XD 9011A
AKSWH01HF
7/16/2022

Fire Suppression Installation (R-102) for XLT Ovens & XLT Hoods

CAUTION

Read This Manual Before Using This Appliance.

Electronic copies of the Installation & Operation Manual, Parts & Service Manual, Fire Suppression Manual, Architectural Drawings, & a list of International Authorized Distributors are available at: www.xltovens.com

For use with the following XLT Gas/Electric Oven Versions:

Australian (A)	H
Korea (K)	H
Standard (S)	H
World (W)	H

For use with the following XLT Hood Versions:

Standard (S)	F
World (W)	F

Intertek 2000887 Intertek 0359 GAS40066 SAI Global

Original Instructions

XLT Ovens
PO Box 9090
Wichita, Kansas 67277
US: 888-443-2751 FAX: 316-943-2769 INTL: 316-943-2751 WEB: www.xltovens.com

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This document is intended for use by general contractors, architects, sub-contractors and store owners to provide information during the planning & pre-installation phases of installing XLT Ovens & XLT Hoods. Please refer to the XLT Installation & Operation Manual for instructions on the assembly and utility hook-up phase of the project.

The process of getting a facility configured to owners' expectations can be difficult and frustrating, or it can be accomplished smoothly and on time. The information presented here can help move the "D" and "C" portions of the image below towards "on time" and "under budget". XLT has designed a piping system integrated into the ovens and hood. This allows for quick and consistent nozzle placement and contains the correct number of nozzles needed.

The end goal is to obtain an occupancy permit from the Authority Having Jurisdiction (AHJ). A thorough understanding of the prevailing local codes can expedite this process and prevent unexpected surprises. Proper planning and execution will allow the successful installation of new ovens and hood in an existing store overnight with NO downtime.

The purpose of building codes is to provide minimum standards for the protection of life, limb, property, environment, the safety and welfare of the consumer, general public, and the owners and occupants of structures regulated by codes. Building codes are constantly changing and they can vary by state, county, city , town, and/or borough. While some states like California, Florida, Massachusetts, Michigan, and New York have their own set of building codes, most states have adopted the International Code Council (ICC) series of codes. Always check with your local building code department in order to learn which codes are being used and how they will affect you and your construction project. You may want to start by contacting your local inspection department, office of planning and zoning, and/or department of permits.

The information presented in this document has been proven to satisfy the latest code requirements.

XLT reserves the right to make changes in design and specifications, and/or make additions to or improvements to its product without imposing any obligations upon itself to install them in products previously manufactured.

Revision History Table

Revision	Comments	Date
A	New Release - H Oven F Hood	07/16/2022

Definitions & Symbols

A safety instruction (message) includes a "Safety Alert Symbol" and a signal word or phrase such as **DANGER, WARNING** or **CAUTION**. Each signal word has the following meaning:

WARNING

ISO 7000-0434: Indicates a potentially hazardous situation that, if not avoided, can result in minor to moderate injury or serious damage to the product. The situation described in the CAUTION may, if not avoided, lead to serious results. Important safety measures are described in CAUTION (as well as WARNING), so be sure to observe them.

CAUTION

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SAFETY DEPENDS ON YOU

CAUTION

This appliance is for professional use by qualified personnel. This appliance must be installed by qualified persons in accordance with the regulations in force. This appliance must be installed with sufficient ventilation to prevent the occurrence of unacceptable concentrations of substances harmful to health in the room in which it is installed. This appliance needs an unobstructed flow of fresh air for satisfactory operation and must be installed in a suitably ventilated room in accordance with current regulations. This appliance should be serviced by qualified personnel at least every twelve (12) months or sooner if heavy use is expected.

WARNING

Installation of all gas appliances & ventilation exhaust hoods should only be performed by a qualified professional who has read & understands these instructions & is familiar with proper safety precautions. Read this manual thoroughly before installing or servicing this equipment.

The information contained in this document should be distributed and read by all parties involved in procuring and installing this equipment prior to any work being performed.

To ensure a smooth installation, all equipment shipped to the final location should be placed together so no components are lost. A factory designed piping system for the expellant may sometimes arrive with the oven and will need to be installed with oven.

It is also advisable that a schedule be developed by the general contractor to ensure all activities are completed in the proper sequence and performed by the proper personnel.

XLT will assist in the coordination of disseminating information and scheduling the delivery of equipment. Please contact XLT or your distributor for additional assistance.

XLT wants you to be totally satisfied with every aspect of owning & using your oven & hood. Your feedback, both positive & negative, is very important to us as it helps us understand how to improve our products & our company. Our goal is to provide you, our customer, with equipment that we can be proud to build & you can be proud to own.

To receive technical support for the oven or hood you purchased, XLT has qualified customer service personnel that can provide assistance on any type of XLT equipment problem you may experience. Customer Service is available 24/7/365 at 888-443-2751 or visit www.xltovens.com.

Exhaust hoods are classified as Type I or Type II . Type I hoods are designed to capture grease and smoke, while Type II hoods are designed to remove heat, odor and condensate. XLT Hoods are certified to Type I and XLT Ovens are classified as a "Medium Duty Appliance" per IMC 2009 section 507. This standard does not require fire suppression. However, the local city or county agency may require fire suppression to be installed on the hood and/or oven. If so, NFPA 96 Ventilation Control and Fire Protection of Commercial Cooking Operations would most likely apply, but check with the agency first. NFPA 96 chapter 10 states that fire suppression is required and must meet UL 300.

Why do I need a fire suppression system?

More than half of all reported restaurant fires each year are linked to cooking. Fire suppression systems that are complaint to UL 300 can reduce your risk of liability and reduce your insurance rates.

