Overview

Almost 50% of all accidental fires in hotels, restaurants and fast-food outlets start in the kitchen and the majority of these involve cooking oil or fat. These fires are difficult to extinguish because they burn at a high temperature and re-ignite easily. Without effective suppression, cooking-oil fires can cause serious damage to property and loss of life.

Traditional kitchen systems tend to flood the kitchen area with extinguishment regardless of the point of fire. Since the Mistery Hood attacks the fire at source, containing and extinguishing in a localised area, damage and disruption along with food loss, clean up and down time of the kitchen operation is kept to a minimum.
Mistery Hood Unit

The GW Mistery Hood – Twin Nozzle system is a water-based twin fluid system for the automatic fire protection of commercial deep fat fryers.

A large proportion of kitchen fires start when the oil in the deep fat fryer ignites on reaching and exceeding its flash point.

The Mistery Hood – twin nozzle system is designed to attack the fire at the point of initiation and immediately contain and extinguish the fire before it has a chance to spread.
Mistery Hood Components

- Canister
- Automatic Valve
- Sealing Adapter
- Nozzle
- Blow Off Cap
- Sprinkler Spanner
How It Works?

Fire causes the bulb to shatter.

Burst disc at canister inlet breaks. Water flows into the canister.

Extinguishing agent released followed by water mist.

Burst disc at canister outlet breaks.

Protective cap blows off.
The J deflector is designed to break up the large water droplets to create water mist.

The 16 Holes in the deflector are designed to spray a water curtain of water mist around the heat source, this confines the fire until suppressed.

The GW-S K18 Nozzle is designed to distribute foam concentrate and water mist onto the source of the fire.
Installation Guidelines

The GW Mistery Hood Unit must be installed, operated and maintained according to the GW Mistery Hood Twin Nozzle System Installation Manual.

Installation in kitchen hoods: 1.2-1.25m above the Fat Fryer,
Water supply capacity: min. 67 l/min @ 3.5 bar,
Spray Nozzles (K-Factor) 2 off K-18 (protected by blow off caps)

Connection to water supply: 3/4 inch BSPT (or NPT),
Minimum water pressure: 3.5 bar,
Max. fryer pool size: 0.35m x 0.53m, (14” x 21” incl. drip board)
Fat Fryer Volume: 40 Litres

Nominal release temperature: 200°F (93°C) Green
286°F (141°C) Blue
360°F (182°C) Black

Heat response class: Standard response
The Mistery Hood System is suitable for the protection of fat fryer baths with a maximum pool surface area (including drip board area) not exceeding 14in. x 21in. (0.35m x 0.53m). The GW Mistery Hood System must be installed with the two canisters in parallel with the length of the fryer pool. The unit nozzles shall always be installed in the pendant position (tip of the nozzles/blow off caps pointing downwards).
Orientation Of The Mistery Hood

Ensure that the nozzle in the mistery hood is perpendicular to the fryer / oil pool.

OK!

WRONG!
Benefits of Mistery Hood Unit Over Wet Chemical Systems

MISTERY HOOD:

• Controlled Discharge: only nozzles activated discharge,
• Unlimited Discharge Media (by sprinkler system water supply),
• Reduction in Food Loss and Clean up Time,
• Easy & immediate return to service,
• UL-listed, tested to UL199E

CHEMICAL SYSTEMS:

• Whole system discharge,
• Discharge media limited to system capacity,
• Large clean up and lengthy kitchen down times,
• Recharge system, replace links, actuators and Agent,
Mistery Hood Unit - referenced in NFPA 13

7.10.8 Cooking Equipment.
7.10.8.1 General. Cooking equipment (such as deep fat fryers, range griddles, and hot oil that is considered to be a source of ignition shall be protected in accordance with the provisions of 7.10.1.
7.10.8.2 Deep Fat Fryers.
7.10.8.2.1 A sprinkler or automatic spray nozzle used for protection of deep fat fryers shall be listed for that application.
7.10.8.2.2 The position, arrangement, location, and water supply for each sprinkler or automatic spray nozzle shall be in accordance with its listing.

As a result of the pricing of this handbook, all sprinklers listed under only are listed for fire protection from deep fat fryers, as required by 7.10.8.2.3. The remaining cooking equipment or other equipment protected with standard spray sprinklers. One potential local application solution is shown in Exhibit 7.10.6, and is supplied in part of a typical commercial system.

EXHIBIT 7.10 Mistery Hood
Deep Fat Fryer Sprinklers
(Courtesy of GSI Sprinklers)

7.10.9 Indicating Valves.
A listed indicating valve shall be installed in the water supply line to the sprinklers and other nozzles protecting the cooking and ventilating system.

7.10.10 Strainers.
A listed line strainer shall be installed in the main water supply preceding sprinkler or automatic spray nozzles having nominal K-factors smaller than K-2.8 (400).