



# PRESENTING CEASEFIRE ULTRA-X SERIES



## KITCHEN FIRE SUPPRESSION SYSTEM





# *ULtraX*

COMMERCIAL KITCHEN SUPPRESSION SYSTEM

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## INTRODUCTION

# PUTTING AN END TO KITCHEN FIRES WITH ULTRA-X

Even the most meticulously maintained and efficiently operated commercial and industrial kitchens can still experience unexpected mishaps. No matter how much precaution one takes, fire is unavoidable as it is used as a medium of cooking, along with a whole host of cooking appliances and flammable materials present.



Ceasefire's Ultra-X Commercial Kitchen Suppression System is a cutting-edge, automated, engineered solution that is designed to address the unique fire risks that a commercial kitchen environment poses. The system is certified to the UL 300 standard and adhere to the NFPA 96/17A guidelines.

## SYSTEM USPs

# WHAT MAKES CEASEFIRE'S ULTRA-X SERIES CLASS APART?

## 1. Choice Of Detection

The system comes with three types of detection and activation configuration options to suit every kind of kitchen application.

### A. Electrically Triggered

#### Linear Heat Sensing (LHS) Cable

Intelligent LHS-based detection activates the system automatically when the temperature reaches a predefined level in case of a fire episode in a cooking appliance.



#### Probe Detection

The system can also be configured with the Probe Detector driven detection module, which creates a switching effect and automatically activates at a predefined temperature.



### B. Mechanically Activated Fusible Links

Activated by heat, the two halves of the fusible link separate, triggering the system to discharge the agent onto the appliance that has caught fire.



## C. Hybrid System

The hybrid system uses a mechanical fusible-link based detection and the activation is part mechanical and part electrical. The system can trigger up to four mechanically activated agent containers and up to six electrically triggered containers, simultaneously.



## 2. Only Two Nozzle Types

The Ceasefire's Ultra-X Series Kitchen Suppression System uses only two nozzle types for all system configurations and applications, making the system design simpler and error-proof.

**a. 15 degrees nozzle for the plenum.**

**b. 40 degrees nozzle for all types of equipment.**

With just two nozzle types, the system can be configured to protect all types of cooking appliances while maintaining consistent flow rate. This allows a huge advantage to the chef who can easily interchange the appliances without changing the system layout or type of nozzle.

The system using only two nozzle types also makes installation and maintenance extremely simple.



## 3. Continuous/Overlapping Protection

A unique feature of Ceasefire's UL listed Kitchen Suppression Systems is that they can be designed for Group or Overlapping/Continuous Protection.

Group Protection is required where a cluster of appliances need to be protected as a group. Whereas, the Continuous/Overlapping Protection is required where the mandate is to protect everything under the length of the hood, uniformly. This allows the chef to move the cooking appliances or the hot/cold area under the hood as per his will.

## 4. Spot Protection

Unlike continuous protection, the system can also be configured to protect specific spots under the hood using single nozzle, if required. This type of arrangement is ideal when the cooking appliance used or cooking spot under the hood is fixed.



## 5. Monitorable Stored Pressure Technology

The Ceasefire system is a true stored pressure type monitorable system not only because the agent is pre-pressurized in the container, but also the agent is released directly by activation of the valve mechanically or electrically.

Ceasefire systems among their monitoring devices have, options of Pressure Switch, Pressure Gauge and Pressure Gauge Switch that allows visual and electronic monitoring of the system keeping an eye on your system 24/7 365 days around the clock.

This is a big advantage over many stored-pressure type systems available in market that are activated pneumatically by an external cartridge, do not have a monitoring mechanism and are incapable of providing real-time readiness of the system.

## 6. Chef-Friendly & Aesthetically Pleasing Design Options

Ceasefire's UL-listed kitchen suppression systems are designed aesthetically with a universal installation and placement approach, ensuring its adaptability to different kitchen layouts and requirements. The nozzles placed on the front or side of the kitchen hood, with also versatility of height placement, enhance the chef's convenience and operational efficiency.





