CERTIFICATE OF TRAINING

Johnson Controls

It is hereby certified that

Michael Edwards

BFPE INTERNATIONAL -CLAYTON

has successfully completed the training course for

ANSUL R-102 Restaurant Fire Suppression Systems - Online Recertification

Completed On 9/9/2022

This certificate is considered valid for a period of three years from completion date and linked to the attendee and the company mentioned above.

Training Hours:

ANSUL

Matt Boyle
Technical Training Manager – Fire Suppression

APPLIANCE PROTECTION (Continued)

Range Protection (With or Without Back Shelf/ Obstruction)

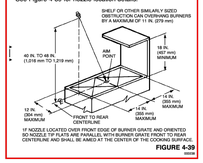
When this type of hazard is equipped with a back shelf or other similarly sized obstruction located above the range top, two protection options are available: One requires a 1F nozzle and the other option requires a 260 nozzle.

RANGE PROTECTION 1F (1-FLOW) NOZZLE (WITH OR WITHOUT BACK SHELF/OBSTRUCTION)

Single and multiple burner ranges can be protected using a 1F nozzle. The nozzle is stamped with 1F indicating that it is a one-flow nozzle and must be counted as one flow number.

- The 1F nozzle range protection allows the shelf to be installed at a minimum height of 18 in. (457 mm) above the hazard area.

When using the 1F nozzle for range protection with or without back shelf, the maximum length of the hazard area being protected must not exceed 28 in. (711 mm) and the maximum area of the hazard area must not exceed 336 in.^{2} (0.216 m^2). See Figure 4-39 for nozzle location details.



IF NOZZLE LOCATED OVER FRONT EDGE OF BURNER GRATE AND ORIENTED SO NOZZLE TIP FLATS ARE PARALLEL WITH BURNER GRATE FRONT TO REAR CENTERLINE AND SHALL BE AIMED AT THE CENTER OF THE COOKING SURFACE.

FIGURE 4-39 84004

RANGE PROTECTION 2(0 (2-FLOW) NOZZLE (WITH OR WITHOUT BACK SHELF/OBSTRUCTION)

Single and multiple burner ranges can be protected using a 260 nozzle. The nozzle is stamped with 260 indicating that it is a two-flow nozzle and must be counted as two flow numbers.

When using the 260 nozzle for range protection with or without back shelf or other similarly sized obstruction, the maximum length of burner grates being protected must not exceed 32 in. (812 mm) and the maximum area of the burner grates must not exceed 384 in.^{2} (0.247 m^2). Nozzle must be located on the front edge of the burner grates and aimed at a point 10 in. (254 mm) from the back edge of the burner grates. Nozzle must be mounted 30 in. to 40 in. (762 mm to 1,016 mm) above the hazard surface. See Figure 4-40.

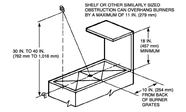


FIGURE 4-40 84006

APPLIANCE PROTECTION (Continued)

Upright Broiler/Salamander Protection (Continued)

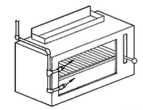


FIGURE 4-62 84007

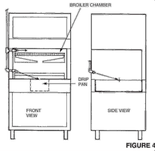


FIGURE 4-63 84008

Gas-Radiant/Electric Char-Broiler Protection

The R-102 system uses the 1N nozzle for gas-radiant/electric char-broiler protection.

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

One 1N nozzle protects a hazard with a maximum length of 36 in. (914 mm) and a total cooking area which does not exceed 864 in.^{2} (0.557 m^2). The nozzle tip must be located 15 in. to 40 in. (381 mm to 1,016 mm) above the hazard surface. When using this nozzle for gas-radiant/electric char-broiler protection, the nozzle must be positioned anywhere along or within the perimeter of the maximum cooking area and shall be aimed at the center of the cooking surface. See Figure 4-64.

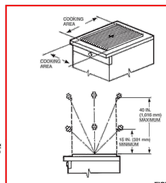


FIGURE 4-64 84009

Electric Char-Broiler Protection (Optional)

The R-102 system uses the 1N nozzle for electric char-broiler protection.

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

One 1N nozzle protects a hazard with a maximum length of 34 in. (863 mm) and a total cooking area which does not exceed 680 in.^{2} (0.438 m^2). The nozzle tip must be located 20 in. to 50 in. (508 mm to 1,270 mm) above the hazard surface. When using this nozzle for electric char-broiler protection, the nozzle must be positioned anywhere along or within the perimeter of the maximum cooking area and shall be aimed at the center of the cooking surface. See Figure 4-65.

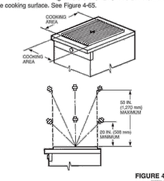


FIGURE 4-65 84004, 84007

APPLIANCE PROTECTION (Continued)

Griddle Protection 260 (2-Flow) Nozzle – High Proximity Application

30 in. to 50 in. (762 mm to 1,270 mm) above the cooking surface.

This high proximity application uses the 260 nozzle.

