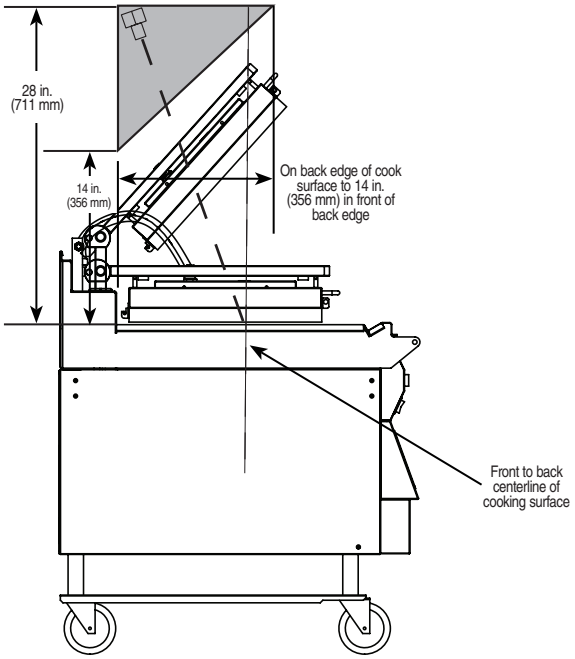
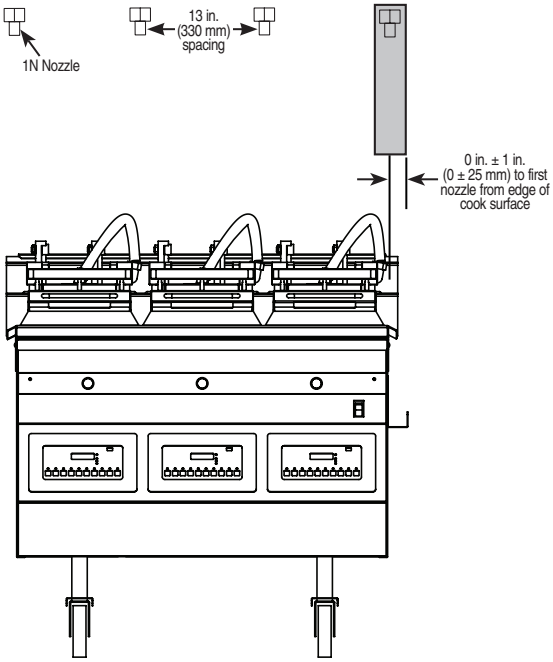
Garland 3-platen - MWE/G 3W, MWE 3WS

Protection using four 1N nozzles with 13 in. (330 mm) nozzle spacing, aiming to centerline of each lower platen.



SIDE VIEW



FRONT VIEW

Specifications

Cook Surface Size: 24 in. x 36 in. (610 mm x 914 mm)

Heat Output: 22.95 kW, 96,000 btu

Main Telephone Number: +1-800-862-6785 or +1-715-735-7415

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SYSTEM DESIGN

The ANSUL R-102 Restaurant Fire Suppression System may be used on a number of different types of restaurant cooking appliances and hood and duct configurations. The design information listed in this section deals with the limitations and parameters of this pre-engineered system. Those individuals responsible for the design of the R-102 system must be trained and hold a current ANSUL certificate in an R-102 training program.

The R-102 and the PIRANHA systems use compatible agents and components, therefore, they may be used together for cooking appliance, hood, and duct protection. The primary AUTOMAN Release can be either an R-102 or a PIRANHA AUTOMAN Release and can actuate up to two additional R-102 or PIRANHA Regulated Actuators. In systems utilizing a 101 remote release, any combination of the maximum number of regulated actuators can be used.

- Both systems must actuate simultaneously.
- Each system must be designed and installed per its appropriate manual.
- Adjacent appliances requiring protection must be protected with the same type of system, either R-102 or PIRANHA, unless the center-to-center spacing between the adjacent R-102 and PIRANHA nozzles is no less than 36 in. (914 mm).
- When appliances are protected with R-102 nozzles, the hood and connecting duct above those appliances cannot be protected with PIRANHA nozzles.
- Mixing systems in a common plenum is not allowed.

