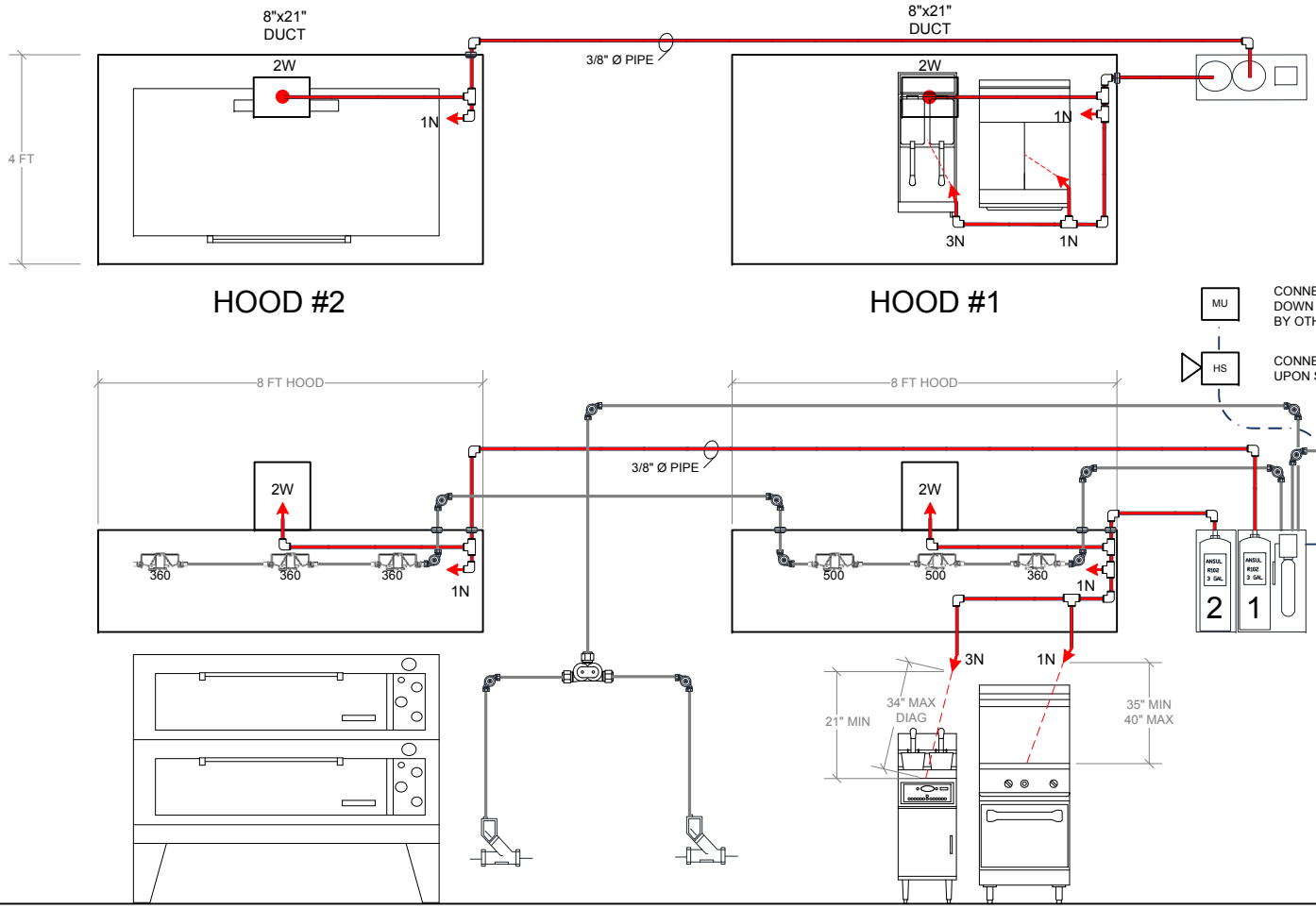


ANSUL R102 – 2 x3 GALLON SYSTEM
TANK 1 - 3 FLOW POINTS USED
TANK 2 - 7 FLOW POINTS USED

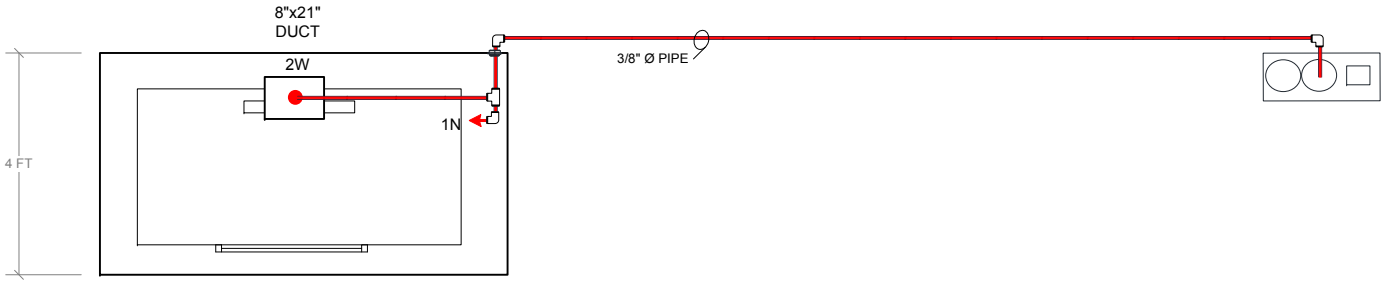
FUSIBLE LINK TEMPERATURE SELECTION SHALL BE PER THE ANSUL INSTALLATION MANUAL RECOMMENDATIONS – SEE PAGE 2 FOR DETAILS ON LINK TEMPERATURE GUIDLINES

REMOTE PULL STATION