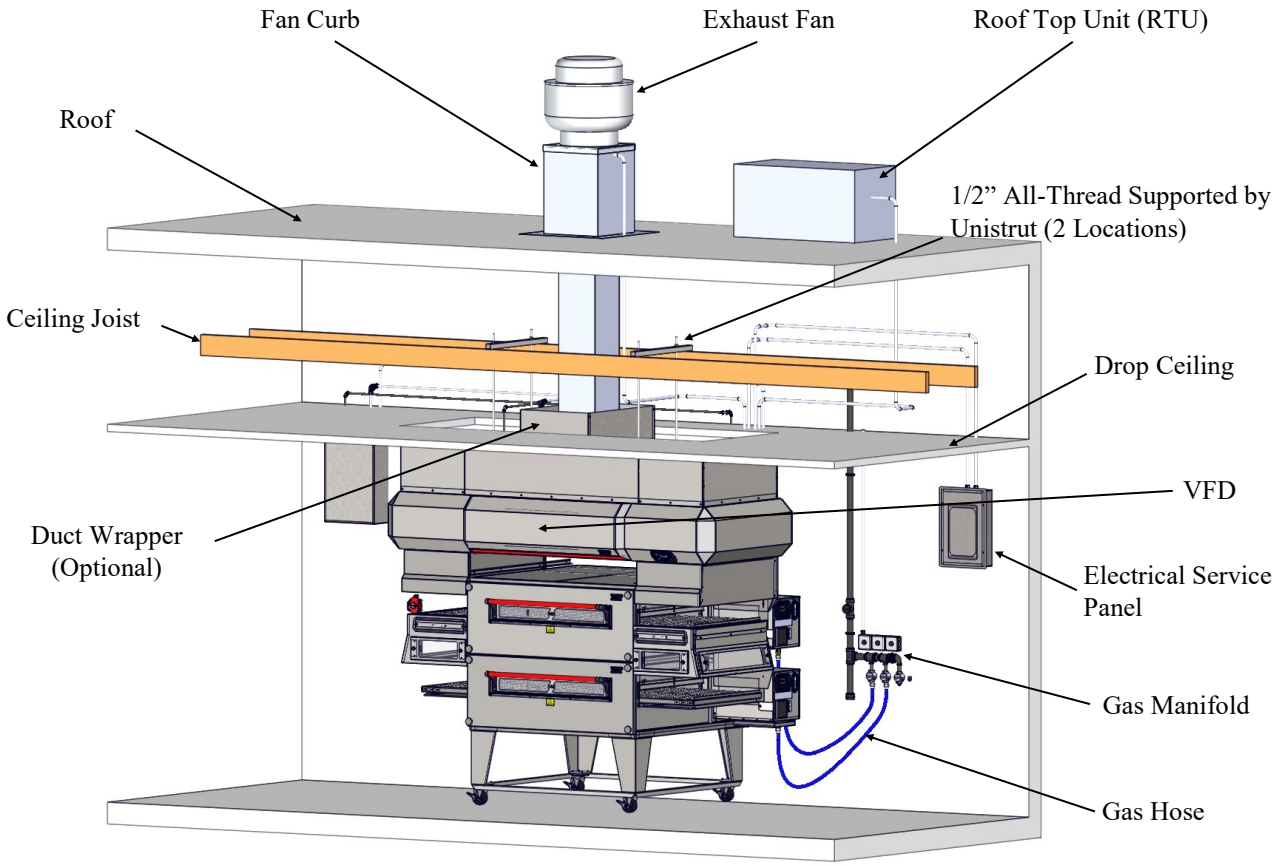
When restaurants were using animal fats, the older dry chemical systems were UL 300 compliant, since then restaurants switched to vegetable oils for healthier products to serve customers. This means that the dry chemical system is no longer UL 300 compliant, thus restaurants need to change to a wet chemical system to put out the fire and to reduce the heat of the appliance. Overall this reduces the chances of re-ignition.

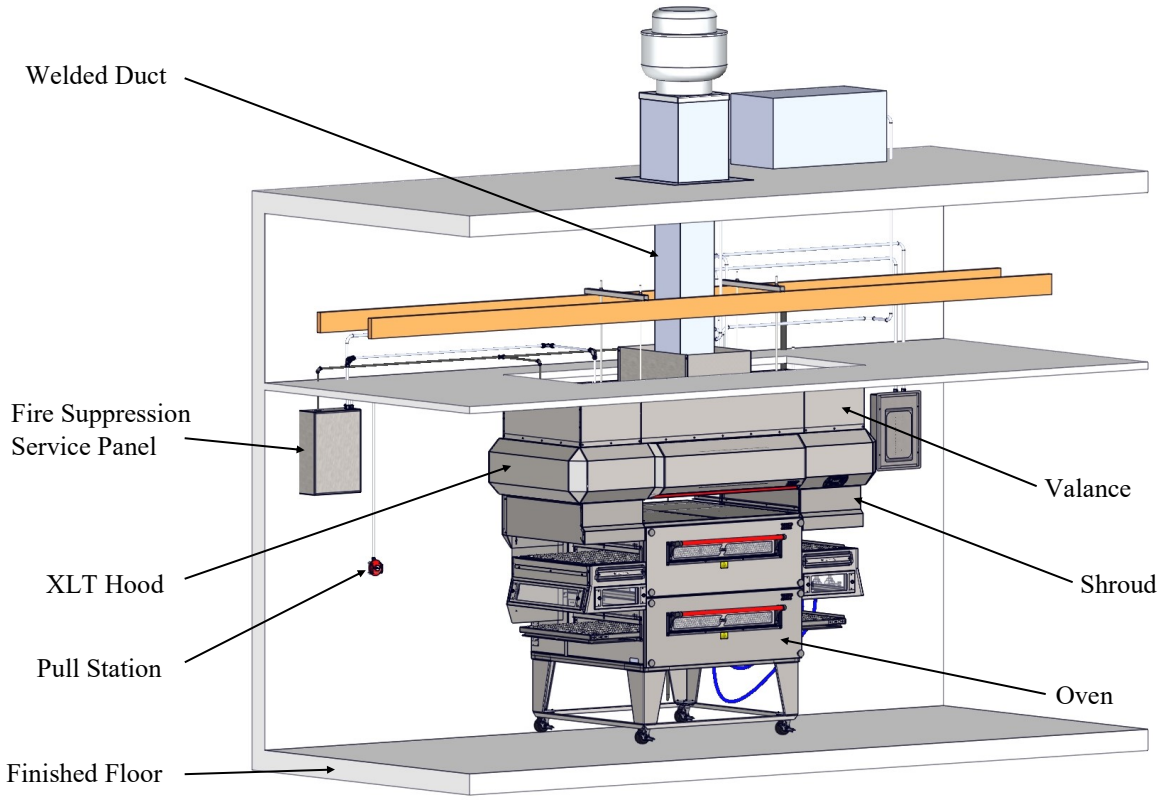
Restaurant owners make many decisions every day that impact their bottom line. The installation and use of a fire suppression system is a decision of great importance. Installing or upgrading a system can be expensive, but here are four reasons to make the investment:

- Protect people and property
- Protect your revenue stream
- Protect your insurance premiums
- Protection from litigation

The worst time to find out if a restaurant needs fire suppression is after inspectors are doing the inspection. Consulting the inspection agency prior to ordering any equipment will save many headaches. The XLT hood can be specified at order entry to have the fire suppression piping and detection system already installed to meet the requirements and save on the installation time. Also, if the ovens require fire suppression this too can be ordered with the ovens as an accessory. When ovens, and a hood with a fire suppression are ordered together from XLT there is also a benefit of an extended warranty.