One of the key elements for restaurant fire protection is a correct system design. This section is divided into 10 sub-sections: Nozzle Placement Requirements, Tank Quantity Requirements, Actuation and Expellant Gas Line Requirements, Distribution Piping Requirements, Detection System Requirements, Manual Pull Station Requirements, Mechanical Gas Valve Requirements, Electrical Gas Valve Requirements, Electrical Switch Requirements, and Pressure Switch Requirements. Each of these sections must be completed before attempting any installation. System design sketches should be made of all aspects of design for reference during installation.

NOZZLE PLACEMENT REQUIREMENTS

This section gives guidelines for nozzle type, positioning, and quantity for duct, plenum, and individual appliance protection. This section must be completed before determining tank quantity and piping requirements.

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.

Note: Ducts from multiple hoods connected to a common ductwork must be protected in compliance with NFPA 96 and all local codes.

The R-102 system uses different duct nozzles depending on the size of duct being protected.

GENERAL INFORMATION

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

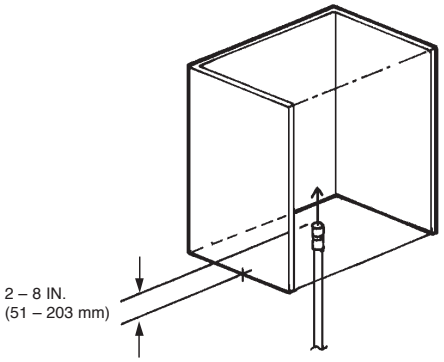


FIGURE 4-1
000173

2. In installations where a UL listed damper assembly is employed, the duct nozzle can be installed beyond the 8 in. (203 mm) maximum, to a point just beyond the damper assembly that will not interfere with the damper. Exceeding the maximum of 8 in. (203 mm) in this way will not void the UL listing of the system.
3. Previously listed three flow number and five flow number duct protection detailed in earlier published manual (Part No. 418087-06) can also still be utilized.

DUCT SIZES UP TO 50 IN. (1270 mm)
PERIMETER/ 16 IN. (406 mm) DIAMETER

- One 1W nozzle = one flow number
- 50 in. (1270 mm) perimeter maximum
- 16 in. (406 mm) diameter maximum

DUCT SIZES UP TO 100 IN. (2540 mm)
PERIMETER/ 32 IN. (812 mm) DIAMETER

- One 2W nozzle = two flow numbers
- 100 in. (2540 mm) perimeter maximum
- 32 in. (812 mm) diameter maximum

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

Plenum Protection (Continued)

HORIZONTAL PROTECTION – OPTION 2

1W NOZZLE – "V" BANK PROTECTION

One 1W nozzle will protect 6 linear feet (1.8 m) of "V" bank plenum. The nozzle must be mounted horizontally, positioned 1/3 the filter height down from the top of the filter. Nozzles can be located at 6 ft (1.8 m) spacings on longer plenums. The nozzle must be positioned 0-6 in. (0-152 mm) from the end of the hood to the tip of the nozzle. See Figure 4-10.

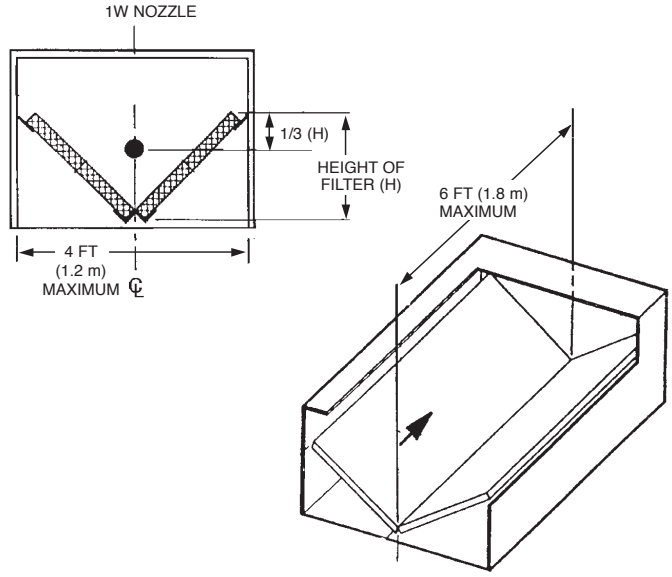


FIGURE 4-10
006524

TWO 1N NOZZLES – "V" BANK PROTECTION

Two 1N nozzles will protect 10 linear feet (3.0 m) by 4 ft (1.2 m) wide of "V" bank plenum. The nozzles must be mounted in the plenum, 2 to 4 in. (50 to 101 mm) 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. (0-381 mm) from the end of the hood to the tip of the nozzle. See Figure 4-11.