SHALL BE INSTALLED 42" - 48" ABOVE THE FINISHED FLOOR AND A DISTANCE OF AT LEAST 10FT FROM THE HAZARD BUT NOT MORE THAN 20FT. IT SHALL BE INSTALLED IN THE PATH OF EXIT AND REQUIRE A MAXIMUM FORCE OF 40 LBS AND A MAXIMUM MOVEMENT OF 14" FOR ACTUATION

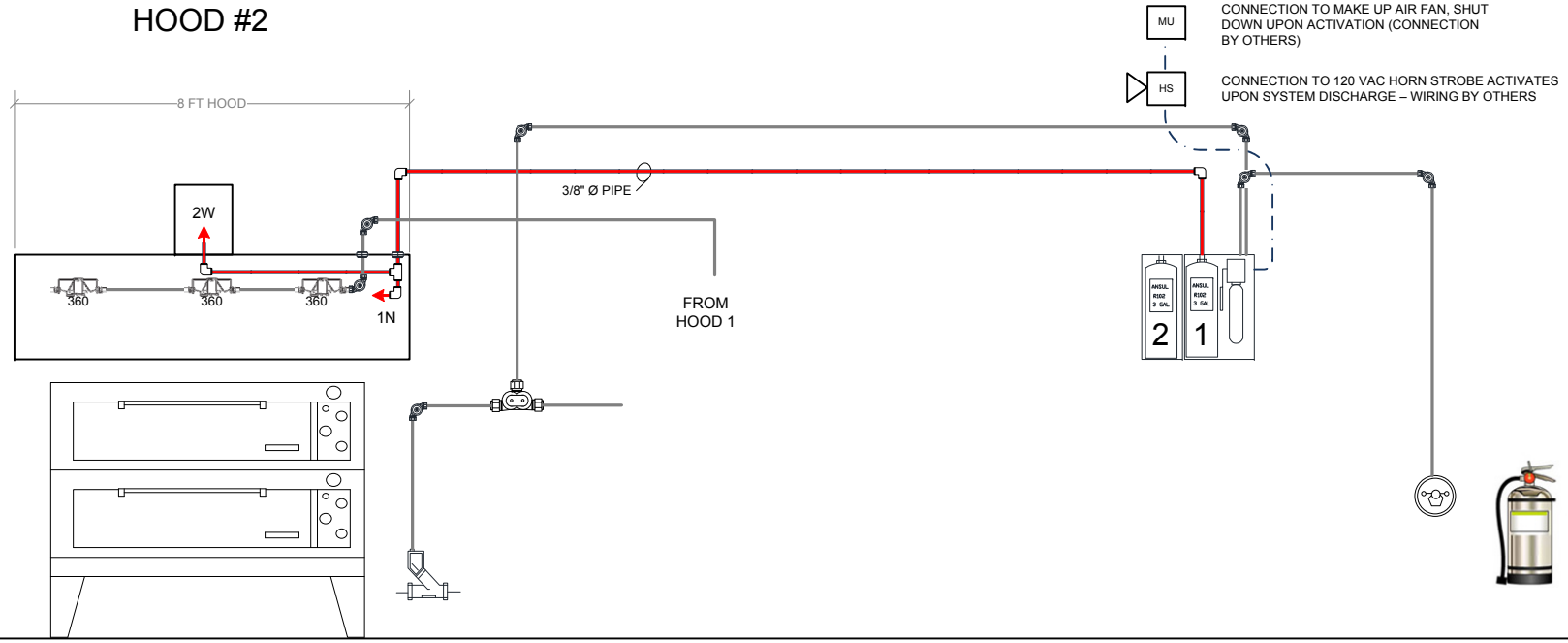
CLASS K WET CHEMICAL EXTINGUISHER
SHALL BE INSTALLED 42" - 48" ABOVE THE FINISHED FLOOR - 10' to 30' FROM THE HAZARD

