City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

PERMIT CARD – PLEASE POST AT JOB SITE

THIS DOCUMENT BECOMES YOUR PERMIT WHEN PROPERLY VALIDATED

Per FBC 105.3.3: An enforcing authority may not issue a building permit for any building construction, erection, alteration, modification, repair or addition unless the permit either includes on its face or there is attached to the permit the following statement: "**NOTICE: In addition to the requirements of this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies.**" The issuance of this permit does not grant permission to violate any applicable City, Orange County, State of Florida and/or Federal codes and/or ordinances. Separate permits are required for Signs, Roofing, Electrical, Gas, Plumbing and Mechanical services. This permit becomes VOID if the work authorized is not commenced within 6 months, or is suspended or abandoned for a period of 6 months after commencement. WORK SHALL BE CONSIDERED SUSPENDED IF AN APPROVED INSPECTION HAS NOT BEEN MADE WITHIN A 6 MONTH PERIOD. PERMISSION IS GRANTED TO DO THE FOLLOWING WORK ACCORDING TO THE CONDITIONS HEREON AND THE APPROVED PLANS AND SPECIFICATIONS, SUBJECT TO COMPLIANCE WITH THE ORDINANCES OF THE CITY OF BELLE ISLE, FLORIDA.

Scope of Work: FIRE SUPPRESSION SYSTEM under exhaust hood

comments: NONE

Project Information

Address: 6101 S. Orange Ave, Belle Isle, FL 32812
Parcel ID: 24-23-29-4088-00-010
Property Owner: Villalobas, Vincent/NLV Properties
Phone Number: none

****

Company Name: Advanced Fire Equipment Inc
Contractor Name: Noland, Dean
License Number: 410925-0005-1988
Address: 115 S. Laurel Ave, Sanford, FL 32771
Phone Number: 407 324 8303

Permit Number: 2016-08-011

Date of Application: 08/09/2016
Date Permit Issued: 08/10/2016

WARNING TO OWNER: "YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT." ON THE JOB INSPECTION(S) MUST BE MADE BEFORE PROCEEDING WITH SUBSEQUENT WORK. THIS CARD MUST BE DISPLAYED OUTSIDE AND BE PROTECTED FROM THE WEATHER WHILE BEING VISIBLE FROM THE STREET UNTIL THE FINAL INSPECTIONS HAVE BEEN APPROVED.

BUILDING FEATURES

IMPACT FEES

School $
Traffic $

ZONING FEES

Zoning Fee $

UNIVERSAL ENG - BUILDING FEES

Cert of Occ $
Demo $
Building $
Fence $
Driveway $
Shed $
Window(s) $
Door(s) $
PrePower $
Electrical $
Temp Pole $
Plumbing $
Mechanical $
Gas $
Roofing $
Boat Dock $
Screen Encl $
Swimming Pool $
Fire $109.50

SURCHARGE FEES

Surcharge Fee $2.00
Surcharge Fee $2.00

TOTAL FEES $113.50

Date Paid 8-15-16

CC or Check # VISA 0944

Amount Paid 113.50

The person accepting this permit shall conform to the terms of the application on file and construction shall conform to the requirements of the Florida Building Code (FS 553).

BUILDING INSPECTOR USE ONLY

IF APPLICABLE:

Have Zoning Approval Conditions Been Met? YES NO **Have Stormwater Approval Conditions Been Met?** YES NO **Silt fencing in place?** YES NO **Turbidity Barrier in place?** YES NO

☐ **BUILDING**

1st _____ (Footing/Foundation)
Survey specific foundation plan must be onsite before slab pour. Approved Plan on Site? ____

2nd _____ (Slab)

3rd _____ (Lintel)(Wall Reinforcing on Masonry Building)

4th _____ (Exterior Framing)(Roof/Wall Sheathing)

5th _____ (Framing) (To be made after Plumbing/ Mechanical/ Electrical Rough-Ins & Windows/Doors Installed)

6th _____ (Insulation to be Made After Roof Installed)

7th _____ (Drywall)

8th _____ (Sidewalk/Driveway)

9th _____ (Other)

10th _____ (Final – After MEP and Other Applicable Finals)

☐ **ROOFING**

1ST ROOFING Deck Nailing/Dry-in/Flashing _____

2nd ROOFING Covering In-Progress _____

3rd ROOFING Covering Final _____

☐ **PLUMBING** (Pool-Piping, Solar, Irrigation, Water Treatment Equip, Etc...)