XLT has a fire suppression piping system has been designed to not interfere with the standard operation and maintenance of the ovens. These sub systems include the nozzles, caps and detectors (Hood only). The rest of the system and charging of the system must be done by a certified ANSUL technician.


Fan Curb
Exhaust Fan
Roof Top Unit (RTU)
Roof
1/2” All-Thread Supported by Unistrut (2 Locations)
Ceiling Joist
Drop Ceiling
VFD
Duct Wrapper (Optional)
Electrical Service Panel
Gas Manifold
Gas Hose


Welded Duct
Fire Suppression Service Panel
Valance
XLT Hood
Shroud
Pull Station
Oven
Finished Floor

The Engineers at XLT have designed the fire suppression system for XLT ovens and XLT hoods to meet ICC and NFPA codes. Field installations can be more expensive, less effective, and can interfere with daily operations and maintenance.

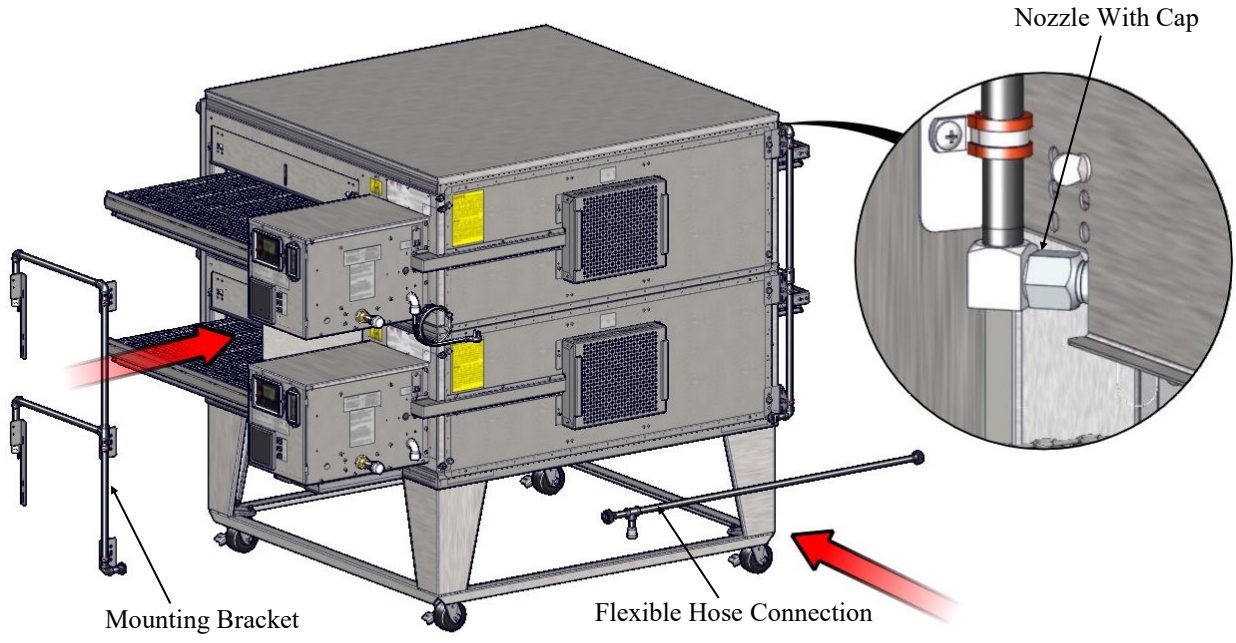
A fire suppression system consists of five (5) main components:

1. Manual Pull Station
2. Regulated Release Assembly (Main cabinet that houses the tank and valve)
3. Mechanical Gas Valve (Gas ovens only)
4. Hood/Oven Piping & Nozzles for agent distribution lines
5. Mechanical Detection System

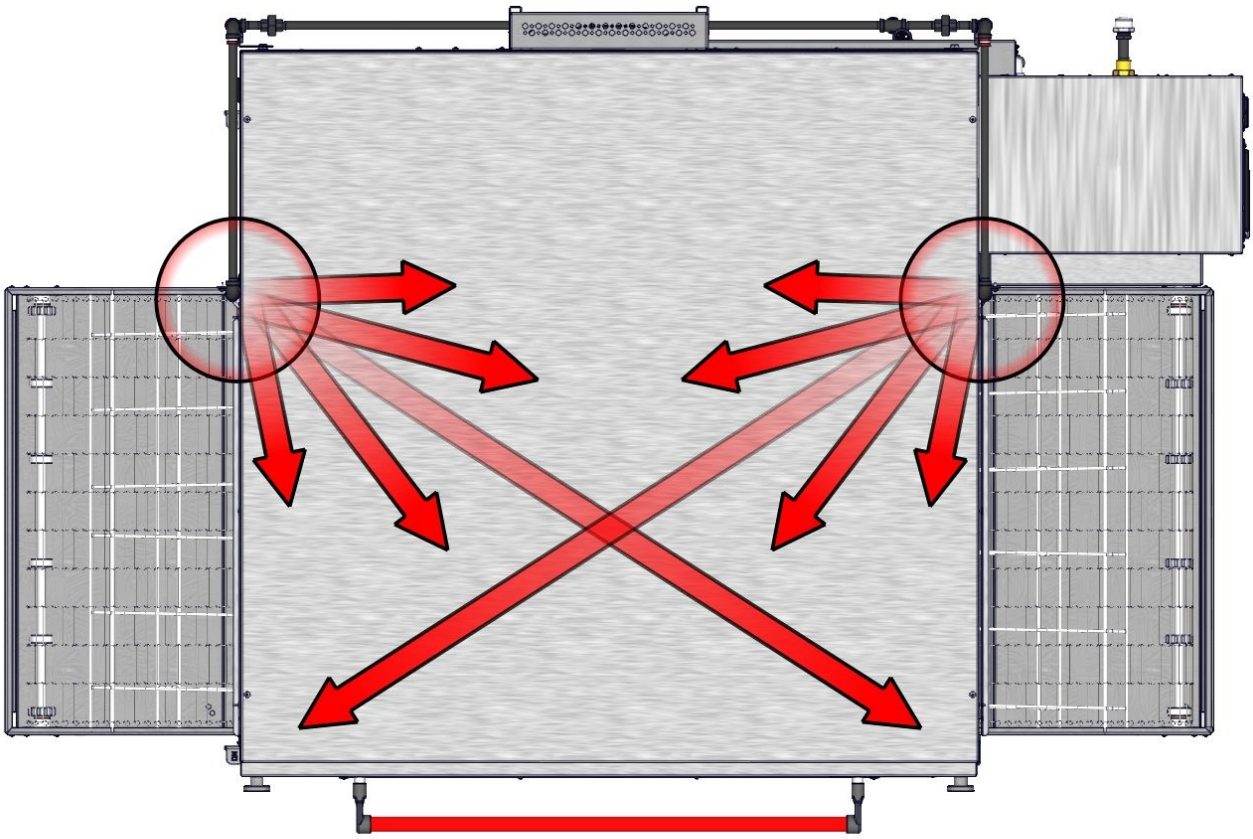
All of these components need to be interconnected. The Manual Pull Station, Mechanical Gas Valve, and Mechanical Detection system are mechanically connected to the Regulated Release Assembly using wire rope cables. The piping system must connect the agent storage tank to the nozzles in both the oven and hood.