REQUIREMENTS	SUPPLY LINE	DUCT BRANCH LINE	PLENUM BRANCH LINE	APPLIANCE BRANCH LINE
Pipe Size	3/8 in.	3/8 in.	3/8 in.	3/8 in.
Max Length	40 Ft	9 Ft	4 Ft	12 Ft
Max Rise	6 Ft	4 Ft	2 Ft	2 Ft
Max 90 Elbows	9	4	4	6
Max Tees	1	2	2	4
Max Flow Numbers	11 *	4	2	4



HOOD #2

ANSUL R102 – 2 x3 GALLON SYSTEM
TANK 1 - 3 FLOW POINTS USED
TANK 2 - 7 FLOW POINTS USED



PIZZA OVEN
NO PROTECTION REQUIRED

3/4" MECHANICAL GAS SHUT OFF VALVE
REQUIRE MANUAL RESET
TO BE INSTALLED BY CUSTOMERS PLUMBER

FUSIBLE LINK TEMPERATURE SELECTION SHALL BE PER THE ANSUL INSTALLATION MANUAL RECOMMENDATIONS – SEE PAGE 2 FOR DETAILS ON LINK TEMPERATURE GUIDLINES

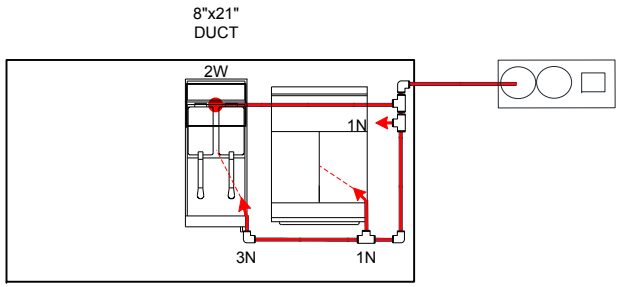
REMOTE PULL STATION

SHALL BE INSTALLED 42" - 48" ABOVE THE FINISHED FLOOR AND A DISTANCE OF AT LEAST 10FT FROM THE HAZARD BUT NOT MORE THAN 20FT. IT SHALL BE INSTALLED IN THE PATH OF EXIT AND REQUIRE A MAXIMUM FORCE OF 40 LBS AND A MAXIMUM MOVEMENT OF 14" FOR ACTUATION

