Pyro-Chem

It is hereby certified that

**Michael Edwards**

**BFPE INTERNATIONAL - CLAYTON**

Has successfully completed the training course for:

**KITCHEN KNIGHT II Recertification Exam (BTS-65487-Q)**

Completed this **7/7/2020**

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: **3.5**

Certificate of Training

Katherine A. Adrian
Global Director
Technical Training Curriculum
Johnson Controls

Johnson Controls



**Review For Fire Code Compliance**

Harnett COUNTY NORTH CAROLINA

**Leslie Jackson**

03/17/2023 7:31:04 AM

# PYROCHEM KKII DETAILS

* DETECTOR TEMP PER PYRO CHEM MANUAL PAGE 2-6, REV 6
* ALL PIPING PER PYRO CHEM MANUAL 3-18 TO 3-22, REV. 6
* ALL NOZZLES POSITIONED PER PYRO CHEM MANUAL, CHAPTER III
* PULL STATION IN AISLE OF EGRESS
* GAS APPLIANCES W/ SHUT-OFF
* MICRO SWITCH FOR SHUT DOWNS & ALARM TIE IN



**NOZZLE COVERAGE AND PLACEMENT (Continued)**

**Appliance Protection (Continued)**

1. **Fryers without Drip Board** (19 in. x 19 1/2 in. maximum) (482 mm x 495 mm)

Two nozzles are available for fryer protection: High proximity and low proximity.

The Model 2H nozzle is used for high proximity fryer protection. This nozzle is a two flow nozzle. The nozzle must be located **anywhere within the perimeter** of the hazard area, 24 in. to 48 in. (610 mm to 1219 mm) above the cooking surface of the appliance and aimed at the center of the cooking area. See Figure 3-8.

The Model 2L nozzle is used for low proximity fryer protection. This nozzle is a two flow nozzle. The nozzle must be located **anywhere on the perimeter** of the hazard area, 13 in. to 24 in. (330 mm to 609 mm) above the cooking surface of the appliance and aimed at the center of the cooking area. See Figure 3-8.

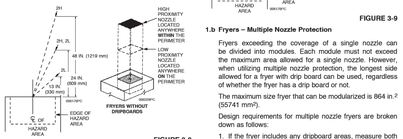



**FIGURE 3-8**

**1a. Fryers with Drip Board**

The maximum single nozzle protection dimensions depend on the dimensions of the fry pot only.

For fry pots with maximum dimensions of 18 in. (457 mm) on the longest side and 324 in.$^2$ (20903 mm$^2$) max. area, use **overall** dimensions of 27 3/4 in. (704 mm) on the longest side and 500 in.$^2$ (32258 mm$^2$) max. area.

For fry pots with maximum dimensions exceeding 18 in. x 324 in.$^2$ (457 mm x 20903 mm$^2$), but no greater than 19 1/2 in. (495 mm) on the longest side and 371 in.$^2$ (23935 mm$^2$) max area, use **overall** dimensions of 25 3/8 in. (644 mm) on the longest side and 495 in.$^2$ (31935 mm$^2$) area.

Two nozzles are available for fryer protection: High proximity and low proximity.

The Model 2H Nozzle (Part No. 551028) is used for high proximity fryer protection. This nozzle is a two flow nozzle. The nozzle must be located **anywhere within the perimeter** of the hazard area, 24 in. to 48 in. (610 mm to 1219 mm) above the cooking surface of the appliance and aimed at the center of the cooking area. See Figure 3-9.

The Model 2L nozzle is used for low proximity fryer protection. This nozzle is a two flow nozzle. The nozzle must be located anywhere on the perimeter of the hazard area, 13 in. to 24 in. (330 mm to 609 mm) above the cooking surface of the appliance and aimed at the center of the cooking area. See Figure 3-9.

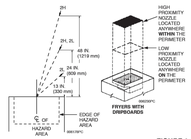



**FIGURE 3-9**

**1.b Fryers – Multiple Nozzle Protection**

Fryers exceeding the coverage of a single nozzle can be divided into modules. Each module must not exceed the maximum area allowed for a single nozzle. However, when utilizing multiple nozzle protection, the longest side allowed for a fryer with drip board can be used, regardless of whether the fryer has a drip board or not.