☐

1ST _____ (Underground) 2nd _____ (Sewer)

3rd _____ (Rough-In/Tub Set) 4th _____ (Final)

CHECK APPROPRIATE BOX

☐ **GAS** __Natural ___LP ☐ **MECHANICAL** ☐**ELECTRICAL** ☐ **LOW VOLTAGE**

1st _____ (Rough-In) 2nd _____ (Final)

Inspection requests are to be emailed to BIDscheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 4pm. Please include the following in your request: Permit #, project address, type of inspection, date of the requested inspection, a contact name & a contact phone number. AM or PM may be requested but cannot be guaranteed.

For a copy of your permit, or to check inspection results, please visit https://universalengineering.sharefile.com

login ID = cobi@universalengineering.com password = universal13

RECEIVED
AUG 09 2016
BY: 2016-08-011

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 328
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

APPLICATION FOR FIRE SPRINKLER / UNDERGROUND FIRE LINE PERMIT

YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

DATE OF APPLICATION: 8-8-16 PERMIT NUMBER 2016-08-011

The undersigned hereby applies for a permit to make electrical installations as indicated below. PLEASE PRINT

Project Address 6101 S. ORANGE AVE, Belle Isle FL ☑ 32809 ☐ 32812

Property Owner NLV PROPERTIES Phone

Property Owner's Mailing Address 1774 PAM CIR City BELLE ISLE

State Zip Code Parcel Id Number: 242329408800010

To obtain this information, please visit http://www.ocpafl.org/Searches/ParcelSearch.aspx

Class of Building: Old ☑ New ☐ Type of Building: Commercial ☑ Other ☐

Type of Work: New ☑ Alteration ☐ Addition ☐ Repair ☐ Existing ☐

Description of Work: INSTALL A PRE ENGINEERED FIRE SYSTEM UNDER EXHAUST HOOD

Lisa Whaley 8/10/16

NUMBER OF UNITS: 1 SQUARE FOOTAGE: JOB VALUATION: $ 1900

PLEASE CHECK ALL ITEMS INCLUDED WITH PERMIT PACKAGE:

☐ 2 COPIES OF A SITE PLAN SHOWING T-TAP PLACEMENT OF BACKFLOW, LINE SIZE, POINT AT WHICH LINE ENTERS THE BUILDING, LOCATION ON ADDRESS SIDE OF PLACEMENT OIC AND FDC, AND LOCATION OF CLOSEST HYDRANT

☐ 2 COPIES OF HYDRAULIC CALCULATIONS

☐ 2 COPIES OF SUBMITTAL DATA FOR ALL MATERIALS – EXISTING AND NEW

☐ 2 COPIES OF HEAD LAYOUT SHOWING SIZE OF MAIN AND ALL LEG LINES LEADING TO HEADS

PLANS FOR SPRINKLER SYSTEMS WITH MORE THAN 50 HEADS MUST BE DESIGNED, PREPARED AND SIGNED BY A FLORIDA REGISTERED FIRE CONTRACTOR.

1 Fire Final Inspection

Building Official: Date

Verified Contractor's Licenses & Insurance are on file SW Date 8-9-16

Permit Fee = $ 73.-
Review Fee = $ 36.50
3% FL Surcharge = $ 4.-
TOTAL Permit = $ 113.50

I hereby certify that the above is true and correct to the best of my knowledge.

I hereby make Application for Permit as outlined above, and if same is granted I agree to conform to all Florida Fire Prevention Code Regulations and City Ordinances (found at www.cityofbelleisle.org) regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable City and/or State of Florida codes and/or ordinances.

CONTRACTOR SIGNATURE D Noland LICENSE # 4109280005198 8

CONTRACTOR PRINTED NAME Dean noland COMPANY NAME Advanced fire Equipm.

Street Address 115 S. Laurel ave

City Sanford State FL Zip Code 32771 Phone Number 407 324 8303

Email Address afefire@aol.com

NOTE: The Building Permit Number is required if the Electrical installation is associated with any construction or alteration where a Building Permit has been issued.