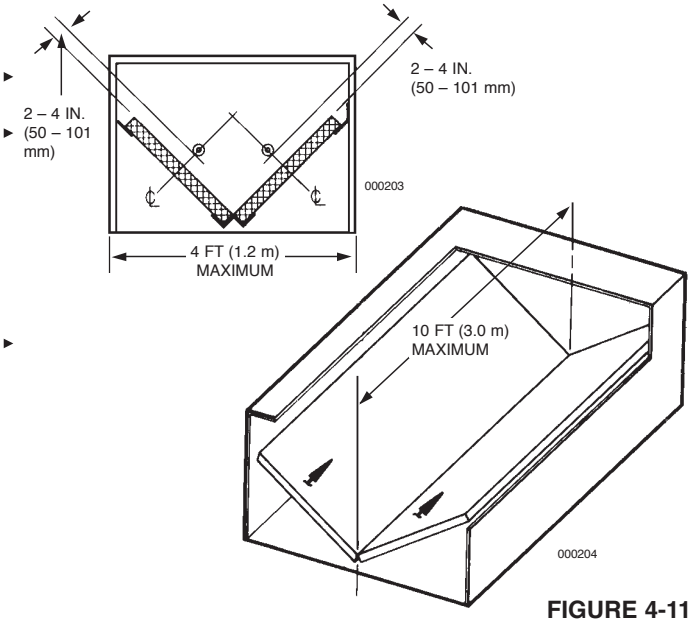


FIGURE 4-11

For a plenum, either single or "V" bank, with a linear extension longer than 10 ft (3.0 m), each bank may be protected using one 1N nozzle every 10 ft (3.0 m) or less depending on the overall length of the plenum. See Figure 4-12. The nozzles may point in the opposite directions as long as the entire plenum area is protected, and the 10 ft (3.0 m) limitation is not exceeded. See Figure 4-13. The nozzle positioning shown in Figure 4-14 is not an acceptable method of protection because the plenum area directly under the tee is not within the discharge pattern of either nozzle.