## 7. Powerful & Earth-Friendly Extinguishing Agent

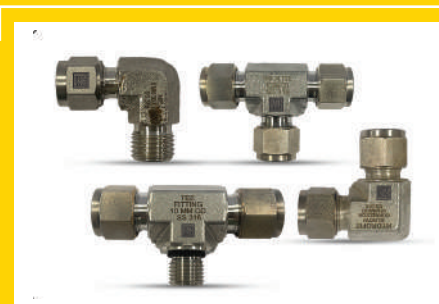
The system uses a potent wetting agent of vegetal origin, capable of rapidly extinguishing various types of kitchen fires within seconds. The biodegradability feature of the agent adds to its environmental friendliness. The agent meets the Reach Compliance and does not contain SVHC (Substance of Very High Concern).

## 8. Multiple Piping Options

Multiple piping options are possible depending upon the customers' requirement:

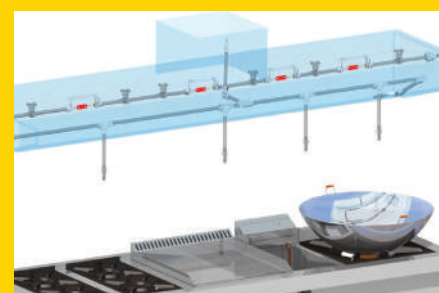
### A. Rapid Installation Using Compression Fittings

Compression Fittings makes it easier for installers to install the system with minimal turnaround time. This also aids in the maintenance of the system by easing the process of installing and uninstalling the system components.



### B. Cost-effective Pipelines

Installation of the system can also be done using black iron chrome piping that makes installation cost-effective.



### C. Multi - Cylinder Connectivity Using Manifold

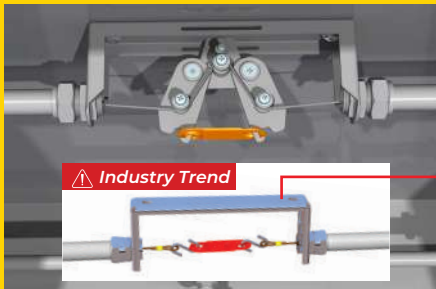
Here, the system allows multiple containers to be connected via a single supply line which eliminates the need for individual supply lines running from the agent container to the hood. Thus, reducing the time, piping and labour cost, while also ensuring a neat system installation.



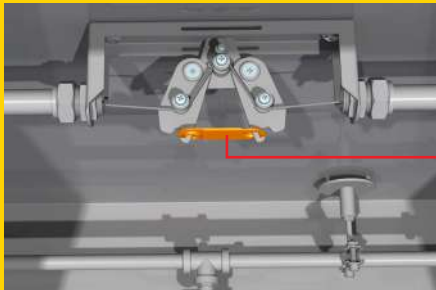


## 9. Continuous Wire Arrangement Based Fusible Links

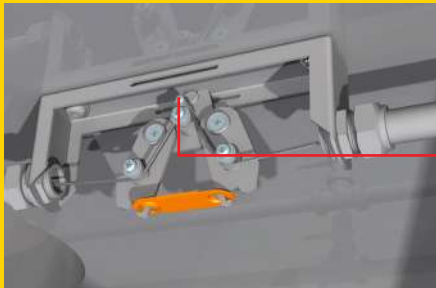
The mechanically driven systems have an option to use Ceasefire's unique continuous wire arrangement based fusible links over S-hook type ones. This continuous wire arrangement based fusible links takes the detection and reliability of the system to the next level.



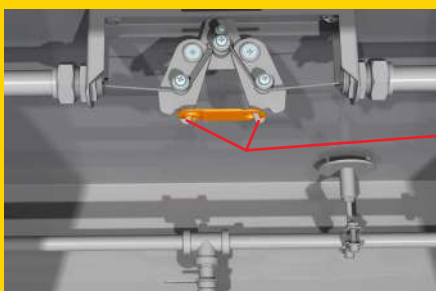
- The unique, patent-applied, continuous wire arrangement-based fusible link makes installation of the system rapid and easy. **No need for separate wire lengths, loops, or crimping for individual fusible links.**



- This arrangement ensures that the surface area and the **angle of the fusible link remains at its optimal best, horizontally flat above the heat source,** under the hood for prompt detection.



- Provision to fix the wire brackets in the hood not only makes the detection line secure and tamper-proof but also **makes installation error-proof.** Presence of specialised wire locking bush prevents any accidental derailment of the wire from the bracket.

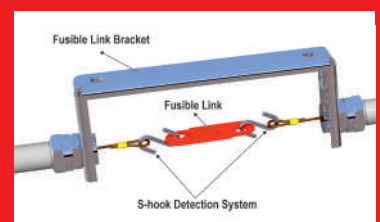


- Offers easy maintenance of the detection line as **only the small fusible link needs to be detached** from the mounting bracket and cleaned. This is mandated to be done every 6 months.



