous. It can spread incredibly quickly in the large amounts of grease and oil stored in filters, hoods and ventilation ducts. There is a high risk of a total fire. Coping with the incident with a carbon dioxide extinguisher, the usual first-line protection in the kitchen, is often impossible, since hot grease and hot metal surfaces cause repeated re-ignition.

Structure

The KitchenX system has four main parts, a central unit with a container and a release mechanism in a stainless-steel cabinet, a pipe system with nozzles, a detection system and a manual release system.

The system is automatic but can also be triggered manually with a wire from a pull handle. It is completely mechanical and works independently of water or power supply.

The system can be adapted from the smallest barbecue kiosk to the largest restaurant kitchen. The suppressant container is no larger than a standard hand fire extinguisher and if necessary, two or more can be easily connected to cover all types of kitchens.

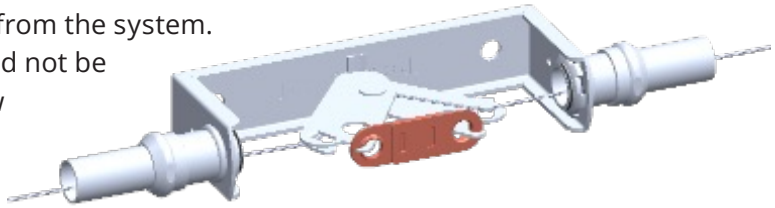
The system is designed to blend well into modern restaurant environments. The central unit with container and release mechanism is built into a stainless-steel cabinet.
The equipment takes up little space and is normally placed immediately against the ceiling.

Nozzles are placed above the filters in the ventilation hood and at the exhaust air ducts and above the kitchen equipment to be protected, such as fryers, frying tables, stoves and grills. The nozzle flow and spray pattern are dimensioned based on the protected objects.

Detection and automatic release

For automatic triggering of the system, reliable mechanical detectors with fusible links are used, connected to a wire system to the triggering mechanism. In the event of a fire, the cable control activates a nitrogen gas cartridge that pressurizes the container and distributes the extinguishing fluid through the nozzles.

Shutoffs for gas and electricity can be controlled from the system. However, any fans in the ventilation system should not be closed in the event of a fire. The fans help to draw suppression agent into the exhaust duct and prevent the spread of fire. They also cool the filter and kitchen hood after extinguishing.



Wet Chemical Agent type KitchenX – special liquid for grease

The suppressant type KX is a potassium-based salt solution with unique properties, developed especially for fires in fats. Nozzles with different outputs and spray patterns cover the protected surfaces with a finely divided spray jet.

The liquid extinguishes in the following way:

- The water in the liquid evaporates and cools the fat and sheet metal surfaces.
- Further cooling is obtained by the salt in the liquid reacting with the hot fat and forming CO2.
- When the carbon dioxide and water vapor evaporate, the KitchenX liquid saponifies and a foam-like blanket forms over the fat.

The fire is extinguished quickly and the foam blanket effectively prevents re-ignition. KitchenX spray nozzles are equipped with filters and protective caps that prevent them from being blocked by dried grease and other dirt particles.

Easy cleaning - quick recharge

Since the liquid foams on contact with the hot fat, it does not burn. Cleaning after a fire is therefore easy. Simply wipe the surfaces with warm water and ordinary detergent.

Recharging can be done on site and is quick. You fill in new extinguishing liquid and replace the gas cartridge and the fuse in the detector, if the system is automatically triggered.

Approvals and references

The KitchenX system is compiled out of our 35 years long experience within the kitchen protection market. It is tested by an accredited test institute according to the EN 17446 regulation.

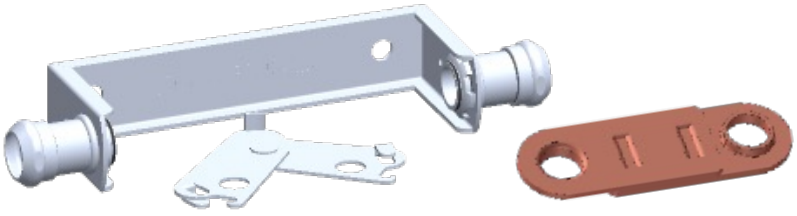
At fire:

1. A fire quickly triggers the fusible link in the nearest detector.
2. The detector wires activate the nitrogen cartridge so that the container is pressurized. Shut offs for gas and electricity are activated via a microswitch on the trigger mechanism.
3. The suppression fluid sprays over frying and roasting surfaces, into grease filters and exhaust air ducts.
4. The fire is extinguished in a few seconds. Through a chemical reaction with the hot grease, a dense foam is formed that stops the flammable gases and prevents re-ignition.

The most effective system on the market?

We truly believe that the KitchenX system has many advantages compared to other systems on the market, including:

- KitchenX suppressant is specially developed for grease fires.
- The fluid remains after extinguishing and effectively prevents re-ignition.
- The system is both manual and automatic.
- The extinguishing agent containers take up little space and are mounted in stainless steel protective cabinets that are placed at the ceiling to free up bench and floor space.
- KitchenX suppressant is harmless to personnel and can be easily washed away after extinguishing.



The system can be triggered manually with a wire or via detectors. The detector system works with fusible links and wire and operates independently of the power supply.

KitchenX

The release cabinet is equipped with an extinguishing agent container and a release mechanism. In the event of a fire, the nitrogen cartridge is activated and the KitchenX container is pressurized via the reducer valve. The pressure in the container is kept constant at 7 bar during emptying, which provides the correct spray pattern and flow in all spray nozzles.

Technical information

Component	Part number	Size	Shelf life	Storage temperature	Operating temperature
Wet chemical agent KitchenX	55-1618-20	Can with 11,7 liter	12 years	-40°C to 55°C	-5°C to 55°C

Component	Part number	Pressure	Volume
Nitrogen cartridge N8A	55-1320-04	145 bars	0,8 liter
Nitrogen cartridge N16A	55-1320-30	145 bars	2,0 liter

Component	Part number	Marking	Number of flow	Spray angle
Nozzle type 1-110	55-6156-11	1-110	1	110°
Nozzle type 1-60	55-6156-16	1-60	1	60°
Nozzle type 2-30	55-6156-23	2-30	2	30°
Nozzle type 2-60	55-6156-26	2-60	2	60°

Component	Part number	Temperature
Fusible link 74°	55-3292-07	74°C
Fusible link 100°	55-3292-10	100°C
Fusible link 138°	55-3292-13	138°C
Fusible link 182°	55-3292-18	182°C
Fusible link 232°	55-3292-23	232°C
Fusible link 260°	55-3292-26	260°C

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