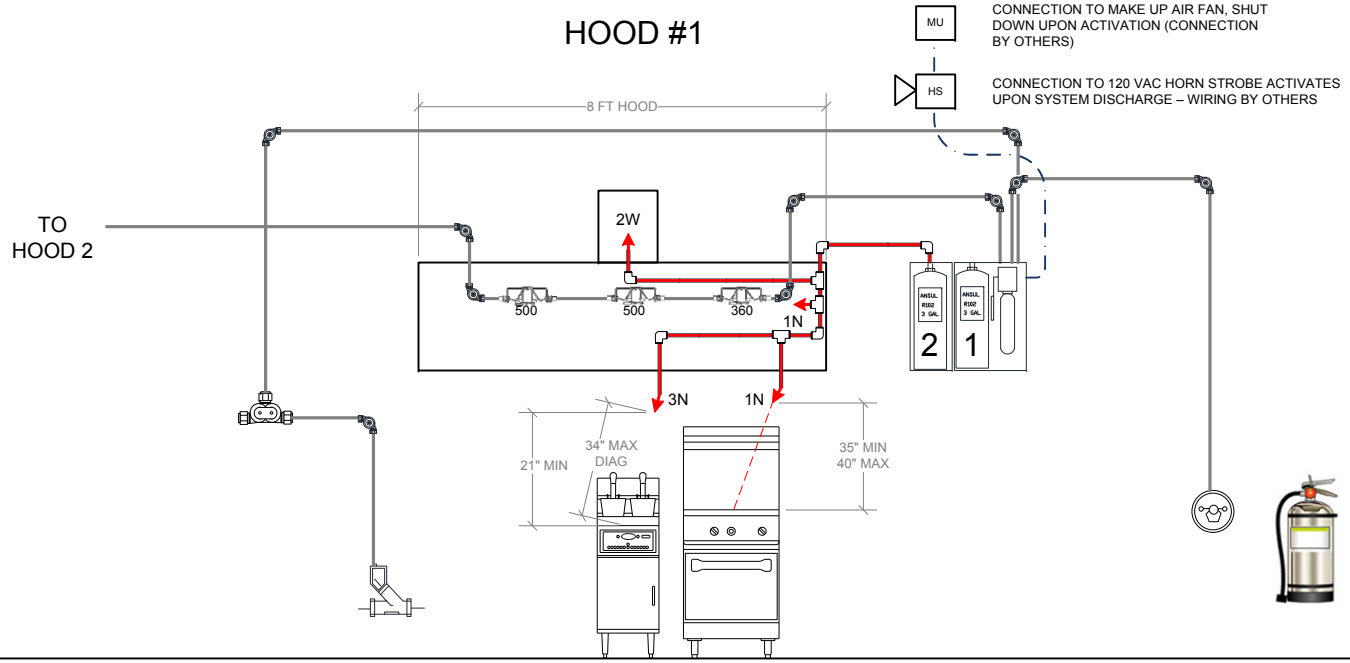
CLASS K WET CHEMICAL EXTINGUISHER
SHALL BE INSTALLED 42" - 48" ABOVE THE FINISHED FLOOR - 10' to 30' FROM THE HAZARD

REQUIREMENTS	SUPPLY LINE	DUCT BRANCH LINE	PLENUM BRANCH LINE	APPLIANCE BRANCH LINE
Pipe Size	3/8 in.	3/8 in.	3/8 in.	3/8 in.
Max Length	40 Ft	9 Ft	4 Ft	12 Ft
Max Rise	6 Ft	4 Ft	2 Ft	2 Ft
Max 90 Elbows	9	4	4	6
Max Tees	1	2	2	4
Max Flow Numbers	11 *	4	2	4

ANSUL R102 – 2 x3 GALLON SYSTEM
TANK 1 - 3 FLOW POINTS USED
TANK 2 - 7 FLOW POINTS USED



HOOD #1



3/4" MECHANICAL GAS SHUT OFF VALVES
REQUIRE MANUAL RESET
TO BE INSTALLED BY CUSTOMERS PLUMBER

FRYER
14"x15" VAT
8" DRIP

24"x24"
GRIDDLE

REMOTE PULL STATION

SHALL BE INSTALLED 42" - 48" ABOVE THE FINISHED FLOOR AND A DISTANCE OF AT LEAST 10FT FROM THE HAZARD BUT NOT MORE THAN 20FT. IT SHALL BE INSTALLED IN THE PATH OF EXIT AND REQUIRE A MAXIMUM FORCE OF 40 LBS AND A MAXIMUM MOVEMENT OF 14" FOR ACTUATION