The maximum size fryer that can be modularized is 864 in.$^2$ (55741 mm$^2$).

Design requirements for multiple nozzle fryers are broken down as follows:

1. If the fryer includes any dripboard areas, measure both the internal length (front to back) and width of the frypot portion. Then measure the internal length and width of the overall hazard area including any dripboard areas.

   Determine the area of both the frypot and the area of the overall vat by multiplying corresponding length and width dimensions.
2. Divide the frypot or overall vat into modules, each of which can be protected by a single nozzle, based on the maximum dimension and area coverage of the nozzle as specified in Table 3-2: Design.
   - If the module considered does not include any portion of the dripboard, use only the maximum frypot area and maximum dimension listed in Table 3-2: Design.
   - If the module considered includes any dripboard areas, use both the maximum frypot area and dimension listed in Table 3-2: Design, and the maximum overall area and dimension listed in Table 3-2: Design.
3. None of the maximum dimensions may be exceeded. If either the maximum frypot or the overall sizes are exceeded, the area divided into modules will need to be redefined with the possibility of an additional nozzle.



**NOZZLE COVERAGE AND PLACEMENT (Continued)**

**Appliance Protection (Continued)**

The 1L nozzle (Part No. 551026) is used for low proximity griddle protection. This nozzle is a one flow nozzle. The nozzle must be located **above any corner** of the hazard surface, 10 in. to 24 in. (254 mm to 609.6 mm) above the cooking surface of the appliance and aimed at a point 12 in. (304 mm) over and 12 in. (304 mm) in from the corner below the nozzle. See Figure 3-16.

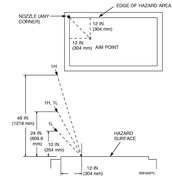



**FIGURE 3-16**

**6a. Small Griddle** (1080 in.2 (69677 mm2) x 36 in. (914 mm) longest side maximum) **Alternate Protection**

Two nozzles are available for small griddle **alternate protection:** High proximity and low proximity.

The 2H nozzle (Part No. 551028) is used for high proximity griddle protection. This nozzle is a two flow nozzle. The nozzle must be located 0 to 6 in. (0 to 152 mm) from short side of the hazard surface, 24 in. to 48 in. (609.6 mm to 1219 mm) above the cooking surface of the appliance and aimed at the center of the hazard area. See Figure 3-17.

The 2L nozzle (Part No. 551027) is used for low proximity griddle protection. This nozzle is a two flow nozzle. The nozzle must be located 0 to 6 in. (0 to 152 mm) from the short side of the hazard surface, 13 in. to 24 in. (331 mm to 609.6 mm) above the cooking surface of the appliance and aimed at the center of the hazard area. See Figure 3-17.

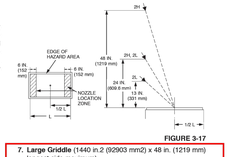



**FIGURE 3-17**

**7. Large Griddle** (1440 in.2 (92903 mm2) x 48 in. (1219 mm) longest side maximum)

Two nozzles are available for large griddle protection: High proximity and low proximity.

The 2H nozzle (Part No. 551028) is used for high proximity griddle protection. This nozzle is a two flow nozzle. The nozzle must be located **above any corner** of the hazard surface, 24 in. to 48 in. (609.6 mm to 1219 mm) above the cooking surface of the appliance and aimed at a point 12 in. (304 mm) over and 12 in. (304 mm) in from the corner below the nozzle. See Figure 3-18.

The 2L nozzle (Part No. 551027) is used for low proximity griddle protection. This nozzle is a two flow nozzle. The nozzle must be located **above any corner** of the hazard surface, 10 in. to 24 in. (254 mm to 609.6 mm) above the cooking surface of the appliance and aimed at a point 12 in. (304 mm) over and 12 in. (304 mm) in from the corner below the nozzle. See Figure 3-18.

