

SECTION 904.12

COMMERCIAL COOKING SYSTEMS

TAG: CORE Fire Suppression

PART 1 - GENERAL

1.1 SUMMARY

- A. The CORE Fire Protection system is a pre-engineered wet chemical water based (surfactant) fire suppression system for use in commercial kitchens.

1.2 SUBMITTALS

- A. The manufacturer assumes no liability for the use or results of use of this document. This specification is to be reviewed by the engineer to confirm requirements of the project and building codes are met.
- B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

- A. CORE Fire Protection System shall be UL & ULC listed in accordance with UL300, and ULC/ORD-C1254.6.
- B. Microprocessor-based control board shall be ETL Listed to UL Standard 864 and CAN/ULC-S527-11.
- C. CORE Fire Protection System is intended for installation and for use in accordance with the National Fire Protection Association Standards:
 - 1. Wet Chemical Extinguishing Systems, NFPA 17A
 - 2. National Electrical Code, NFPA 70
 - 3. National Fire Alarm & Signaling Code, NFPA 72
 - 4. Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment, NFPA 96
- D. The CORE Fire Protection System is approved for use in New York City per FDNY COA #5877.

1.4 WARRANTY

- A. All units are provided with the following 5-year standard warranty from date of shipment. Warranty does not cover consumable products such as batteries, surfactant, and nozzle caps.
- B. This warranty shall not apply if:
 - 1. The equipment is not installed by a qualified installer per the manufacturer's installation instructions shipped with the product.
 - 2. The equipment is not installed in accordance with Federal, State, and Local codes and regulations.
 - 3. The equipment is misused, neglected, or not maintained per the manufacturer's maintenance instructions.
 - 4. The equipment is not operated within its published capacity.

5. The invoice is not paid within the terms of the sales agreement.
- C. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 5-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by the manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization. All returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

PART 2 - PRODUCTS

2.1 GENERAL ASSEMBLY

- A. A pre-engineered, fixed pipe, automatic wet chemical (surfactant) fire suppression system for protection of all hazard areas associated with cooking operations, including exhaust hoods, plenums, ductwork, and cooking appliances.
- B. The fire system shall be factory assembled, tested, and shipped as a complete unit.
- C. The following specifications, delivering all capacities scheduled and conforming to the design indicated herein. Alternate layouts or dimensional changes will not be accepted.

2.2 COMPONENTS

- A. Exhaust hood fire system components to be factory installed.
- B. Distribution Nozzles
 1. Nozzles shall be located to protect the exhaust ducts, plenums, and all cooking appliances requiring protection.
 2. All nozzles shall be equipped with a metal blow off cap. The cap prevents contamination from entering the pipe network and is designed to pop-off upon system discharge, allowing agent to flow to the protected hazard area.
 3. All nozzles shall incorporate a stamped part number to quickly identify nozzle type.
- C. Distribution System
 1. The distribution system shall consist of Copper, Schedule 40 black iron, chrome-plated or stainless-steel pipe and fittings. All exposed piping and fittings must be chrome-plated or stainless-steel.
 2. Fittings shall be minimum class 150. Galvanized fittings shall not be used.
 3. Flow rate for the hood, when in a fire condition, would be 1.5 gallons per minute per foot of hood.
 4. Operating pressure for water lines, both hot water and dedicated line, is 30 to 70 psi, depending on the system configuration.
 5. The maximum static pressure cannot exceed 125 psi; pressure reducing valves can be utilized to meet the correct operating water pressure
- D. Suppression System
 1. The system control equipment shall be capable of all functions associated with automatically and manually discharging surfactant from surfactant tank, including automatic shutdown of the heat source or fuel and electrical power to all protected

areas upon system discharge.

2. For automatic activation, the system will be activated by a Firestat (heat) detector.
3. For manual activation, an electrically operated manual release shall be used to actuate the system manually.

E. Firestat

1. Normally Open, Close on Rise 360°F or 600°F.
2. Additional firestats may be required based on hood temperature rating and length of ductwork. Refer to Installation, Operation, and Maintenance Manual for information.

F. Electrical

1. Electrical Division to provide shunt trip breakers at main power panel, or disconnects, as designated by the Electrical Engineer; interconnection provided at hood control panel for the signal to shut down all electricity in and under the exhaust hood. Shunt trips/disconnects to accomplish shut off of electricity in the event of fire system activation by others.
2. Printed circuit board with microprocessor-based controller that provides all the necessary monitoring, timing, and supervision functions required for the reliable operation of the fire system.
3. Independent supervised loops incorporate redundancy and fault detection.
4. Real-time cloud-based monitoring connection provided with system by ownership.
5. All wiring must be in accordance to NFPA 70 and the Authority Having Jurisdiction (AHJ).
6. Electric gas valve provided for equipment below exhaust hood. Coordinate size and installation with Plumbing Division.
7. All wiring is to be in accordance with the applicable manufacturer's instructions for the fire alarm control panel, gas shut-off valve, manual reset relay, and contractor supplied shut-off devices.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine all areas and conditions under which package(s) are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

- A. Install the package in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.

3.3 CONNECTIONS

- A. Electrical connections conform to applicable requirements in Division 26 Sections.

3.4 SYSTEM START-UP

- A. System start-up is performed by a factory-trained Service Technician.