### Industry Trend

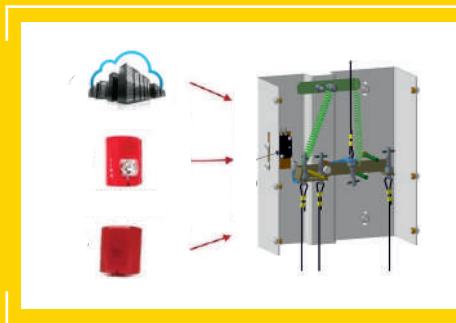
Commonly used S-hook type fusible links often swivel, leading to reduced fire sensitivity and compromised detection. Absence of a provision to fix the bracket to the hood keeps them dangling, and in some extreme cases, the fittings may even fall off in the fire zone.



## 10. Third Party Integration

The system with the presence of three SPDT or DPDT microswitches in the Mechanical Actuation Unit (MAU) eliminates the requirement of additional relays for third-party integrations. Some examples of third-party integrations that you could do with the system, include -

- Electric appliance shutdown
- Make up air shutdown
- Electric gas valve shutdown
- Shunt-breaker/relay
- Alarm initiation (Hooter/ Strobe/ FAS/ BMS etc.).
- Solenoid release (Operate SOV and Gas shutoff valve)



## 11. Protects Wide Range Of Equipment & Appliances

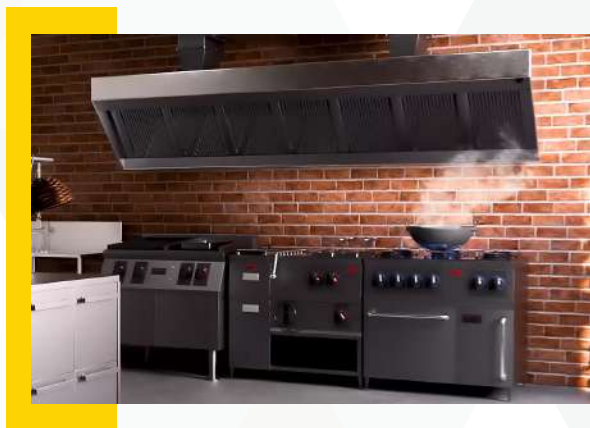
Tested for performance and safety on a wide variety of cooking equipment and appliances. (For more details refer page 16)

## 12. Capable Of Protecting Small To Big Kitchen Hoods

The Ceasefire's Ultra-X Series Kitchen Suppression Systems can protect the smallest kitchen hood length of 800 mm with a minimum of 3 nozzles configuration to a maximum of 7m kitchen hood length with 18 nozzles configuration, with a single container system, providing full protection.

For larger sized hoods, the design allows to add up to four containers into a manifold and install up to 26 nozzles.





### **13. Fully Compliant To EN 16282-7**

The compliance to EN 16282-7 ensures that your kitchen suppression system is installed and maintained adhering to world class quality standards. (For more details refer page 19)





# HOW THE SYSTEM WORKS

In the event of a fire, when the temperature rises to a predefined level the detection module kicks into action to trigger the system. The fire detection module in the Ceasefire Ultra-X System could either be Electrical Triggered or Mechanical Fusible Links based.

## Electrical Detection

In case of an Electrically triggered system, the Linear Heat Sensing Cable or Probe detector senses the fire when the temperature rises to a predefined level creating a switching effect and signalling it to the control panel. The control panel in turn triggers the system by activating the solenoid valve on the container head.



## Mechanical Detection

The Mechanically activated system gets activated when the two halves of the fusible link separate when the temperature reaches a predefined level due to fire. This mechanically triggers the system via the Mechanical Actuation Unit and activates the valve on the container head, releasing the agent.



## Hybrid System

In the hybrid system the detection is mechanical and the activation is part mechanical and part electrical. A fusible link based detection network actuates up to four (4) mechanically activated containers using the piercing pin mechanism and up to six (6) electrically activated (solenoid valve based) containers using a power-signal from the power adaptor via the micro-switch in the Mechanical Activation unit.