The fire suppression system can be activated either manually by pulling on the "PULL" handle, or automatically whenever the temperature rises high enough to melt and separate a detector fusible link in the hood. When the fusible link separates, or the pull station handle is pulled, operation of the regulated release assembly occurs, which pressurizes the agent storage tank and releases the agent contained in the tank to discharge through nozzles mounted in either the oven or hood or both.

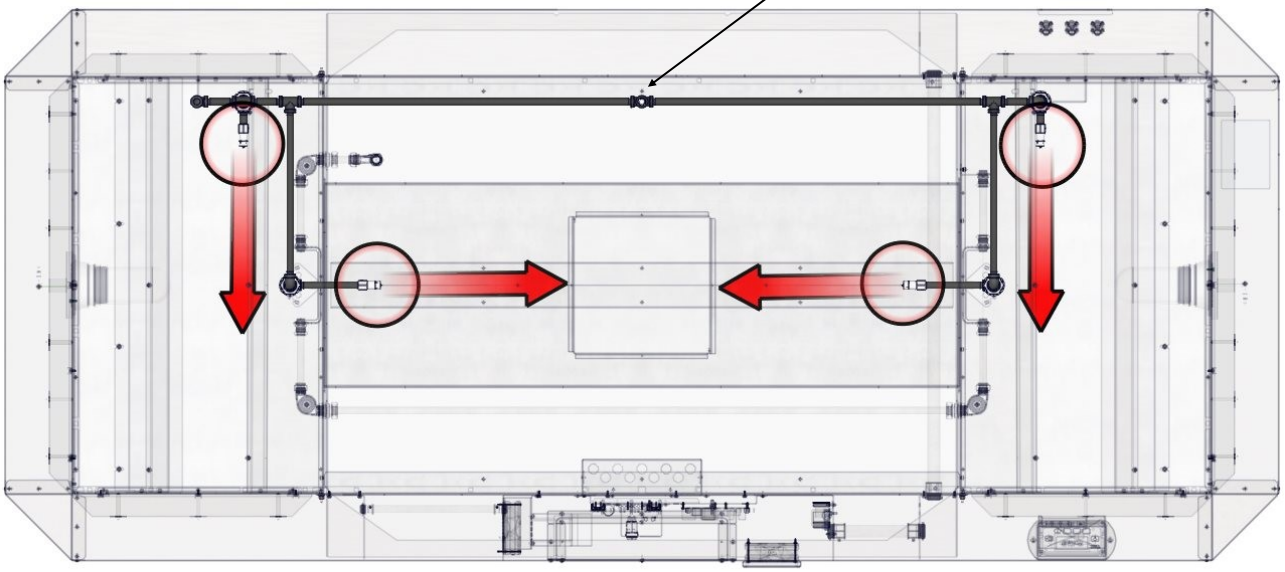
Exploded View of Oven Fire Suppression Piping



Transparent View of Fire Suppression Piping
(Arrows Represent Fire Expellant Direction)



Square Head Plug: Use If Needed For Nozzle In Vertical Duct To Roof.



Supplied Parts

- XLT will supply nozzles and piping for ovens
- XLT will supply nozzles, piping and trigger mechanism for the hood

Installation

Certified ANSUL Installer:

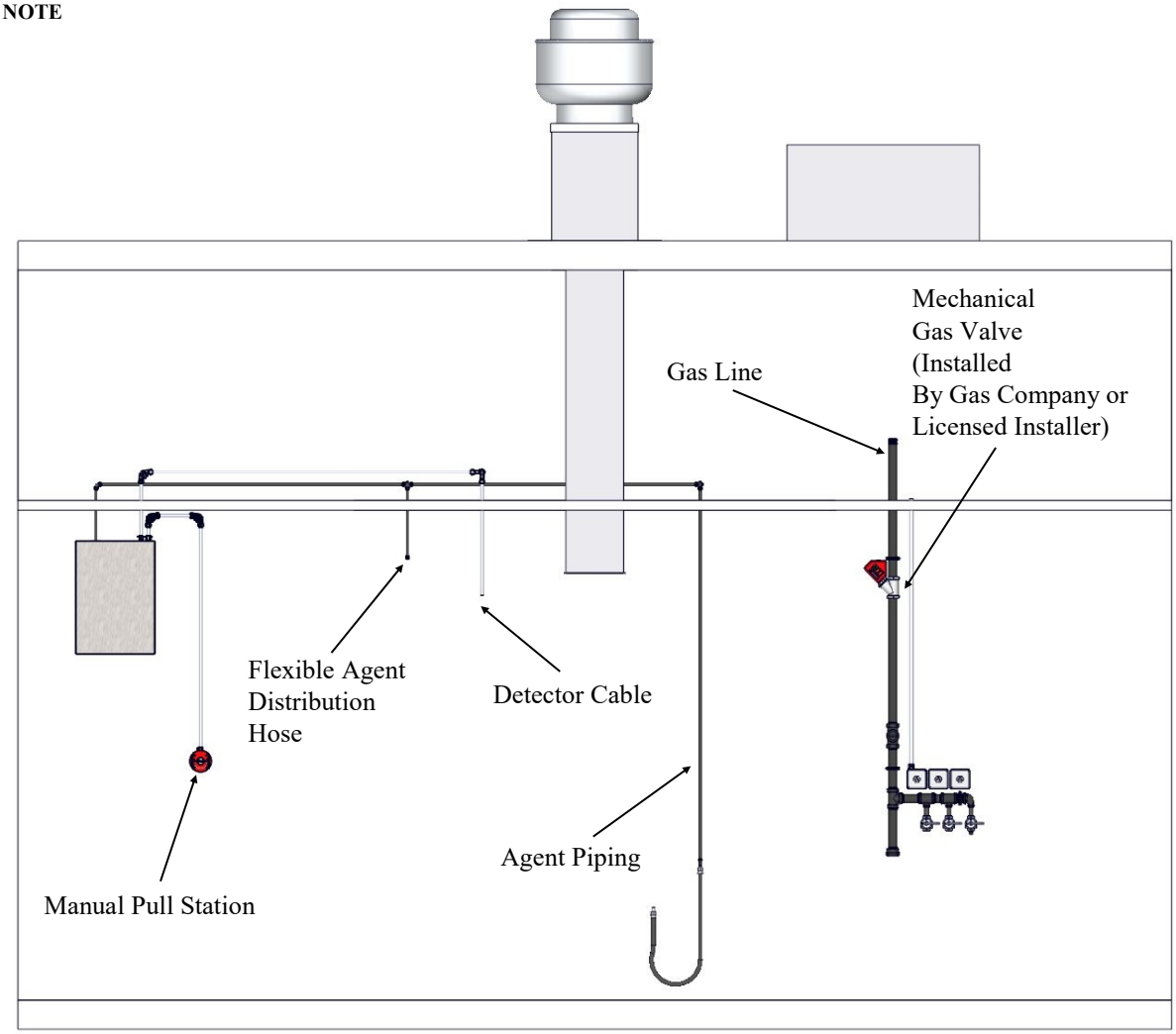
- Manual pull station
- Regulated release assembly
- Flexible agent distribution hose
- Piping on wall to agent tank
- Wire to exhaust fan either through contactor to fan or XLT to fan

