



# **KITCHENShield**

WCK Kitchen Fire Suppression System



Advanced fire protection systems



Advanced fire protection systems

With over 60 years' experience, Lehavot has long been recognized pioneer and leading provider of high quality Fire Protection systems. Incorporating the most advanced technologies, LEHAVOT's best of breed solutions have proven themselves in every level of fire protection application.

Today, LEHAVOT's tailor-made solutions help global customers meet the challenges of the 21st century, delivering superior performance over a long service life at the most competitive price.

### Our Advantages - Operational Efficiency & Outstanding Reliability

LEHAVOT's products benefit from decades of expertise and experience in the development, design and manufacture of Fire Protection Systems. Our wide range of state-of-the-art solutions provides the highest operational efficiency and utmost reliability, offering unequalled operational quality.

### Environmental Considerations

LEHAVOT's dedication to its customers is matched by our commitment to the environment. Our comprehensive systems solutions maximize fire agent efficiency, and we are constantly searching for new and better manufacturing materials and methods to ensure sustainability. As a result, LEHAVOT products comply with the most stringent international standards and approvals such as FM, UL, EN, CE, MIL specs, and other.

### Customized Solutions + Global Presence = Peace of Mind

Powered by decades of intensive interaction with the world's major end users, LEHAVOT's proven products have been carefully customized to meet the requirements of global customers such as Reliance, IOTL, Navistar and many others, in the following sectors:

- Buses & Trains
- Kitchen-Hood systems
- Oil & Gas tank storage protection
- Off-Road vehicles (Mines, Agriculture, etc)
- Marin
- Crain
- Conveyers
- Cellular antennas
- CNC machines
- Military



LEHAVOT's global presence provides customers with real peace of mind. With a worldwide network of subsidiaries and international distributors, the company's reputation has been established through a commitment to top quality sales & post sales service supported by teams of highly trained & dedicated professionals.



### Automatic Fire Protection Systems by Lehavot



#### **BUSShield**

Fire Protection for Buses



#### **OIL-TANKShield**

Fire Protection for Oil & Gas Storage Tanks



#### **KITCHENShield**

Fire Protection for Industrial & Commercial Kitchens

## KITCHENShield

Electric and gas-operated cooking appliances in the kitchen use large amounts of flammable ingredients and are in particularly high danger of ignition and fire outbreak.

The WCK Kitchen Fire Suppression System is an automatic pre-engineered system; designed to protect the kitchen area including ducts and plenums, as well as all cooking appliances such as deep fat fryers, woks, griddles, salamanders, chain broilers and more.

This system caters to the needs of both small and large kitchens such as those in hotels, restaurants, hospitals and public institutions.



- 1 Nozzles are arranged to offer maximum coverage of all installations
- 2 Heat detectors installed within the plenum and triggered only during fire
- 3 The system distributes the extinguishing agents over all protected areas and interrupts the supply of gas or electricity
- 4 Temperature detection level can be custom-suited to each application

## Features and Benefits

- **Fast detection** - Quickly detects fires to minimize damage and injuries
- **Stainless Steel friendly** - The extinguishing liquid has a low acid level (below pH:9) and protecting stainless steel surfaces
- **Dual action** - Simultaneously extinguishes the fire while interrupting the energy supply
- **Environmentally friendly** - Water-based agent not harmful to the environment
- **Custom made solutions** - Custom designing, modeling, testing, and manufacturing of fire suppression systems to meet customers' diverse requirements
- **Proprietary Technology**
- **Fast installation**
- **Flexible mounting of the discharge piping distribution**
- **Simple design of the discharge piping distribution, flexible mounting of the manual pull station and gas valve**
- **Mechanical system** - Does not require N2 or CO2 cylinder to operate the dry chemical agent
- **Multiple cylinder** - Largest amount of cylinders (up to 6 unites) and longest distance between them in one system in the market
- **No crimping needed inside the MR**