## System Activation and Suppression

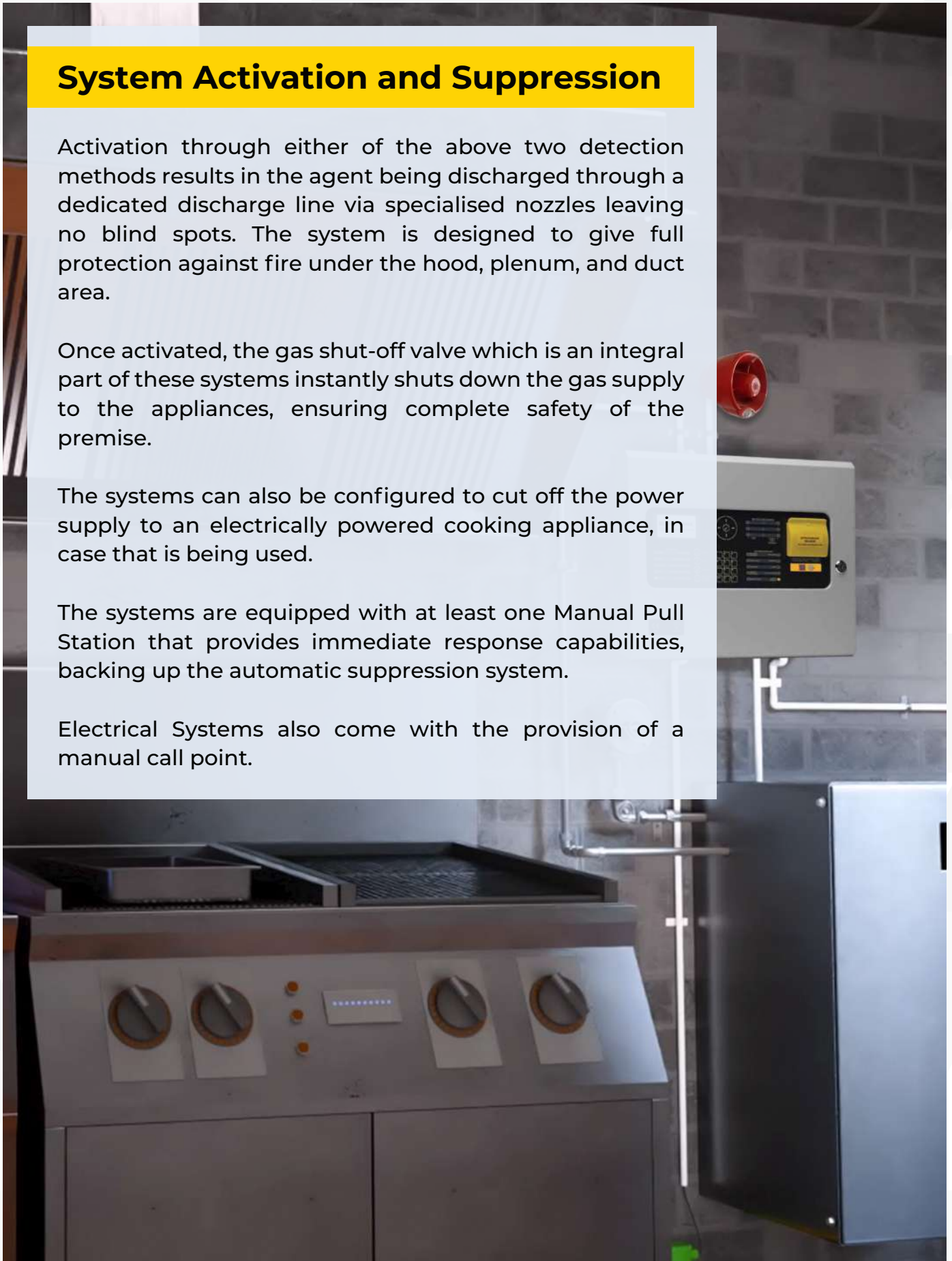
Activation through either of the above two detection methods results in the agent being discharged through a dedicated discharge line via specialised nozzles leaving no blind spots. The system is designed to give full protection against fire under the hood, plenum, and duct area.

Once activated, the gas shut-off valve which is an integral part of these systems instantly shuts down the gas supply to the appliances, ensuring complete safety of the premise.

The systems can also be configured to cut off the power supply to an electrically powered cooking appliance, in case that is being used.

The systems are equipped with at least one Manual Pull Station that provides immediate response capabilities, backing up the automatic suppression system.