Contractors:

- Gas valve, wire, and contactor

NOTE The ANSUL Mechanical Gas Valve must be installed in the gas line by the gas company or a licensed installer.

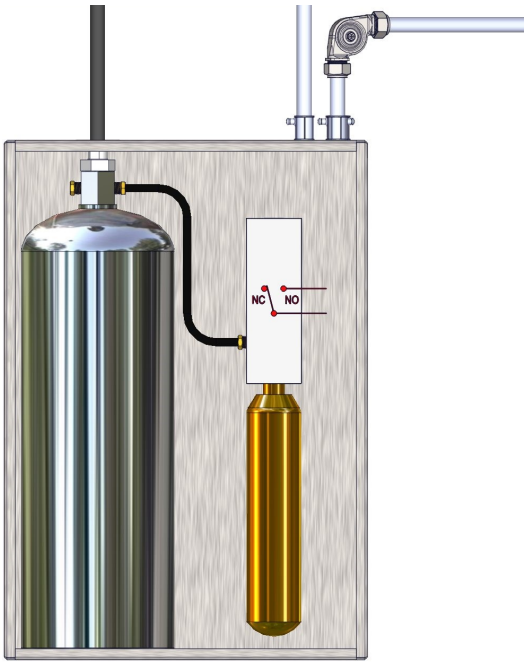
NOTE The wiring and wiring connections bust be made by a licensed electrician.



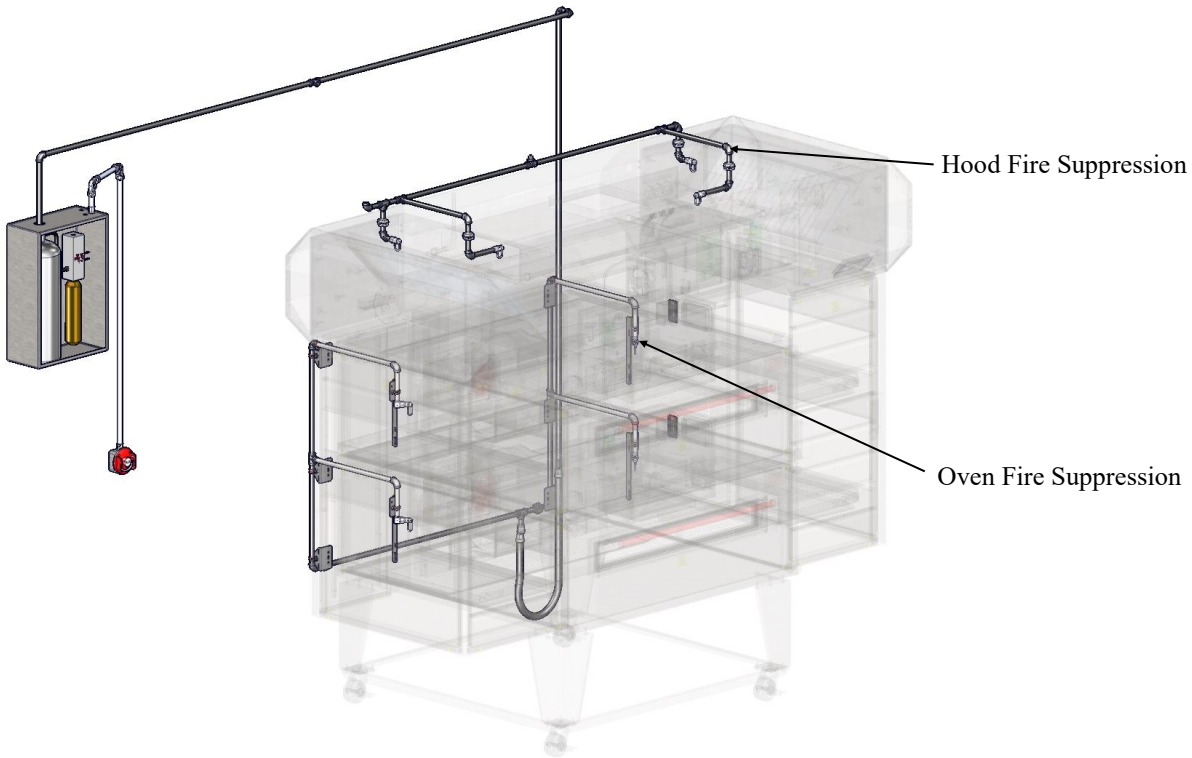
After the hood has been installed, and locations identified for all components on wall, the installation can begin.