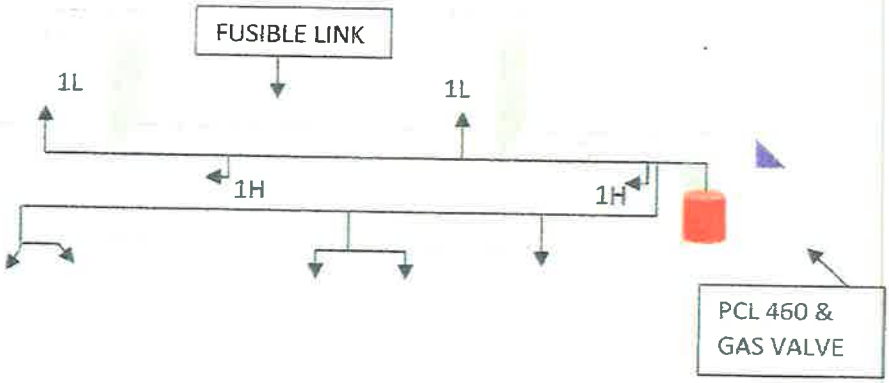
Building Permit Number Renovation - NC Building

73 ÷ 2
36.50
109.50

WO 7051

ADVANCED
FIRE EQUIPMENT, INC.
(407) 699-6990

8-4-16



24x18x29 GYRO. 1H NOZZLE. AIMED DOWN SKEWER INTO GREASE PAN.	36X24 GRIDDLE. 1H NOZZLE. N.H. 24-48"	36X24 RANGE. 2L & 1H NOZZLE. N.H. 34-48" & 40-50"	18X18 FRYER. 2H NOZZLE. N.H. 24-48"

FRIENDLY MARKET-6101 S ORANGE AVE, ORLANDO

PLANS TO INSTALL A PYRO CHEM PRE ENGINEERED FIRE SUPPRESSION SYSTEM UNDER AN EXHAUST HOOD. A PCL 460 CYLINDER WILL BE USED. IT IS CAPABLE OF 15 FLOW POINTS AND 11 WILL BE USED. WHEN THE FIRE SYSTEM IS ACTIVATED IT WILL SHUT DOWN THE GAS AND ELECTRIC. AN ALARM WILL THEN SOUND. IF NO ALARM IS AVAILABLE AN ALARM BELL WILL THEN RING. THE EXHAUST HOOD IS 13' LONG AND WILL BE PROTECTED BY 2-1H NOZZLES. THERE ARE TWO EXHAUST DUCTS WITH A MEASUREMENT OF 12X12. THEY WILL EACH BE PROTECTED BY A 1L NOZZLE. THERE WILL BE 5 FUSIBLE LINKS. ALL SCHEDULE 40 BLACK PIPE WILL BE INSTALLED. THE CLASS K AND REMOTE PULL WILL BE TOWARDS THE EXIT. ALL NFPA CODES FROM 2009 AND 2011 WILL BE FOLLOWED. THE FIRE SYSTEM WILL BE UL 300.

CHAPTER III
SYSTEM DESIGN

GENERAL

The KITCHEN KNIGHT II 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 KITCHEN KNIGHT II system must be trained and hold a current PYRO-CHEM certificate in a KITCHEN KNIGHT II training program.

NOZZLE COVERAGE AND PLACEMENT

This section will provide guidelines for determining nozzle type, positioning, and quantity for duct, plenum, and appliance protection.

Duct Protection

It is not required that the fan be shut down or the exhaust duct be dampered for the system to operate properly.

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.

Duct protection requires that a nozzle be positioned to discharge into the duct. Two nozzles are available for duct protection.

The Model IL Nozzle, Part No. 551026, is a one (1) flow nozzle. A single IL nozzle is capable of protecting square or rectangular ducts with a maximum perimeter of 50 in. (127 cm) (maximum side of 16 3/4 in. (42.6 cm)), with the diagonal being a maximum of 18 3/4 in. (47.6 cm). It can also protect a round duct with a maximum diameter of 16 in. (40.6 cm).

The Model 2D duct nozzle, Part No. 551038, is a two (2) flow nozzle. A single 2D nozzle is capable of protecting square or rectangular ducts with a maximum perimeter of 100 in. (254 cm), with the diagonal being a maximum of 37 3/8 in. (94.9 cm). It can also protect a round duct with a maximum diameter of 31 7/8 in. (81 cm).

When two (2) 2D duct nozzles are used to protect a single duct, the cross sectional area of the duct must be divided into two equal symmetrical areas. The nozzle must then be installed on the centerline of the area it protects and aimed directly into the duct opening.