CLASS K WET CHEMICAL EXTINGUISHER
SHALL BE INSTALLED 42" - 48" ABOVE THE FINISHED FLOOR - 10' to 30' FROM THE HAZARD

FUSIBLE LINK TEMPERATURE SELECTION SHALL BE PER THE ANSUL INSTALLATION MANUAL RECOMMENDATIONS – SEE PAGE 2 FOR DETAILS ON LINK TEMPERATURE GUIDLINES

REQUIREMENTS	SUPPLY LINE	DUCT BRANCH LINE	PLENUM BRANCH LINE	APPLIANCE BRANCH LINE
Pipe Size	3/8 in.	3/8 in.	3/8 in.	3/8 in.
Max Length	40 Ft	9 Ft	4 Ft	12 Ft
Max Rise	6 Ft	4 Ft	2 Ft	2 Ft
Max 90 Elbows	9	4	4	6
Max Tees	1	2	2	4
Max Flow Numbers	11 *	4	2	4

GENERAL NOTES:

1.System shall be Pre-Engineered

2.System shall be manufactured by ANSUL INC.

3.System to be installed by

4.ANSUL R102 systems have the following Listings and Approvals:

Underwriters Laboratories Inc, UL 300 / UL 1254, UL EX 3470

5.System Temperature Limitations – 32F min / 120F Max

6.Installation requirements, nozzle limitations and design criteria shall comply with the ANSUL R102 Manual and all addendums as published by ANSUL

7.Pipe and fittings shall be Schedule 40 Black, Chrome Plated or Stainless. Galvanized Pipe Shall Not Be Used.

8.All required electrical work shall be performed by others and is not included on this shop drawing.

9.All required plumbing work be performed by others and is not included on this shop drawing

General Piping Requirements

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1. All R-102 system piping is straight line. Therefore, the need for critical lengths and balancing is minimized.
2. Two 45° elbows count as one 90° elbow.
3. Each branch line includes the tee or elbow leading to it, and all fittings within the branch line itself.
4. The minimum piping length of Schedule 40, 3/8 in. pipe from the tank outlet to any nozzle protecting a range, fryer, or wok must be 6 ft. (1.8 m).
5. Pipe lengths are measured from center of fitting to center of fitting. See Figure 85.

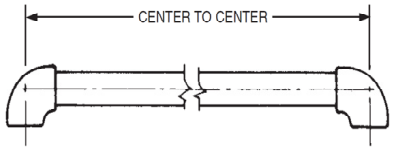

FIGURE 85

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6. All distribution piping must be 3/8 in. Schedule 40 black iron, chrome-plated, or stainless steel. **Do not use hot dipped galvanized pipe on the distribution piping.**
7. All threaded connections located in and above the protected area must be sealed with pipe tape. Tape should be applied to male threads only. Make certain tape does not extend over the end of the thread, as this could cause possible blockage of the agent distribution.
8. Before installing blow-off caps on nozzles, apply a small amount of Dow Corning No. 111 silicone grease across the opeing in the nozzle tip and also a small amount coating the exterior of the blow-off cap. This will help keep cooking grease from building up on the cap.
9. Tees used in the distribution piping can be used as thru tees, side outlet tees, or bull tees.

FUSIBLE LINK

Select correct UL Listed fusible link(s) for installation in detector(s) according to the temperature condition chart below:

SL STYLE

Fusible Link Shipping Assembly Part No.	Temperature Rating	To Be Used Where Temperature Does Not Exceed	Color of Link
439085 (25)	165 °F	100 °F (74 °C)	Black (38 °C)
439086 (25)	212 °F	150 °F (100 °C)	White (66 °C)
439087 (25)	280 °F	225 °F (138 °C)	Blue (107 °C)
439088 (25)	360 °F	290 °F (182 °C)	Red (143 °C)
439089 (25)	450 °F	360 °F (232 °C)	Green (182 °C)

A-PC STYLE

Fusible Link Shipping Assembly Part No.	Temperature Rating	To Be Used Where Temperature Does Not Exceed
439227 (10)	165 °F (74 °C)	100 °F (38 °C)
439228 (10)	212 °F (100 °C)	150 °F (66 °C)
439229 (10)	280 °F (138 °C)	225 °F (107 °C)
439230 (10)	360 °F (182 °C)	290 °F (143 °C)
439231 (10)	450 °F (232 °C)	360 °F (182 °C)
439232 (25)	500 °F (260 °C)	400 °F (204 °C)

