

TANK FIRE SUPPRESSION SYSTEM

SPECIFICATIONS

TAG: TANK Fire Suppression

PART 1- GENERAL

1.1 SUMMARY

- A. TANK Fire Suppression is a pre-engineered, stored-pressure wet chemical solution extinguishing system.

1.2 SUBMITTALS

- A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the requirements of the project and meet Federal, State, and Local codes.
- B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.

1.3 QUALITY ASSURANCE

- A. TANK Fire Suppression System shall be UL & ULC listed in accordance with UL300, UL1254, ULCORD-C1254.6.
- B. Microprocessor-based control board shall be ETL Listed to UL Standard 864 and CAN/ULC-S527-11.
- C. TANK Fire Suppression System 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
- D. New York City and approved under FDNY COA# 5870.
- E. California State Fire Marshal (CFSM), Listing No. 7085-2199:0501.

1.4 Warranty

- A. All units shall be provided with the following standard warranties:
 - 1. TANK Fire Suppression System is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 60-months from date of shipment.
- B. Warranty does not cover consumable products such as batteries, nitrogen, and nozzle caps.
- 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 60-month warranty period, upon examination by the manufacturer, such part will be repaired or replaced by 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, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.

- D. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is/is not covered and contact information for warranty claims.

PART 2- PRODUCTS

2.1 GENERAL

- A. A pre-engineered, fixed pipe, automatic wet chemical agent fire suppression system for protection of all hazard areas associated with cooking operations, including exhaust hoods, plenums, ductwork, and cooking appliances.

2.2 COMPONENTS

- A. Exhaust hood fire system components to be factory installed.
- B. Cylinder and Valve Assembly
 1. The cylinders shall have a tin-nickel alloy plated brass valve with pressure gauge.
 2. Wet chemical agent shall be contained in one or more stored pressure DOT/TC rated steel cylinder and valve assemblies.
 3. Each cylinder is factory-filled with liquid fire suppressant and pressurized to 200 PSIG at 70°F.
- C. 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 strainers to prevent foreign matter in the agent distribution piping or tubing from clogging the nozzle orifice. All nozzles shall be equipped with foil seals to prevent entry of grease and foreign matter into the nozzles and piping. The foil seals are to be ruptured by pressure at system discharge.
 3. All nozzles shall incorporate a ring identification system to easily identify nozzle types. Rings are to be machined into the nozzle body by the manufacturer.
- D. Distribution System
 1. The distribution system shall consist of 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.
- E. Suppression System
 1. The system control equipment shall be capable of all functions associated with automatically and manually discharging the wet chemical agent from all cylinder and valve assemblies, including automatic shutdown of the heat source or fuel and electrical power to all protected areas upon system discharge.
 2. Liquid Fire Suppressant shall be Aqueous Potassium Carbonate (APC).
 3. All mechanical components of the actuator kit shall be enclosed.
 4. The actuator kit shall be capable of automatic or manual activation means.
 5. Supervisory Pressure Switch can be added to monitor operating system pressure.
 6. For manual activation, an electrically operated manual release shall be used to actuate the system manually.
 7. For automatic activation, the system will be activated by a Firestat (heat) detector.

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. Primary power supply, with battery backup for power loss.
6. All wiring must be in accordance to NFPA 70 and the Authority Having Jurisdiction (AHJ).
7. Electric gas valve (if applicable) provided for equipment below exhaust hood. Coordinate size and installation with Plumbing Division.
8. 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 areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.2 APPLICATION

- A. Wet chemical-based fire suppression system for use in commercial kitchens. It can be mounted in the integral cabinet located at the end of the hood or offered as a wall mount package.

3.3 INSTALLATION

- A. As part of this item, provide wall mounted type K handheld portable fire extinguisher, placard, and mounting bracket as required in the immediate vicinity of each cooking area, per NFPA-96 and NFPA-10. Additional fire extinguishers as required in the kitchen area are to be specified by the Architect and provided by the General Contractor.
- B. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.
- C. Six-month and twelve-month inspections, servicing, and replacement of components as per NFPA 96 to be provided by the General Contractor or Owner.