Electrical Systems also come with the provision of a manual call point.



# THE AGENT : GREENEST IN ITS CATEGORY



Ceasefire Ultra-X Kitchen Suppression System uses the greenest and the most sustainable extinguishing agent in the category. The extinguishant is a potent wetting agent that is derived from 100% biodegradable vegetal extract.

The agent also meets the REACH Compliance and does not contain SVHC (Substance of Very High Concern) making it extremely low on eco-toxicity and free of phosphate.

This makes the agent one-of-its-kind to not only extinguish all types of kitchen fires rapidly but also do so without causing any harm to the environment.

The Ceasefire Ultra-X extinguishing agent is neutral, non-acidic or alkaline to harm anyone and is absolutely safe for humans. It has no record of causing any irritation to eyes, skin or respiratory tract on ingestion and is not classified as a hazardous product.

The Ceasefire Agent is also safe to be disposed off after use by simply washing it off the drain as it is well tolerated by sewage plant treatment operations.



# UNDERSTANDING THE AGENT'S GREEN QUOTIENT

The Ceasefire's Ultra-X Kitchen System's agent is safe on human lives and the environment, having being considered for its safety on multiple parameters including the following -

## 1. Safe On Humans

The Ceasefire agent is safe and causes no irritation to eye or skin, ingestion and respiratory tract. It is non toxic based on tests done on humans and rats.



### Eye Exposure

The agent has been tested according to EEC guidelines on eye exposure and has been evaluated as not irritating for the eyes.

*[Hygiene Institute Gelsenkirchen, OECD Guidelines 405 & 92/69/EEC on eye]*



### Skin Exposure

Tested according to cosmetic requirements on human patch tests, and has been evaluated as harmless when in contact with skin.

*[Derma Consult GmH, GLP, Human Patch Test according guidelines COLIPA, 1997]*



### Industry Trend

Most potassium-based agents have been found to cause irritation to eyes and skin and induce coughing, vomiting, or dizziness. Most have been found to be aggravating existing skin, eye, respiratory, and gastrointestinal problems and require immediate medical help on exposure.



### Ingestion

Non-toxic. Does not induce vomiting. Simply drinking plenty of water and consulting a physician is recommended.

*[Hygiene Institute Gelsenkirchen, Toxicity Evaluation and Assessment]*



### Inhalation

No specific measures required on inhalation. Agent does not contain solvents or any other volatile compounds.

## 2. Safe On Environment

Ceasefire agent is neutral and is not acidic or alkaline to harm anyone. It does not contain PFOS and PFOA or any of its persistent and bio accumulative derivatives hence is found to be absolutely safe on the environment.



Majority of its ingredients are derived from raw materials of vegetal origin or modified components ensuring low eco toxicological impact, high rates of biodegradation & effective bioremediation stimulation that uses bacteria, fungi, green plants or their enzymes to return the environment to its original condition.

The mobility of the agent is high and therefore can enter soil, aquifer and open waters and biodegrade easily.



### Industry Trend

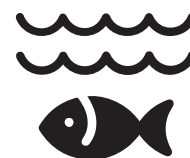
Many chemical/potassium-based agents available in the market have a medium to high level of toxicity and are categorised as hazardous for the environment or not degradable in wastewater or treatment plants.

## 3. Safe On Aquatic / Marine Life



### Algae

The Ceasefire agent is considered non toxic/harmless for marine life including naturally occurring algae in soil, aquifer, aquatic environment and sewage plants.



### Fish

The agent is found to be non toxic/harmless for fish species in marine and freshwater ecosystems.



### Industry Trend

Chemical/potassium-based agents have been found to have ecotoxicological effects on marine life and most have unknown adverse impacts on the aquatic environment.



### Mammals

The Ceasefire Agent is non toxic and harmless for mammals when swallowed/ingested.

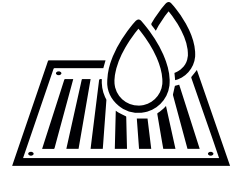


### Invertebrates

The agent is considered non toxic/harmless for naturally occurring invertebrates in soil, aquifer, aquatic environment and sewage plants.

## 4. Disposing Off The Agent

Ceasefire Agent is easily, rapidly and nearly completely biodegradable and is well tolerated by sewage plant treatment operations. The biochemical composition of Ceasefire agent is similar to naturally occurring biotensides in waters and differs essentially from synthetic or environment friendly detergents.