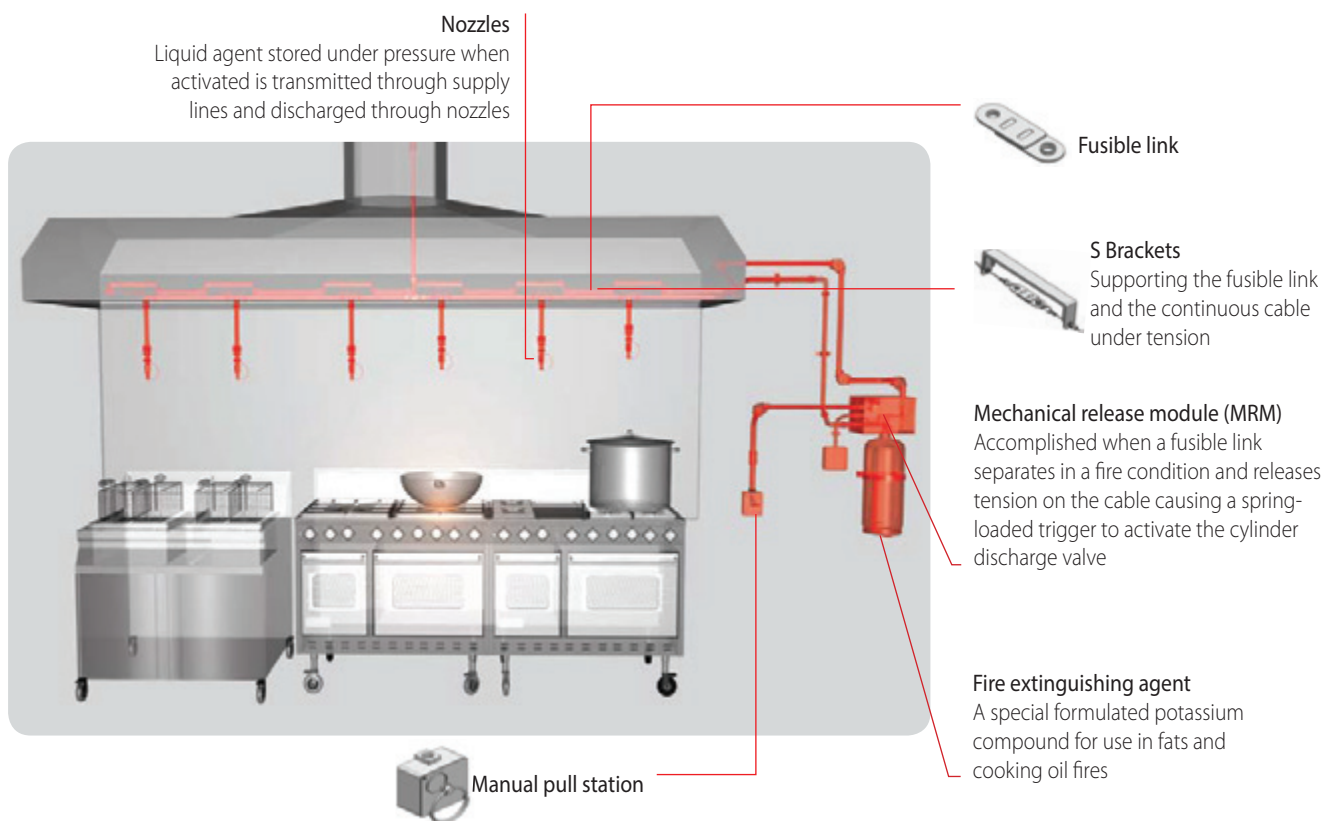
# KITCHENShield

## Kitchen Fire Suppression System

Simple and easy to maintain system effectively protects kitchens in hotels, restaurants, and public institutions with a high risk of fire.

The system protects the duct, hood, and cooking appliance areas using a continuous cable that connects all cooking devices with strategically placed detectors. Each detector is comprised of four parts: detectors, a bracket, two "S" links, and a fusible link.

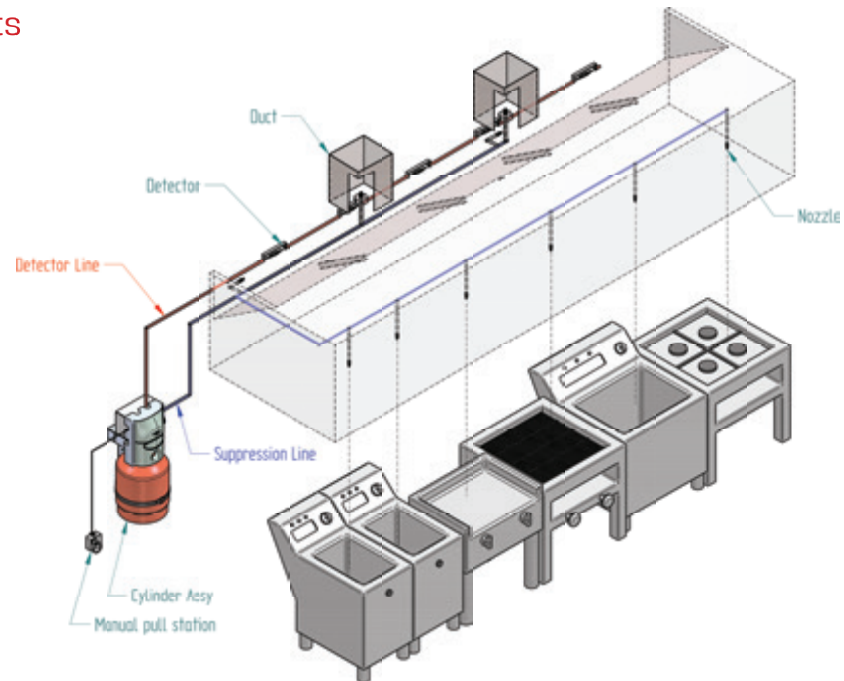
As the heat builds the fusible link will separate at a predetermined temperature relieving tension on the cable and activating the system.