The nozzle is stamped with 260 indicating this is a two-flow nozzle and must be counted as two flow numbers.

One 260 nozzle protects a maximum cooking area of 1,440 in.^{2} (0.929 m^2) with a maximum dimension of 48 in. (1,219 mm).

When using this nozzle for griddle protection, the nozzle must be positioned along the cooking surface perimeter to 2 in. (51 mm) inside perimeter, and aimed at the center of the cooking surface. See Figure 4-45 and Figure 4-46.

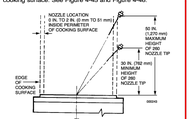


FIGURE 4-45 84004

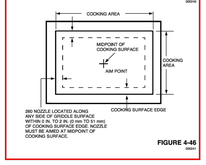


FIGURE 4-46 84004

Griddle Protection 290 (2-Flow) Nozzle – Medium Proximity Application

20 in. to 30 in. (508 mm to 762 mm) above the cooking surface.

The medium proximity application uses the 290 nozzle.

The nozzle is stamped with 290 indicating this is a two-flow nozzle and must be counted as two flow numbers.

One 290 nozzle protects a maximum cooking area of 1,440 in.^{2} (0.929 m^2) with a maximum dimension of 48 in. (1,219 mm).

When using this nozzle for griddle protection, the nozzle must be positioned along the perimeter to 2 in. (51 mm) inside perimeter, and aimed at the center of the cooking surface. See Figure 4-47 and Figure 4-48.

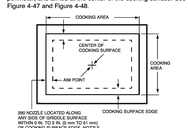


FIGURE 4-47 84004

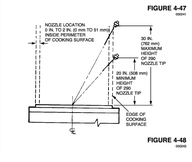


FIGURE 4-48 84004

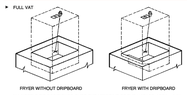
APPLIANCE PROTECTION (Continued)

Fryer – Single Nozzle Protection (Continued)

TABLE 4-2: MAXIMUM AREA DIMENSIONS – SINGLE NOZZLE FRYER PROTECTION (Continued)

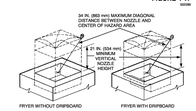
Max. Size Frypot Only	Max. Size Overall With Dripboard	Type of Nozzle	Nozzle Height Above Top of Fryer	Nozzle Location
Full Vat 14 1/2 in. x 16 1/2 in. (368 mm x 419 mm)	Full Vat 14 1/2 in. x 26 1/2 in. (368 mm x 673 mm)	290	16 in. to 21 in. (406 mm to 533 mm)	See Figure 4-17
Full Vat 19 1/2 in. x 19 in. (495 mm x 482 mm)	Full Vat 19 1/2 in. x 25 3/8 in. (495 mm x 644 mm)	290	13 in. to 16 in. (330 mm to 406 mm)	See Figure 4-17
Full Vat 19 1/2 in. x 19 in. (495 mm x 482 mm)	Full Vat 19 1/2 in. x 25 3/8 in. (495 mm x 644 mm)	3N	See Figure 4-18	See Figure 4-18
Full Vat 18 in. x 18 in. (457 mm x 457 mm)	Full Vat 18 in. x 27 3/4 in. (457 mm x 704 mm)	3N	25 in. to 35 in. (635 mm to 889 mm)	See Figure 4-19

▸ FULL VAT



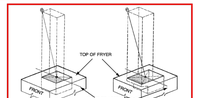
290 NOZZLE TIP POSITIONED OVER THE MIDPOINT OF THE HAZARD AREA ± 3 IN. (76 mm) FROM THE MIDPOINT ALONG THE LONGEST SIDE OF THE HAZARD AND ± 1 IN. (25 mm) FROM THE MIDPOINT ALONG THE SHORTEST SIDE OF THE HAZARD AND AIMED AT THE MIDPOINT OF THE COOKING AREA.