DISTRIBUTION PIPING REQUIREMENTS

Distribution Piping Requirements – 3.0 Gallon System

1. The maximum length between the start of the first branch line and the start of the last branch line must not exceed 24 ft (7.3 m). When the supply line is split, the **combined total** of both legs of the supply line (from the start of the first branch line to the start of the last branch line) must not exceed 24 ft (7.3 m). See Figure 4-134.
2. The total length of all branch lines must not exceed 36 ft (10.9 m). See Figure 4-134.
3. Use a 3/8 in. union to connect the tank adaptor to the 3/8 in. supply line.
4. A maximum of two nozzles are allowed per duct branch line.
5. The requirements of the following table must not be exceeded:

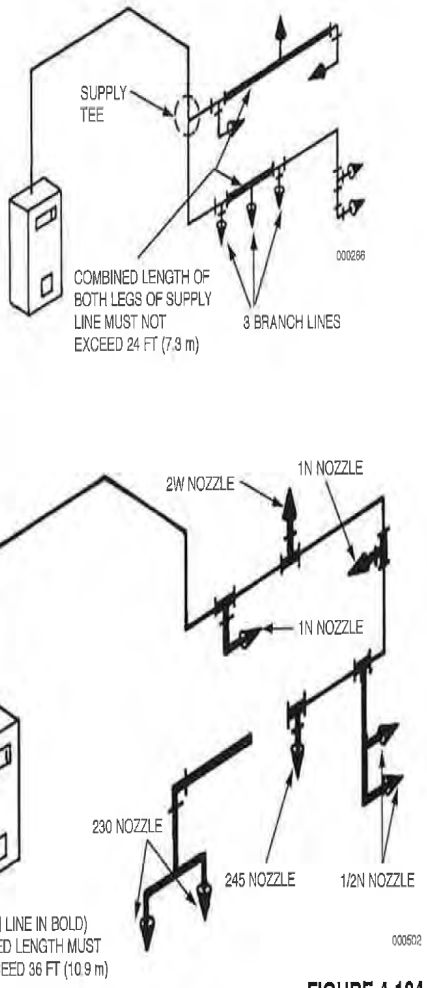

FIGURE 4-134

Distribution Piping Requirements – With Independent Pipe Runs

Independent pipe runs can also be used with the regulated release assembly and the tank/enclosure assembly or tank mounting brackets. See Figure 4-137. When manifolding is not used, each of the two 3 gallon tanks utilize the piping limitations of a single tank system.