- The system is operated automatically or manually according to customer requirements
- Temperature detection levels can be adjusted to suit the application
- Heat detectors are installed within the plenum and are triggered only during fire, while nozzles are arranged to offer maximum extinguishing coverage of all cooking appliances
- A manual pull station allows immediate response capabilities backing up the automatic suppression system
- The system distributes the extinguishing agent over all protected areas, while interrupting the energy supply of gas and electricity for maximum protection against re-ignition
- Potassium hydroxide phosphate is used to extinguish cooking oil/grease fires. Upon contact with the oil, the liquid creates foam, preventing oxygen from reaching the fire and cooling the area
- All system parts are attractively styled, so as not to detract from the look of the kitchen, while the design ensures that kitchen workspace is not disrupted
- After system operation, the kitchen can be ready to be re-utilized within minutes
- The system can be recharged and ready to work in a very short period of time after discharge



## System components



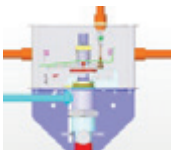
### Fusible link

Melted by heat, the two halves of the link will separate operating the extinguishing agent



### Detector bracket

Supporting the fusible link and the continuous cable under tension



### Mechanical release module (MRM)

Accomplished when a fusible link separates in a fire condition and releases tension on the cable causing a spring-loaded trigger to activate the cylinder discharge valve



### Nozzles

Liquid agent stored under pressure when activated is transmitted through supply lines and discharged through nozzles



### Manual Pull Station

Each Lehavot WCK system is equipped with at least one manual pull station providing a means of activating the system manually if required



### Extinguishing agent

The Lehavot extinguishing agent is based on a potassium compound that extinguishes cooking oil fires by means of cooling and saponification

## Technical Parameters

### System Coverage Capabilities

| System Type             | Cylinder |          | Number of Flow Points |         |
|-------------------------|----------|----------|-----------------------|---------|
|                         |          |          | Minimum               | Maximum |
| WCK 6                   | 6.4 L    | 1.68 Gal | 2                     | 5       |
| WCK 9                   | 9 L      | 2.3 Gal  | 5                     | 7       |
| WCK 16                  | 16 L     | 4.2 Gal  | 7                     | 12      |
| WCK 20                  | 20.5 L   | 5.4 Gal  | 12                    | 16      |
| WCK 26                  | 26 L     | 6.8 Gal  | 12                    | 20      |
| WCK 16 + WCK 6 (chain)  |          |          | 12                    | 17      |
| WCK 16 + WCK 9 (chain)  |          |          | 12                    | 19      |
| WCK 16 + WCK 16 (chain) |          |          | 20                    | 26      |

### Appliance / Coverage

| Appliance       | Flow Points | Max width (cm) | Max length (cm) |
|-----------------|-------------|----------------|-----------------|
| Deep fat fryer  | 2           | 46             | 71              |
| Range           | 1.5         | 50             | 80              |
| Wok             | 1           | 31-60 dia.     | 9.5-17 depth    |
| Griddle         | 2           | 76             | 122             |
| Upright broiler | 0.5*2       | 40             | 60              |
| Salamander      | 1           | 37             | 65              |
| Chain broiler   | 0.5*2       | 63             | 92              |

### Agent Properties

|                            |                        |
|----------------------------|------------------------|
| <b>Appearance</b>          | Clear, colored liquid  |
| <b>Storage Life</b>        | 12 years               |
| <b>Refractive index</b>    | 1.39 - 1.41            |
| <b>Freezing point</b>      | -40°F [-40°C]          |
| <b>Specific gravity</b>    | 1.14 g/cm <sup>3</sup> |
| <b>Kinematic viscosity</b> | 3.2 cs @ 25 °C         |
| <b>PH</b>                  | 7.0 - 9.0              |
| <b>Cylinder color</b>      | RAAL 3002              |
| <b>Water solubility</b>    | Completely Miscible    |



## Certificates and Standards

- **UL-300 Listed:** Fire Extinguishing Systems for Protection of Restaurant Cooking Areas
- **CE 0029 Mark**
- **ANSI NFPA Standard 17A:** Standard for Wet Chemical Extinguishing Systems
- **ANSI NFPA Standard 96:** Standard for Ventilation Control and Fire Protection of Commercial Cooking operations





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