The nozzle(s) must be installed on the centerline of the duct, with the tip located 0 to 6 in. (15.2 cm) into the opening, and aimed directly into the duct opening. See **Figure 3-1.**

In installations where a UL listed damper assembly is employed, the duct nozzle can be installed beyond the 6 in. (15.2 cm) maximum, to a point just beyond the damper assembly that will not interfere with the damper. Exceeding the maximum of 6 in. (15.2 cm) in this way will not void the UL listing of the system.

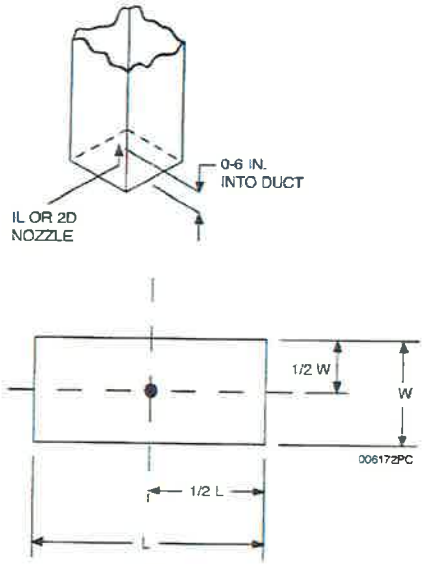


Figure 3-1.

AGENT DISTRIBUTION HOSE AND RESTRAINING CABLE KIT

The Agent Distribution Hose and Restraining Cable Kit, Part No. 435982, consists of a 5 ft (1.5 m) long Agent Distribution Hose, a 3 ft (0.9 m) long Restraining Cable, and a Restraining Cable Hardware Package. The Agent Distribution Hose can be utilized with castered appliances found in commercial kitchens. The hose allows for movement of the appliance for cleaning without having to disconnect any fire suppression system discharge piping.

STAINLESS STEEL ACTUATION HOSE

The Stainless Steel Actuation Hose is used to connect the actuation line compression tees and can also be connected end to end. The hose has the same thread, 7/16-20, as the fittings. **See Figure 2-19.**

Hose Part No.	Length
417582	8 in. (20 cm)
31809	16 in. (41 cm)
32336	24 in. (61 cm)
430815	42 in. (107 cm)

Fitting Part No.	Description
31810	Male Elbow (7/16-20 x 1/4 in. NPT)
31811	Male Tee (7/16-20 x 7/16-20 x 1/4 in. NPT)
32338	Male Straight Connector (7/16-20 x 1/4 in. NPT)

Figure 2-19. Stainless Steel Actuation Hose.
000433

NOZZLES

Nozzles have been developed for appliance, plenum, and duct applications. All nozzles have a specific flow point value and are supplied with metal blow-off caps to prevent clogging. Each nozzle is stamped with the model number. See **Figure 2-20.** Application limitations are provided in the design section of this manual.

Part No.	Description	Flow No.
551029	1H Nozzles, pack of ten (10)	1
551026	1L Nozzles, pack of ten (10)	1
551028	2H Nozzles, pack of ten (10)	2
551027	2L Nozzles, pack of ten (10)	2
551038	2D Nozzles, pack of ten (10)	2

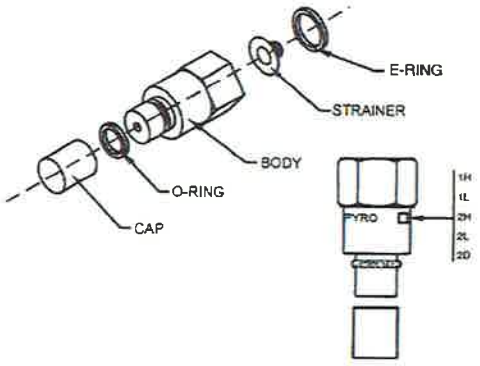


Figure 2-20. Nozzles.
008171PC

RUBBER BLOW-OFF CAPS

The Rubber Blow-Off Cap helps keep the orifice of the nozzle free of grease or other substances that could interfere with agent distribution. A retaining strap attaches the blow-off cap to the nozzle. Rubber Blow-Off Caps must be ordered as a Shipping Assembly, Part No. 550016, which contains 12 blow-off caps.