Therefore, disposing off the Ceasefire agent requires basic level precaution requirements and minimal protective gear for people handling it. Unlike many other agents available in the market, the Ceasefire agent is not required to be collected in drums after use and can be disposed off safely in the drains by rinsing it away with water. This not only makes it easy to dispose off the agent but also makes it cost-effective as you do not need a collection agency to be used for disposal and has minimal downtime to return back to your kitchen operations.



### Industry Trend

Chemical/potassium-based agents have been found not to be wastewater treatment plant-friendly and require moderate to extensive levels of personal protective gear while handling. Most are also recommended to be stored in drums before disposal and require specialized services for disposal.

## 5. Handling & Transportation



The Ceasefire Ultra-X extinguishing agent is neutral, non-acidic or alkaline to harm anyone and is absolutely safe for humans. This also makes it easy for handling and transportation, requiring minimal amounts of protective gear such as PPE, Goggles, Rubber gloves, Face mask, etc.

The agent being classified as non-hazardous requires no special marking for transportation as most of its ingredients are from bio-extracts and not synthetic chemicals. This also requires no specific measures for storage.



### Industry Trend

Most chemical-based agents are categorised as hazardous and require special marking for transportation. Most also require special precautions to be taken while storage, such as storing them in their original containers or extinguishers, in well-ventilated rooms, away from heat source etc.



## 6. Stability And Reactivity

Ceasefire agent is safe to use with any material and also to store. Its inherent property inhibits natural effects of corrosion by water and has no hazardous decomposition or bio decomposition and biodegrades aerobically.



### Industry Trend

Most agents in the market are not only found to be corrosive but are also reactive when they come in contact with fire to create hazardous residual decomposition byproducts, such as carbon dioxide, phosphorous oxide, and acetic acid.

# GREEN AGENT

The agent for Ceasefire ULtraX Kitchen Suppression System is creating new benchmarks for performance and its green quotient. Using an eco-friendly 100% biodegradable agent that is made from vegetal extracts, it complies with REACH regulations, containing no SVHC (Substances of Very High Concern), and is phosphate-free, ensuring low eco-toxicity. It is neutral, non-toxic, non-irritating, and can be safely washed down the drain after use, posing no threat to sewage treatment systems.



# KEY FEATURES



## **Choice of 3 Detection and Activation Modules:**

Electrical, Mechanical and Hybrid.



## **Electrical Cut-Off Valve:**

The systems can be configured to cut off the power supply to an electrically powered appliance, in case an electrical appliance is being used for cooking.



## **Versatile Nozzle Design:**

Only two nozzle types for all system configurations and applications. Metal caps on nozzles ensure protection against grease deposits & obstructions.



## **Continuous/Overlapping Protection:**

Can be designed for Group or Overlapping/ Continuous Protection.



## **Spot Protection:**

Can also be configured to protect specific spots under the hood.



## **Monitorable Stored Pressure Technology:**

True stored pressure technology with a pressure gauge on the agent container with a port for pressure switch, allowing integration with various third-party devices.



## **Chef-Friendly & Aesthetically Pleasing Design Options:**

Designed aesthetically with a universal installation and placement approach, ensuring its adaptability to different kitchen layouts and requirements. The nozzle placement adds to the chef's convenience and operational efficiency.



## **Highly Versatile System:**

One system design that protects an extensive range of cooking appliances and different fuel types.



## **Highly Potent and Eco-Friendly Agent:**

Highly potent 100% biodegradable wetting agent which meets the REACH Compliance and does not contain SVHC (Substance of Very High Concentration).



## **Multiple Piping Options:**

Multiple options to suit customer needs - Rapid installation using Compression Fittings, Cost-effective Pipelines and Multi Cylinder Connectivity Using Manifold.



## **Continuous Wire Arrangement Based Fusible Links:**

Unique continuous wire arrangement based fusible link options ensure better detection & complete reliability.



## **Third Party Integration:**

Three SPDT or DPDT microswitches in the Mechanical Actuation Unit (MAU) allows for a wide variety of third party device integration.



## **Ease of Shipping:**

Non-hazardous agent with no markings required makes it convenient for shipping and portability.



## **Stainless Steel Agent Containers:**

Stainless Steel epoxy coated containers ensure rust-free and trouble-free operation in the long run.