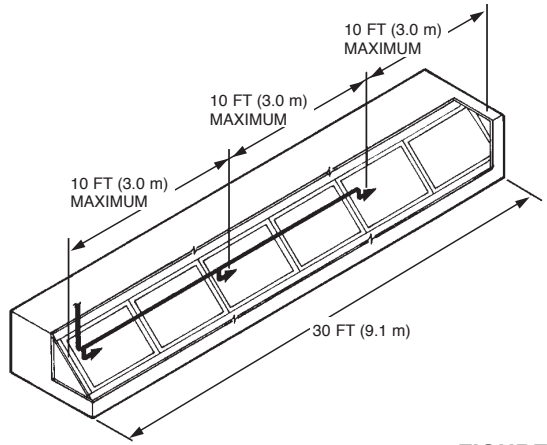


FIGURE 4-12
000206

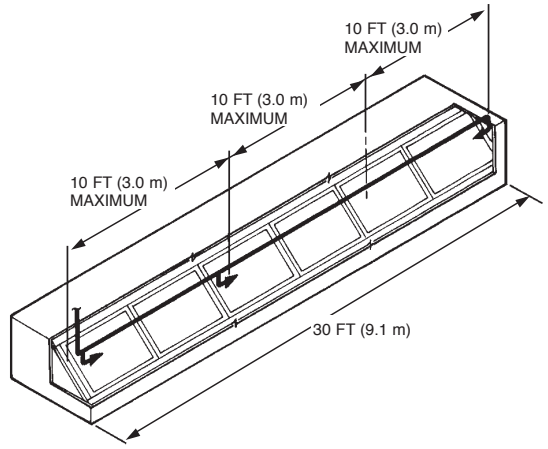


FIGURE 4-13
000207

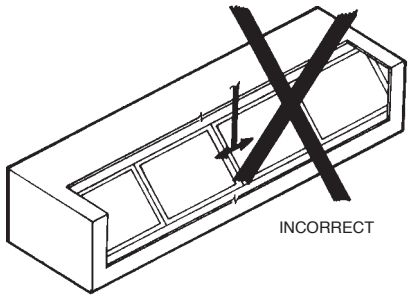
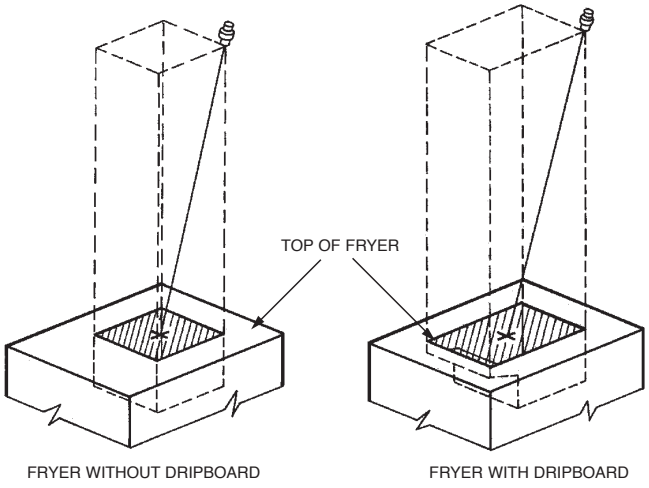


FIGURE 4-14
000208

Fryer – Single Nozzle Protection (Continued)

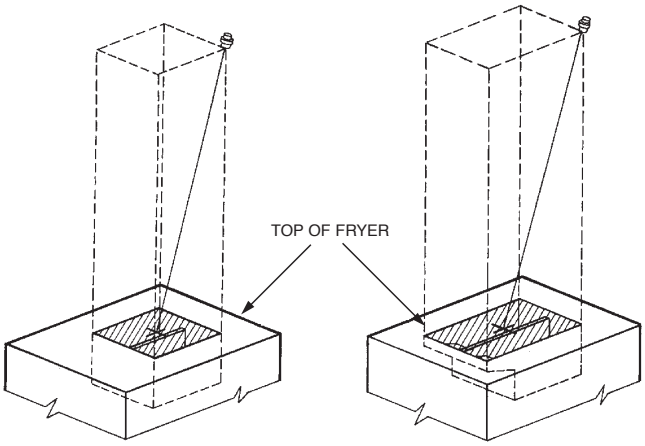
Maximum Area Dimensions – Single Nozzle Fryer Protection

Max. Size Frypot Only	Max. Size Overall With Dripboard	Type of Nozzle	Nozzle Height Above Top of Fryer	Nozzle Location
Full or Split Vat 14 in. x 15 in. ▸(355 mm x 381 mm)	Full or Split Vat 14 in. x 21 in. (355 mm x 533 mm)	230	27 in. to 47 in. (686 mm to 1193 mm)	See Figure 4-15 and 4-16
Full or Split Vat 14 in. x 15 in. ▸(355 mm x 381 mm)	Full or Split Vat 14 in. x 21 in. (355 mm x 533 mm)	245	20 in. to 27 in. (508 mm to 685 mm)	See Figure 4-15 and 4-16
Full or Split Vat 14 in. x 15 in. ▸(355 mm x 381 mm)	Full or Split Vat 14 in. x 21 in. (355 mm x 533 mm)	290	13 in. to 16 in. (330 mm to 406 mm)	See Figure 4-17
Full or Split Vat 14 1/2 in. x 14 in. ▸(368 mm x 355 mm)	Full or Split Vat 14 1/2 in. x 26 1/2 in. (368 mm x 673 mm)	290	16 in. to 27 in. (406 mm to 685 mm)	See Figure 4-17



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

FIGURE 4-15
002280



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

FIGURE 4-16
002283