Figure 2-21.
000009

SWIVEL ADAPTOR (P/N 418569)

The Swivel adaptor consists of a swivel nut, swivel body, and swivel ball. All are chrome-plated. The swivel adaptor allows the nozzle to be rotated approximately 30° in all directions. Swivel Adaptors can be ordered as a single Swivel Adaptor or Swivel Adaptor Shipping Assembly, Part No. 423572, which contains 25 swivel adaptors. See **Figure 2-22.**

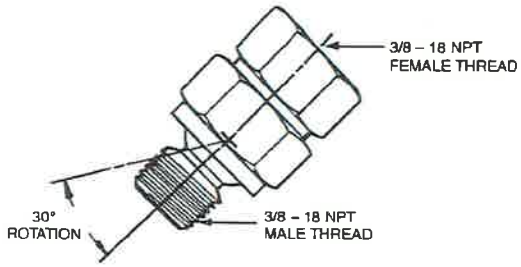


Figure 2-22. Swivel Adaptor.
000003

Transition Ducts – The protection of non-standard ducts should be reviewed by the authority having jurisdiction. PYRO-CHEM KITCHEN KNIGHT II recommends that transition ducts be protected as follows:

a. Transition ducts – larger to smaller

In cases where the duct/plenum interface opening is larger than the final exhaust duct, measure the perimeter/diameter of the duct halfway between the largest and smallest section (or the average perimeter/diameter). The nozzle is to be located within 0-6 in. (15.2 cm) of the duct/plenum interface (not at the point where the measurement was taken), centered under the final exhaust duct opening. See **Figure 3-1b.**

Note: Nozzles to protect ducts with a transition that is more than 4 ft (1.2 m) in height, will be required to be positioned in the opening of the transition from the hood 2 to 8 in. (5.1 to 20.3 cm) into the opening using standard duct nozzle design parameters.

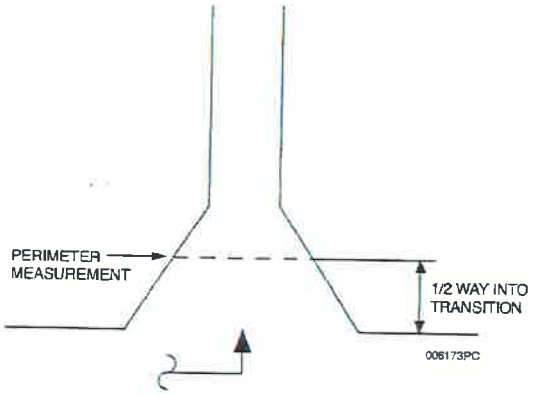


Figure 3-1b.

b. Transition ducts – smaller to larger

In cases where the duct/plenum interface opening is smaller than the final exhaust duct, measure the perimeter/diameter of the final exhaust duct. The nozzle(s) is to be located within 0-6 in. (15.2 cm) of the duct/plenum interface, centered in the opening. See **Figure 3-1c.**

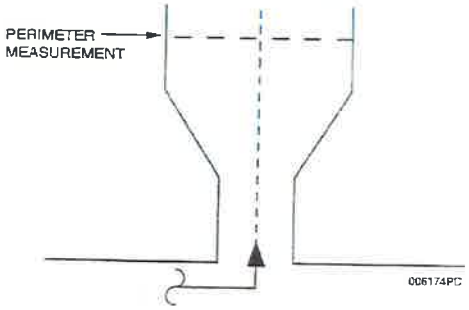


Figure 3-1c.

c. Multiple risers

In cases of multiple rises, each riser is protected as an individual duct. See **Figure 3-1d.**

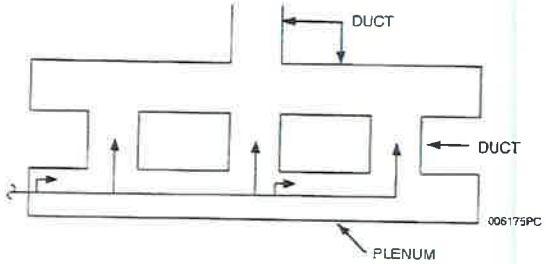


Figure 3-1d.

Electrostatic Precipitator – Ducts utilizing electrostatic precipitators must be protected above and below the unit. Standard duct nozzles are used in this application. See **Figure 3-1e.**

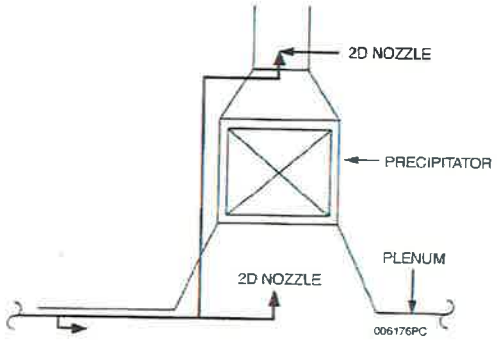


Figure 3-1e.