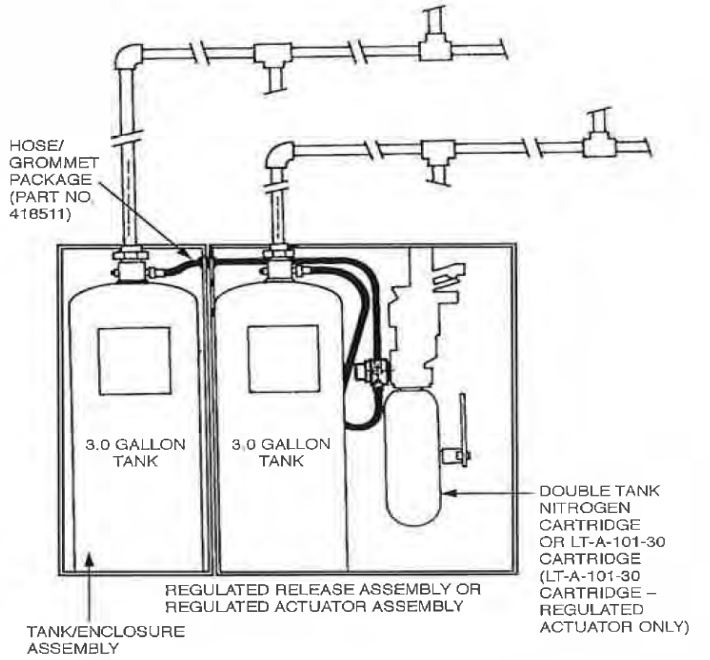

FIGURE 4-137
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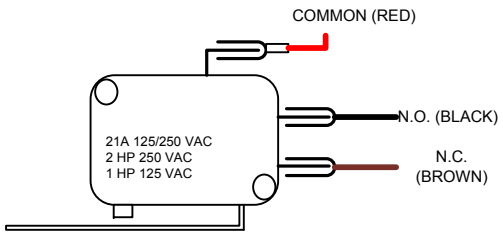
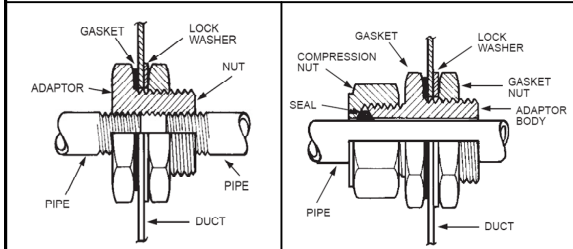
Note: If an expellant gas hose is to be used for a second tank in an adjacent tank enclosure or tank bracket assembly, the second tank will need to be installed on the left side of the AUTOMAN Regulated Release, with the outlets a maximum of 8.5 in. (215 mm) from center to center, similar to the manifolded system in Figure 4-136. Otherwise, the second tank will require 1/4 in. NPT pipe instead of expellant gas hose.

MICROSWITCH DIAGRAM



ALL PENETRATIONS TO THE HOOD SHALL BE SEALED WITH AN APPROVED QUICK SEAL DEVICE



Duct Protection – Single Nozzle

All duct protection is UL listed without limitation of maximum duct length (unlimited length). This includes all varieties of ductworks both horizontal and vertical including ducts that run at angles to the horizontal and ducts with directional bends.

Nozzles must be located 2-8 in. (51-203 mm) into the center of the duct opening, discharging up. See Figure 4-1.

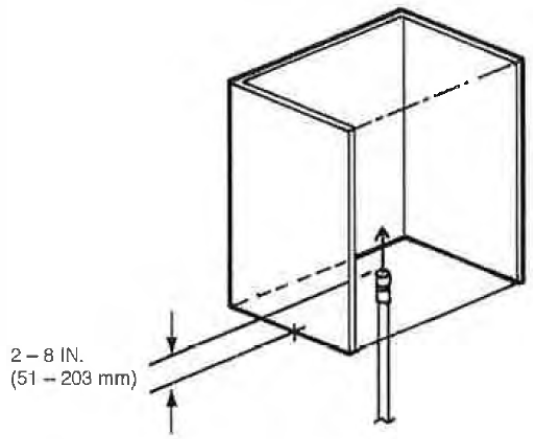


FIGURE 4-1
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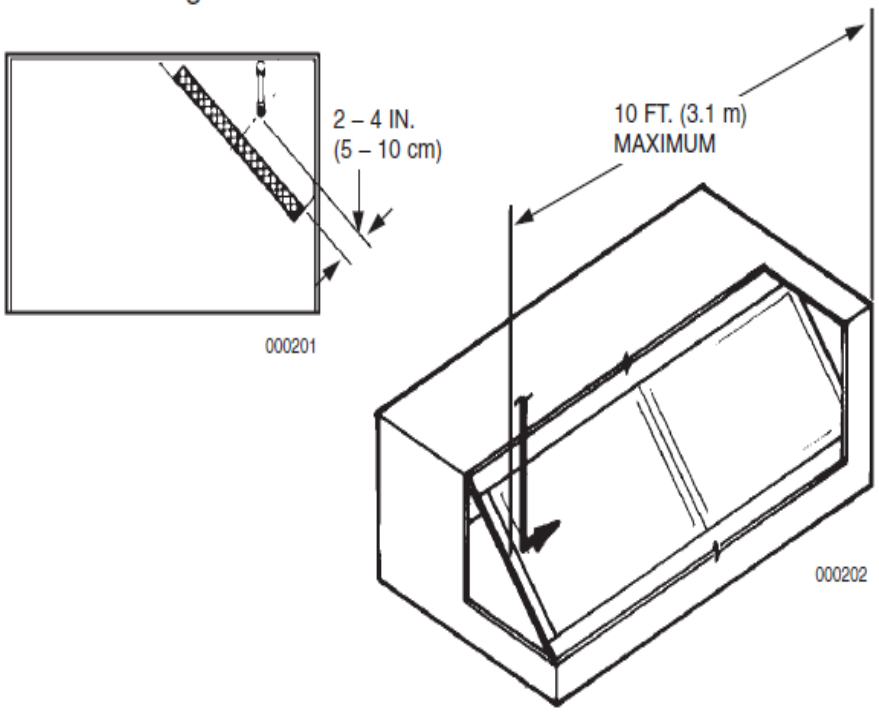
The chart below shows the maximum protection available from each duct nozzle.