1. Mount the regulated release assembly as required for the store location.

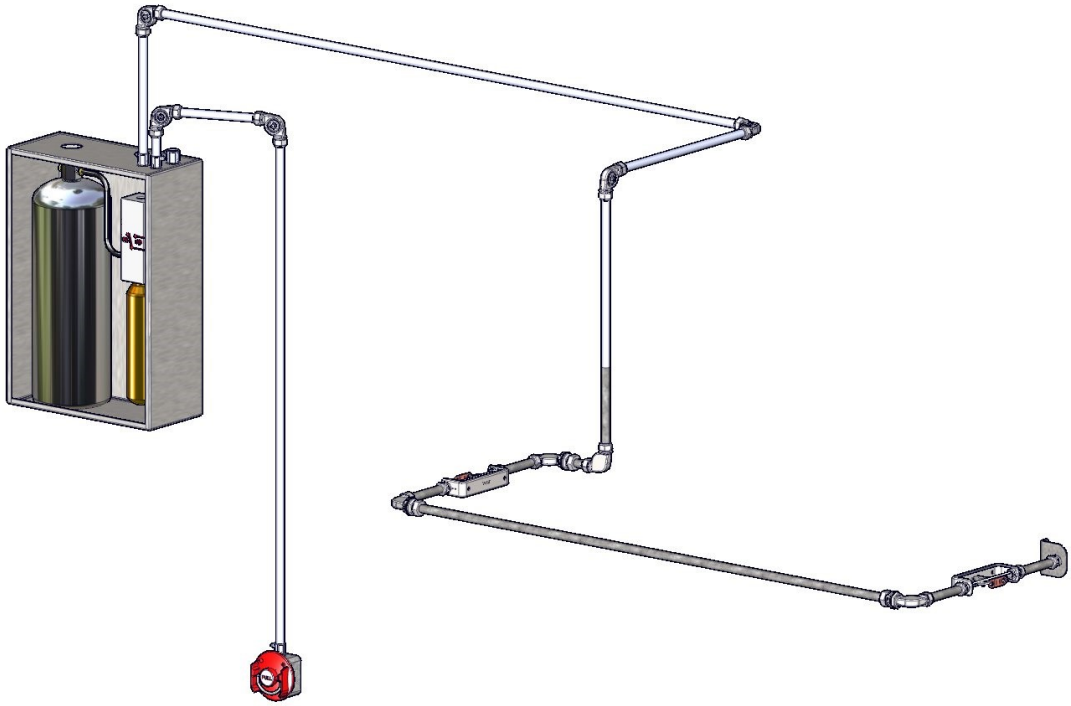
   - Select a rigid surface within all maximum distance limitation for the manual pull station, fusible link detection, and agent distribution piping (Maximum cable length of 150 ft and a maximum supply line length of 40 ft)
   - Remove cover
   - Secure box to wall



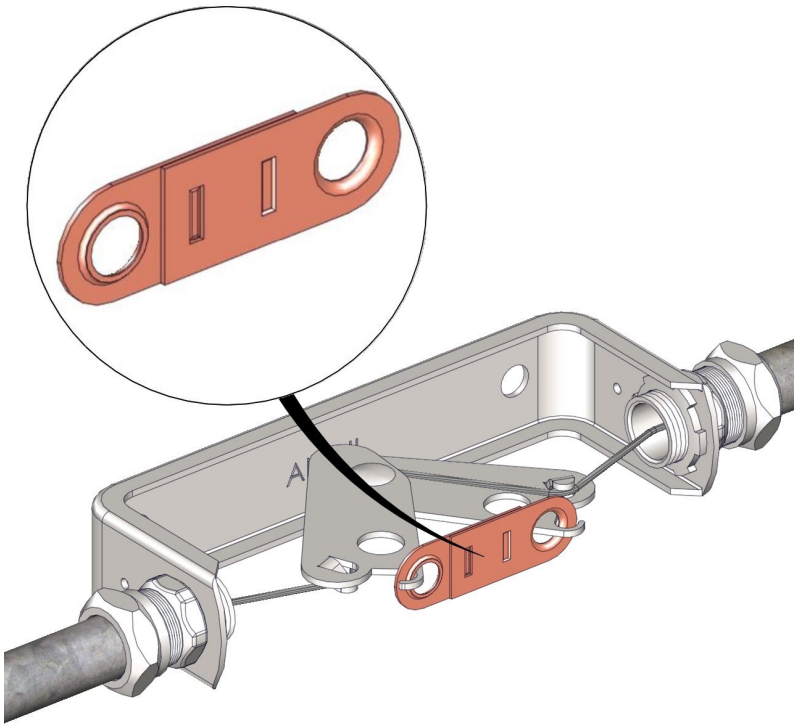
2. Install detection and agent distribution lines in accordance with ANSUL manual R-102 Restaurant Fire Suppression System.



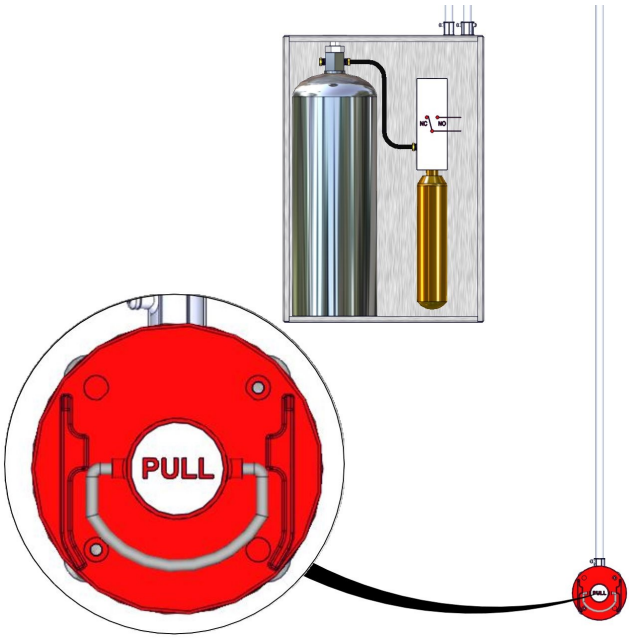
3. Route detection line to hood.



4. Install a fusible link with temperature rating of 360°F (182°C) to the scissor style linkage at each detector. These are located on the ends of the hood.