Plenum Protection

The Model 1H nozzle, Part No. 551029, is a one (1) flow nozzle used for plenum protection. A single 1H nozzle can protect a plenum (with single or V-bank filters) 10 ft (3.1 m) long by 4 ft (1.2 m) wide. Dividing the length into sections equal to or less than 10 ft (3.1 m) in length and positioning a nozzle at the start of each section can be done to protect longer plenums.

tyco
Safety
Products

Pyro-Chem

Pyro-Chem
One Stanton Street
Marinette, WI 54143
U.S.A.

Tele: 1-800-526-1079
Tele:1-715-732-3465
Fax: 1-877-329-7976
www.pyrochem.com

December 5, 2007

Subject: Recommended Gyro Protection

To Whom It May Concern:

This letter is written as a generic approach to address the appropriate fire suppression system nozzles to be used when protecting a Gyro. Gyros are available is numerous styles and configurations with varied heating sources. Because UL does not include the Gyro in their battery of test methods, fire tests and splash tests for this type of appliance have not been performed by Pyro-Chem.

Because the various types of Gyro's available are not readily accessible to Pyro-Chem, hazard analysis in order to recommend protection, is somewhat difficult. Without test data, protection can only be assumed based on other protection that has been tested on similar types of appliances or protection that has been recommended in the past.

Because there is no tested limitations for the Gyro, we at Pyro-Chem have recommended the use of (1) 1H nozzles. The 1H nozzle has listed capabilities for small griddles, broilers, and small woks. This nozzle is also used in the plenum to protect up to (10) ft. in length. Consequently, the nozzle has great flexibility and capability.

The nozzles need to be unobstructed and aimed to discharge across the skewer and down into the drip pan below. The aiming should also consider coverage of the rear burners of the Gyro and anywhere else grease can accumulate. Along with this there needs to be some kind of appliance registration so that when the piece of equipment is moved for cleaning it can be placed back in the correct position for the selected protection.

As an alternate option the use of (2) 1L nozzles may be used for close proximity protection and positioned at the top of each side of the machine aimed down at an angle to discharge across the skewer and down into the drip pan below. The aiming should also consider coverage of the rear burners of the Gyro and anywhere else grease can accumulate.

The concepts for the protection of the Gyro addressed above are not a tested or listed design as Gyro machines are not recognized by UL as requiring protection or addressed in any test methods. Therefore, there is no test data to verify this protection using any nozzle. Because Gyro protection is not recognized by UL, the authority having jurisdiction may suggest or require other protection. Any protection chosen should be in compliance with all local codes and acceptable to the authority having jurisdiction.

If you have any questions please do not hesitate to call.

Regards,
Tyco Safety Products

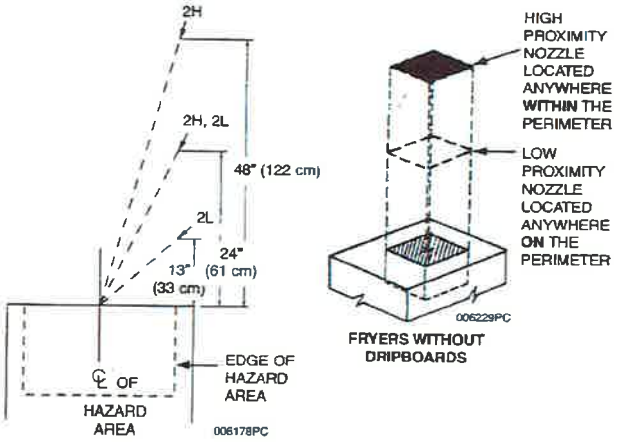
Adam D. Walker
Technical Services Engineer
Phone: 1-800-862-6785 ext. 3409
Fax: 1-715-732-3479
Email: adamwalker@tycoint.com

► **1. Fryers without Drip Board** (19 in. x 19 1/2 in. maximum) (48 x 49.5 cm)

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 (2) flow nozzle. The nozzle must be located **anywhere within the perimeter** of the hazard area, 24 in. to 48 in. (61 to 122 cm) above the cooking surface of the appliance and aimed at the center of the cooking area. See **Figure 3-3.**