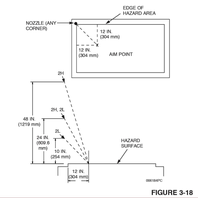



**FIGURE 3-18**



**NOZZLE COVERAGE AND PLACEMENT (Continued)**

**Appliance Protection (Continued)**

**TABLE 3-4: NOZZLE POSITIONING (Continued)**

| Range Length – L in. | (mm) | Range Width – W in. | (mm) | Radius – R in. | (mm) |
|---|---|---|---|---|---|
| 28 | (711) | 18 | (457) | 3 1/8 | (79) |
| 28 | (711) | 19 | (482) | 2 7/8 | (73) |
| 28 | (711) | 20 | (508) | 2 5/8 | (66) |
| 28 | (711) | 21 | (533) | 2 1/4 | (57) |
| 28 | (711) | 22 | (558) | 2 | (50) |
| 28 | (711) | 23 | (584) | 1 5/8 | (41) |
| 28 | (711) | 24 | (609) | 1 3/8 | (34) |
| 28 | (711) | 25 | (635) | 1 | (25) |
| 28 | (711) | 26 | (660) | 3/4 | (19) |
| 28 | (711) | 27 | (685) | 3/8 | (9) |
| 28 | (711) | 28 | (711) | 0 | (0) |

**4. Small Wok** (24 in. (609.6 mm) diameter x 6 in. (152 mm) depth maximum)

Two nozzles are available for small wok protection: High proximity and low proximity.

The 1H nozzle (Part No. 551029) is used for high proximity wok protection. This nozzle is a one flow nozzle. The nozzle must be located **anywhere on the perimeter** of the appliance, 24 in. to 48 in. (609.6 mm to 1219 mm) above the top edge of the wok and aimed at the center of the wok. See Figure 3-14.

The 1L nozzle (Part No. 551026) is used for low proximity wok protection. This nozzle is a one flow nozzle. The nozzle must be located **anywhere on the perimeter** of the appliance, 13 in. to 24 in. (331 mm to 609.6 mm) above the top edge of the wok and aimed at the center of the wok. See Figure 3-14.

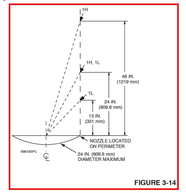



**FIGURE 3-14**

**5. Large Wok** (Greater than 24 in. to 30 in. (609.6 mm to 762 mm) diameter x 8 in. (203 mm) depth maximum)

Two nozzles are available for large wok protection: High proximity and low proximity.

The 2H nozzle (Part No. 551028) is used for high proximity wok protection. This nozzle is a two flow nozzle. The nozzle must be located **anywhere on the perimeter** of the appliance, 24 in. to 48 in. (609.6 mm to 1219 mm) above the top edge of the wok and aimed at the center of the wok. See Figure 3-15.

The 2L nozzle (Part No. 551027) is used for low proximity wok protection. This nozzle is a two flow nozzle. The nozzle must be located **anywhere on the perimeter** of the appliance, 13 in. to 24 in. (331 mm to 609.6 mm) above the top edge of the wok and aimed at the center of the wok. See Figure 3-15.