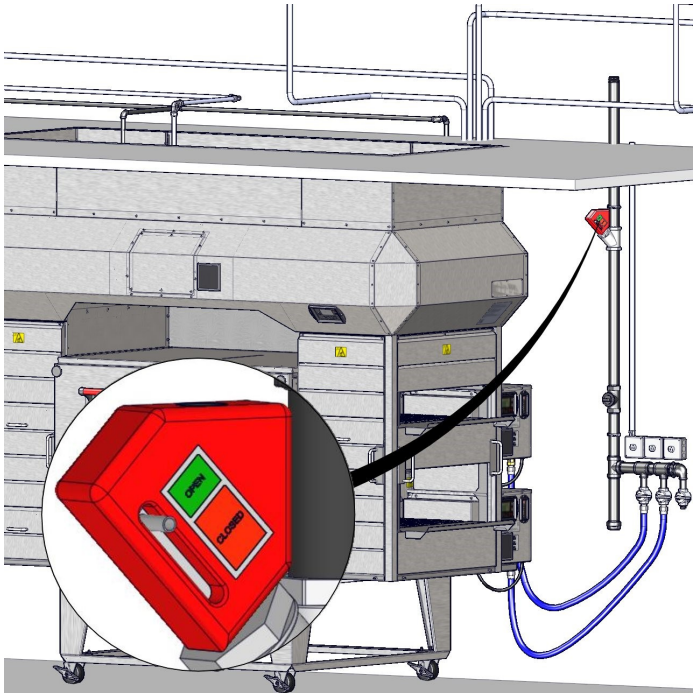


5. Install remote pull station and route line to location noted earlier.

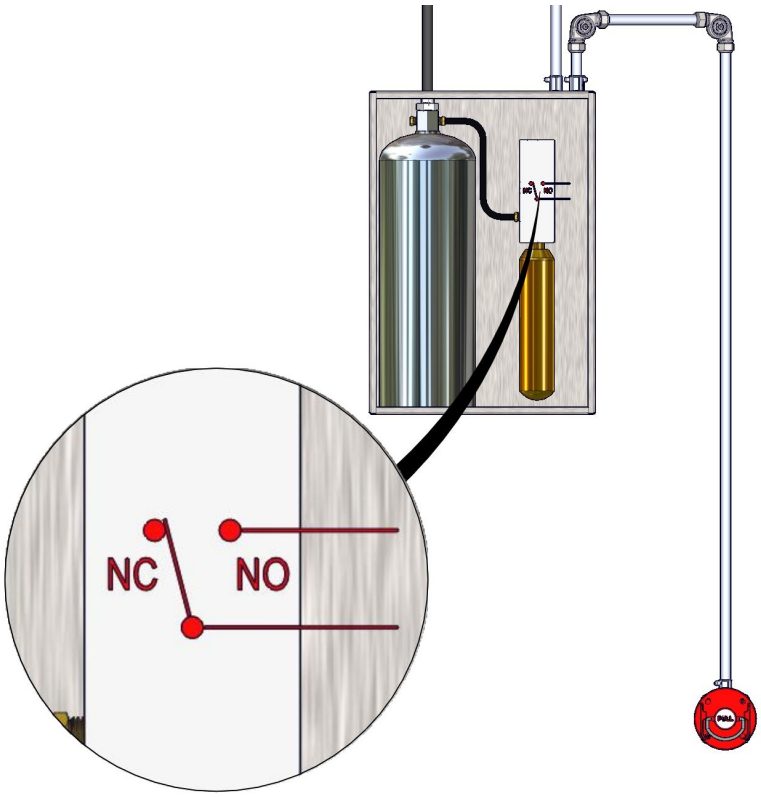


NOTE Make certain the tension lever is in “Up” position.

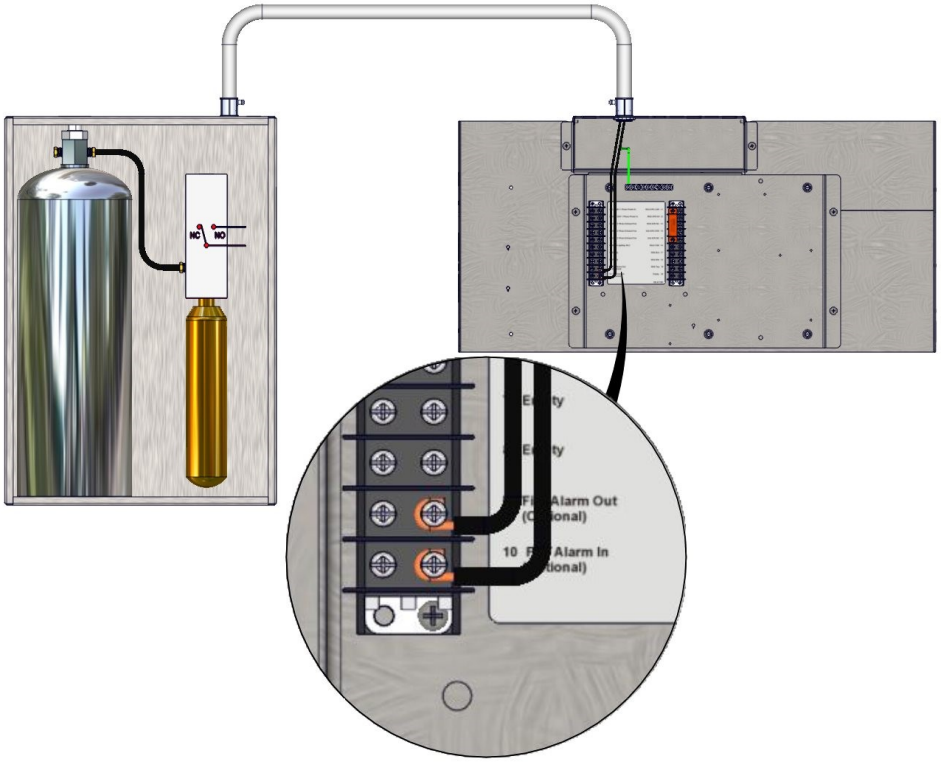
6. The mechanical gas valve is to be installed (by gas company or licensed installer) on the gas line before the oven’s gas valve is connected to the gas manifold.
   - Hook up cables for mechanical valve
   - Hook up wires for electrical valve



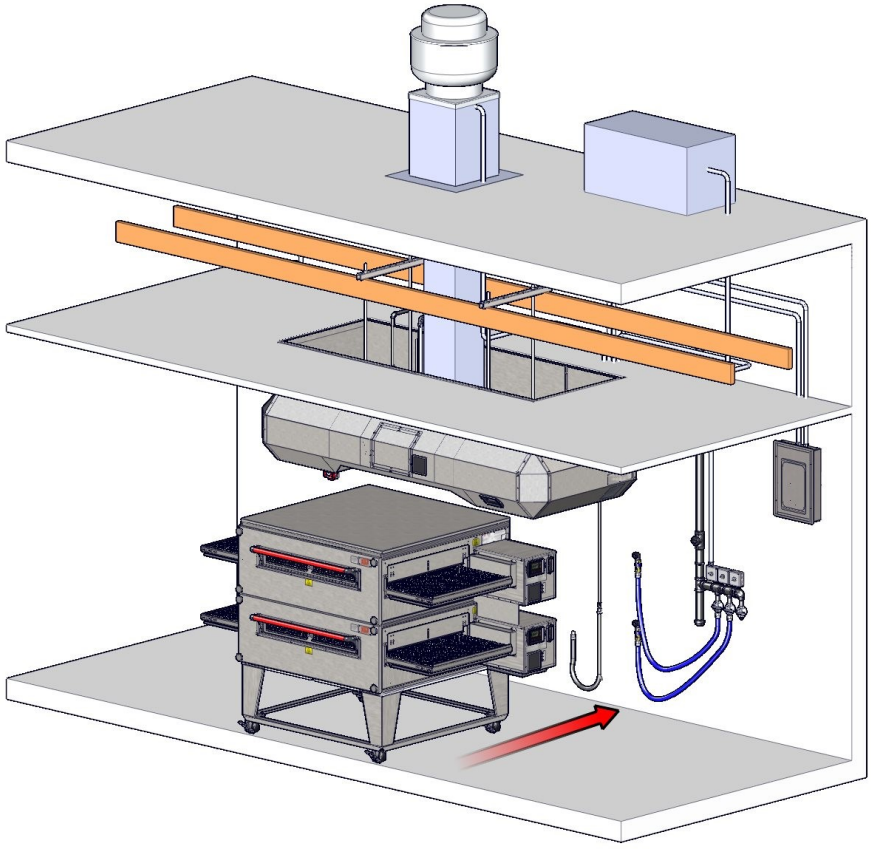
7. Install alarm initiation switch.