FIGURE 4-17 84004



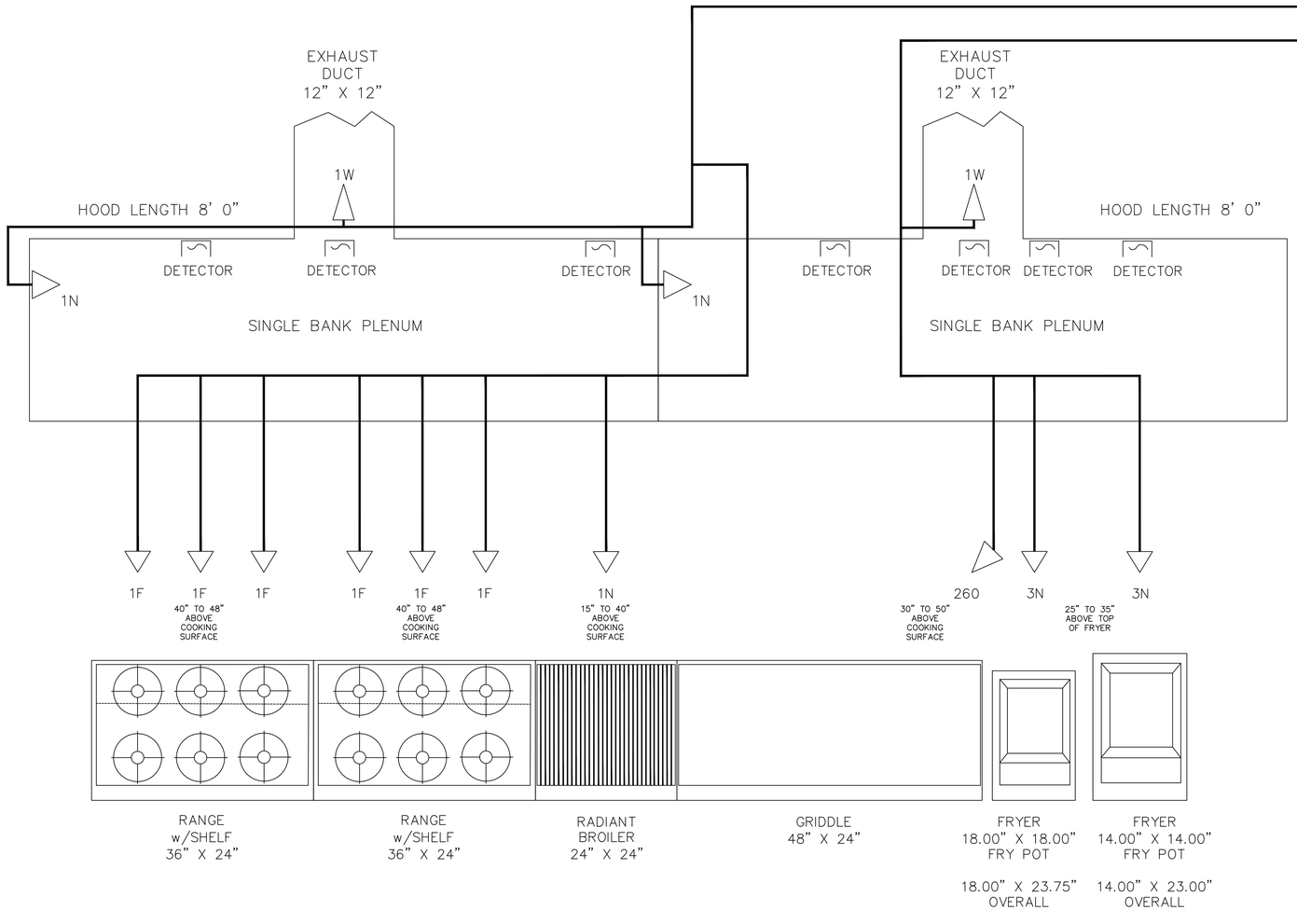
3N NOZZLE TIP POSITIONED ANYWHERE ALONG OR WITHIN PERIMETER OF COOKING SURFACE AND AIMED TO THE CENTER OF THE COOKING AREA.

FIGURE 4-18 84007



NOTE: 3N NOZZLE TIP MUST BE LOCATED WITHIN THE PERIMETER OF THE COOKING SURFACE AND WITHIN THE FRONT HALF OF THE FRY POT AND AIMED AT THE CENTER.

FIGURE 4-19 84015, 84008



ANSUL R–102 DETAILS

* DETECTOR TEMP PER ANSUL MANUAL PAGE 3–11 REV 11, 4–71 TO 4–72 REV 11
* ALL PIPING 3/8" SCH. 40 BLACK STEEL PER ANSUL MANUAL PAGE 4–67 TO 4–69, REV 11
* ALL FITINGS 3/8" 150# BLACK STEEL PER ANSUL MANUAL PAGE 4–67 TO 4–69, REV 11
* ALL NOZZLES POSITIONED PER ANSUL MANUAL, SECTION 4
* PULL STATION IN AISLE OF EGRESS
* GAS APPLIANCES W/ AUTOMATIC SHUT–OFF
* MICRO SWITCH FOR SHUT DOWNS & ALARM TIE IN

Reviewed for Fire Code Compliance
Harnett County North Carolina
Leslie Jackson
08/30/2024 1:34:35 PM

MARK	BY	DATE
REVISIONS:		

Seal

Pre–engineered Fire System Seal Not Required

SHOP DRAWINGS

BFPE INTERNATIONAL
FIRE, SAFETY & SECURITY CONSULTANTS
115 MACKENAN DRIVE
CLAYTON, NORTH CAROLINA 27520
(919) 550 – 2699

DRAWN BY: MWE
CHECKED BY:
SCALE: N.T.S
SHEET NO. 1 OF 1 SHEETS
DATE: August 27, 2024
PROJECT NO: N/A

Sheet Contents:
Fire Suppression System

El Burrito Mexican Restaurant
6743 Overhills Road
Spring Lake, NC 28390

DRAWING NO.:
FS100