Description	3.0 Gallon System	1.5 Gallon System
2W Nozzle	Maximum 100 in. (2540 mm) Perimeter	Maximum 100 in. (2540 mm) Perimeter
1W Nozzle	Maximum 50 in. (1270 mm) Perimeter	Maximum 50 in. (1270 mm) Perimeter

HORIZONTAL PROTECTION – OPTION 1

1N NOZZLE – PART NO. 419335 – SINGLE BANK PROTECTION

One 1N nozzle will protect 10 linear feet (3.1 m) of single filter bank plenum. The nozzle(s) must be mounted in the plenum, 2 to 4 in. (5 to 10 cm) from the face of the filter, centered between the filter height dimension, and aimed down the length. The nozzle must be positioned 0-6 in. (0-15 cm) from the end of the hood to the tip of the nozzle. See Figure 9.



FRYER PROTECTION

Fryer – Single Nozzle Protection

1. Design requirements for fryers are broken down into two types.
   A. FRYERS WITHOUT DRIPBOARDS

      If the fryer does not include a dripboard, measure the internal depth (horizontal dimension from front to back) and length of the frypot.

   B. FRYERS WITH DRIPBOARDS

      If the fryer includes any dripboard areas, measure both the internal depth (horizontal dimension from front to back) and length of the frypot portion, and then measure the internal depth and length of the overall hazard area including any dripboard areas.

Max. Size Frypot Only	Max. Size Overall With Dripboard	Type of Nozzle	Nozzle Height Above Top of Fryer	Nozzle Location
19.5 in. x 19 in. ▸(495 mm x 482 mm)	19.5 in. x 25 3/8 in. (495 mm x 644 mm)	3N	See Figure 4-18	See Figure 4-18

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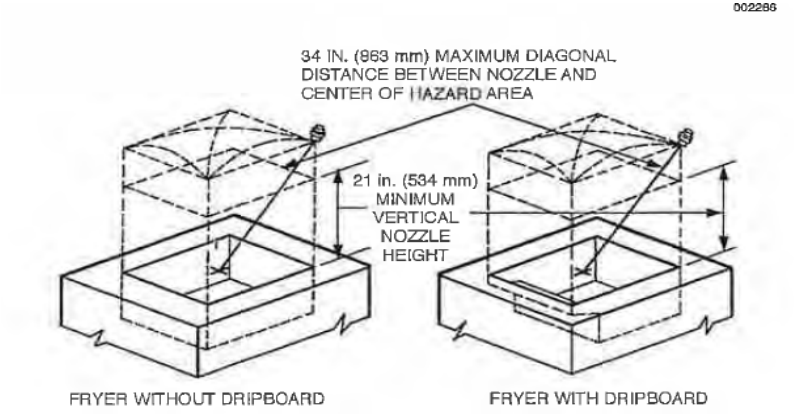

3N NOZZLE TIP POSITIONED ANYWHERE ALONG OR WITHIN PERIMETER OF COOKING SURFACE AND AIMED TO THE CENTER OF THE COOKING AREA.

FIGURE 4-18

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Griddle Protection 1-Flow Nozzle

High Proximity Application: 35 in. to 40 in. (89 to 102 cm) above the cooking surface.

This high proximity application uses the 1N nozzle, Part No. 419335.

The nozzle tip is stamped with 1N indicating this is a one-flow nozzle and must be counted as one flow number.

One 1N nozzle will protect a maximum cooking area of 1080 sq. in. (6968 sq. cm) with the maximum longest side of 36 in. (91 cm).