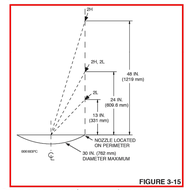
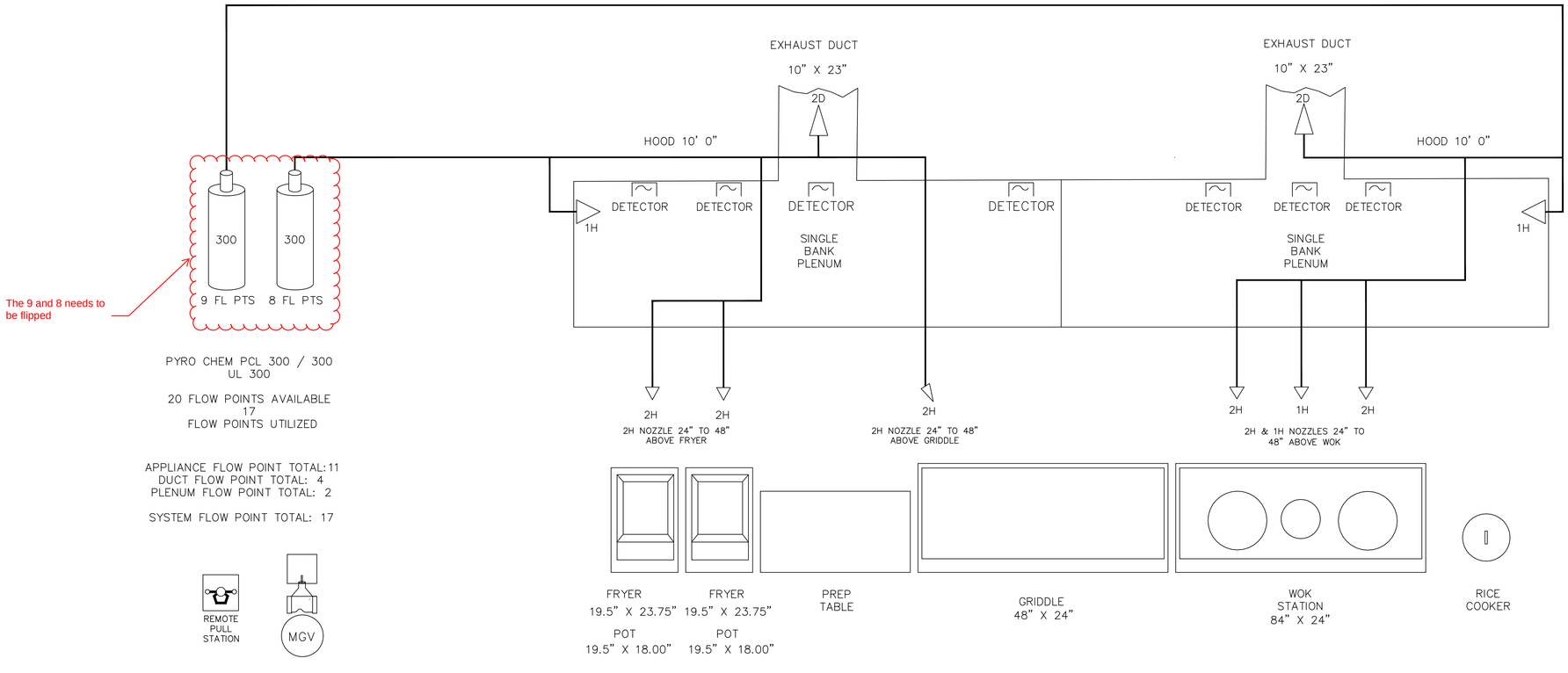



**FIGURE 3-15**

**6. Small Griddle** (1080 in.$^2$ (69677 mm$^2$) x 36 in. (914 mm) longest side maximum)

Two nozzles are available for small griddle protection: High proximity and low proximity.

The 1H nozzle (Part No. 551029) is used for high proximity griddle protection. This nozzle is a one flow nozzle. The nozzle must be located **above any corner** of the hazard surface, 24 in. to 48 in. (609.6 mm to 1219 mm) above the cooking surface of the appliance and aimed at a point 12 in. (304 mm) over and 12 in. (304 mm) in from the corner below the nozzle. See Figure 3-16.




| MARK | REVISIONS | BY | DATE |
|---|---|---|---|
| | | | |

Seal

Pre-engineered Fire System Seal Not Required

SHOP DRAWINGS

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

DRAWN BY: MWE
CHECKED BY:
SCALE: N.T.S
SHEET NO. 1 OF 1 SHEETS
DATE: March 9, 2023
PROJECT NO: N/A

Sheet Contents:
**Fire Suppression System**

Koto Hibachi & Sushi
177 Mittie Haddock Drive
Cameron, North Carolina 28326

DRAWING NO.:
FS100