8. Connect to hood control box.



9. Roll ovens under XLT hood.
    - Connect flexible agent distribution hose from fire suppression system piping to oven.



System Verification

- Test system with cartridge removed per ANSUL R-102 manual
- Test manual pull station per ANSUL R-102 manual
- Test gas valve per ANSUL R-102 manual
- Test alarm initiating switch per ANSUL R-102 manual
- Test detectors per ANSUL R-102 manual

Final Assembly

- Fill ANSUL agent tank and install cartridge per ANSUL R-102 manual
- Load agent bottle
- Attach shrouds per XLT Installation and Operation manual
- Complete the oven start up checklist with owner signature and return to XLT

There are many things that will help with the installation of XLT equipment, and make for a smooth installation. The following list outlines the tasks necessary for successful installation of ovens and/or hoods, whether the installation occurs in a new store or for the remodel of an existing store. This list is to be used as a checklist to verify all aspects of XLT equipment is installed properly. If any additional information is required please refer to the Installation &Operation Manual. Manuals can be found at xltovens.com:

Gas Requirements:

☐Yes ☐No • Install adequate size gas lines (2" preferred 1 1/2" minimum)

☐Yes ☐No • Install shutoff gas valve for each oven

☐Yes ☐No • Install gas meter & regulator (Individual regulator for each oven is preferred)

☐Yes ☐No • Verify adequate gas pressure for all equipment in store (Minimum 6" Maximum 14" W.C. supplied to ovens with all other equipment running at full load)

☐Yes ☐No • Sediment trap must be installed, refer to local code for proper requirements

Electrical Requirements:

☐Yes ☐No • Dedicated 20 Amp breaker installed for each gas oven

☐Yes ☐No • Dedicated disconnect for each electric oven

☐Yes ☐No • All applicable dedicated circuits are installed for the XLT hood

☐Yes ☐No • All circuits are the correct Phase for each piece of equipment

Hood Requirements: (If Applicable)

☐Yes ☐No • Proper ceiling support is in place for hood installation

☐Yes ☐No • Proper ceiling clearance for the XLT hood

☐Yes ☐No • Install Roof Curb

☐Yes ☐No • Install Exhaust Fan (Adequate Fan for installation)

☐Yes ☐No • Install Duct

ANSUL

by Tyco Fire Suppression & Building Products

One Stanton Street
Marinette, WI 54143-2542
www.ansul.com

Bulletin

Bulletin No. 5653

DATE: April 29, 2010

TO: All Authorized ANSUL R-102 System Distributors and OEMS's

FROM: Product Management – Restaurant Systems

SUBJECT: Non-UL-Listed Fire Protection for Conveyor Pizza Ovens

The UL300 Standard: *Fire Testing of Fire Extinguishing System for Protection of Commercial Cooking Equipment* does not currently address a test protocol for conveyor pizza oven protection. However, in many jurisdictions, the Authority Having Jurisdiction has required fire protection for conveyor pizza ovens. In the past, appliances not addressed in the UL300 test standard have been protected by following listed protection options for other appliances with similar operating characteristics. Generally, these appliances presented a more severe hazard than the appliance in question. In the case of conveyor pizza ovens, chain broiler protection was utilized.

To confirm recommended protection, we recently conducted a conveyor pizza oven fire test following the chain broiler test protocol outlined in UL 300, substituting fatty hamburgers with a grease coated pizza crust, to emulate the cooking process used by conveyor pizza ovens.

Prior recommendations for conveyor pizza ovens larger than the two 1N horizontal nozzle limitations for a chain broiler, suggested using four 1N nozzles, each positioned at the end corners and aimed diagonally across the chain within the oven. Based on the actual fire testing, we now recommend two 245 nozzles per conveyor: one nozzle is positioned at the inlet and one nozzle is positioned at the outlet of the conveyor pizza oven on the same side of the oven and aimed at the opposite corners. Utilizing two 245 nozzles as recommended is suitable protection for conveyors larger than the limitations for a chain broiler but not exceeding 38 in.(96.5 cm) wide x 70 in (177.8 cm) long.

If you should have questions pertaining to this bulletin, please contact your U.S. District Manager or International Area Manager; or call Technical Services as noted below.

Main Telephone Numbers: 1-800-862-6785 or 1-715-735-7415
Customer Services: Press 2 • Technical Services: Press 4 • Training Services: Press 6 • Quality Assurance: Press 8
Literature Fax Orders: 1-800-543-9822 or 1-715-732-3474

Johnson Controls
One Stanton Street, Marinette, WI 54143-2542 USA
Tel +1 715 735 7411
www.JohnsonControls.com

October 21st, 2020

Subject: XLT Oven Protection Recommendation Using the ANSUL R-102 System

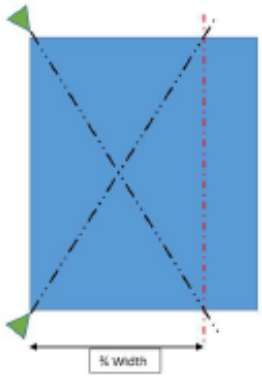
To Whom It May Concern,

This letter is written to address ANSUL's recommendation for protection of XLT ovens.

After discussing with our R&D group, please see the following recommendation.

40.5" W x 75.875" L unit – ANSUL recommends utilizing the same coverage you are currently using, as outlined in ANSUL Bulletin No. 5653.

46.5" W x 51" L unit – ANSUL recommends utilizing a different nozzle and aiming approach. The nozzle utilized should be the 260 nozzle (PN 443333 for a pack of 10). The nozzle placement should be identical as the attached bulletin however the aim-point should be ¾ of the width of the opening as shown in the following "XLT aiming diagram".



The concepts for the recommended protection addressed above are not tested or listed since ovens are not recognized by UL as requiring protection or addressed in any test methods. Any protection chosen should be in compliance with all local codes and acceptable to the authority having jurisdiction.

Sincerely,

Corey Polzin

Corey Polzin
Technical Services Manager – Special Hazards, America