## **UL Listed:**

Meets the Underwriters Laboratory standard UL 300 and as demanded by NFPA 17A, NFPA 96.

# EQUIPMENT AND FUEL TYPES

The Ceasefire's UL Listed Commercial Kitchen Fire Suppression System is tested for performance and safety on a wide variety of cooking equipment and appliances like few mentioned below and many more. The tests not only include a wide variety of cooking fuels such as vegetable oil, semi-solid grease, shortening, mesquite wood, lava pumice, and charcoal but also different types of low-fat meats. These tests ensure that we have got you covered for multiple kinds of fire situations.



Deep Fat Fryer



Griddle



Skillet



Wok



Salamander



Chained Broiler



Split Chain Broiler



Split Deep Fat Fryer



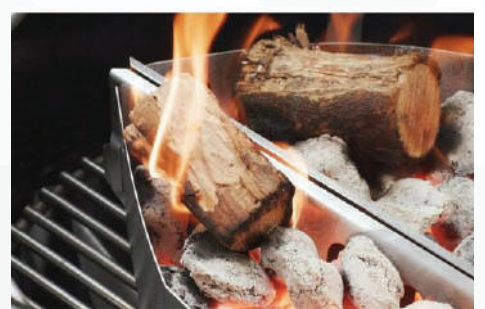
Range Top with Circular Pots



Pressure Fryer



Char Broiler



Mesquite Wood Broiler



# SYSTEM CONFIGURATIONS

Ceasefire's Ultra-X Series Wet Chemical based Commercial Kitchen Fire Suppression System is configurable to protect kitchen hoods of different lengths. From the smallest size of 800mm up to 7m with a single container, providing total protection. The table below explains the various system configurations possible w.r.t to the container size, agent capacity, and the number of nozzles deployed in the system. Each nozzle is capable of protecting upto 800\*800mm of space under the hood.

## Single Cylinder System Configurations

Cylinder Size	Agent Capacity	Nozzles
14 ltr	9 ltr	3
18 ltr	12 ltr	4
22 ltr	16.5 ltr	5-7
27 ltr	20 ltr	6-10
32 ltr	24 ltr	8-12
44 ltr	30 ltr	10-14
64 ltr	45 ltr	15-18

## Multiple Cylinder System Configurations

Cylinder Size	Agent Capacity	Nozzles
2 x 14 ltr	2 x 9 ltr	8
3 x 14 ltr	3 x 9 ltr	11
4 x 14 ltr	3 x 9 ltr	14
2 x 18 ltr	2 x 12 ltr	10
3 x 18 ltr	3 x 12 ltr	14
4 x 18 ltr	4 x 12 ltr	19
2 x 22 ltr	2 x 16.5 ltr	13
3 x 22 ltr	3 x 16.5 ltr	20
4 x 22 ltr	4 x 16.5 ltr	26
2 x 27 ltr	2 x 20 ltr	16
2 x 32 ltr	2 x 24 ltr	19



## Electrical System Containers



## Mechanical System Containers



# FULLY COMPLIANT TO EN 16282-7

## About EN 16282-7

“EN 16282-7 is a European Standard that lays forth the technical safety, ergonomic, and hygienic standards for the design, manufacture, and use of kitchen ventilation hoods. The ventilation systems in commercial kitchens, related spaces, and other facilities processing meals meant for commercial use must comply with this European Standard. Kitchens and associated areas are special rooms in which meals are prepared, where tableware and equipment is washed, cleaned, food is stored and food waste areas. A process for verification of each requirement is also well-defined.

By establishing uniform rules for performance testing, servicing & maintenance, and danger classifications such as fire, the new technical standard assists in bringing uniformity in regulations across the industry. The standard helps to better protect people, property, and businesses by bringing the restaurant industry closer to more effective commercial kitchen fire prevention.”



## Value EN 16282-7 Brings to the Table



Ensures quality installation and maintenance of your kitchen suppression systems by authorised professionals



Reduced risk of kitchen fires



More comfortable and safe working environment for kitchen staff



Clear labels & manuals for quick & easy visual reference in case of fire emergency



Adds repute to your kitchen, being a globally recognised safety standard



# ULTRA-X ASSURANCE

Ceasefire's Ultra-X Series Kitchen Suppression System is a state-of-the-art, meticulously designed, and automated solution that ensures comprehensive 24X7 protection for commercial kitchens.





## Ceasefire Industries Pvt. Ltd.

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