The Model 2L nozzle is used for low proximity fryer protection. This nozzle is a two (2) flow nozzle. The nozzle must be located **anywhere on the perimeter** of the hazard area, 13 in. to 24 in. (33 to 61 cm) above the cooking surface of the appliance and aimed at the center of the cooking area. See **Figure 3-3.**



► **Figure 3-3.**

► **1a. Fryers with Drip Board**

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

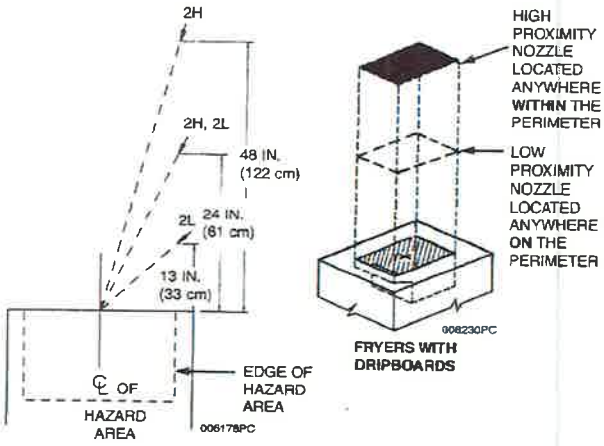
For fry pots with maximum dimensions of 18 in. (45.7 cm) on the longest side and 324 sq in. (2090 sq cm) max. area, use **overall** dimensions of 27 3/4 in. (70.5 cm) on the longest side and 500 sq in. (3226 sq. cm) max. area.

For fry pots with maximum dimensions exceeding 18 in. x 324 sq in. (2090 sq cm), but no greater than 19 1/2 in. (49.5 cm) on the longest side and 371 sq in. (2394 sq cm) max area, use **overall** dimensions of 25 3/8 in. (64.5 cm) on the longest side and 495 sq in. (3194 sq cm) 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 (2) flow nozzle. The nozzle must be located **anywhere within the perimeter** of the hazard area, 24 in. to 48 in. (61 to 122 cm) above the cooking surface of the appliance and aimed at the center of the cooking area. See **Figure 3-3b.**

The Model 2L nozzle is used for low proximity fryer protection. This nozzle is a two (2) flow nozzle. The nozzle must be located **anywhere on the perimeter** of the hazard area, 13 in. to 24 in. (33 to 61 cm) above the cooking surface of the appliance and aimed at the center of the cooking area. See **Figure 3-3a.**



► **Figure 3-3a.**

2. Small Range (336 sq in. (2168 sq cm) maximum, 28 in. (71 cm) longest side maximum). Use this when nozzle is center located.

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

The Model 1H nozzle, Part No. 551029, is used for high proximity small range protection. This nozzle is a one (1) flow nozzle. **When using high proximity protection, the range cannot be under a backshelf.** This nozzle must be located on the front/back centerline of the appliance, 40 in. to 50 in. (102 to 127 cm) above the cooking surface, and aimed directly down within the "Nozzle Location Area" depending on the size of the hazard area. See "Nozzle Placement" chart below. See **Figure 3-4.**

NOZZLE FLEXIBILITY PLACEMENT CHART (When using nozzle flexibility, the maximum width that can be protected is 12 in. (31 cm))

Length – L		Width – W		Front/Rear	
in.	(cm)	in.	(cm)	in.*	(cm)*
12	(31)	12	(31)	8	(20)
13	(33)	12	(31)	7 1/2	(19)
14	(36)	12	(31)	7	(18)
15	(38)	12	(31)	6 1/2	(17)
16	(41)	12	(31)	6	(15)
17	(43)	12	(31)	5 1/2	(14)
18	(45)	12	(31)	5	(13)
19	(48)	12	(31)	4 1/2	(11)
20	(51)	12	(31)	4	(10)
21	(53)	12	(31)	3 1/2	(9)
22	(56)	12	(31)	3	(8)
23	(58)	12	(31)	2 1/2	(6)
24	(61)	12	(31)	2	(5)
25	(64)	12	(31)	1 1/2	(4)
26	(66)	12	(31)	1	(3)
27	(69)	12	(31)	1/2	(1)
28	(71)	12	(31)	0	(0)

*Distance from centerline, either toward front or toward back, of hazard area, starting from the reference point.

5. **Large Wok** (Greater than 24 in. to 30 in. (61 to 76 cm) diameter x 8 in. (20 cm) 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 (2) flow nozzle. The nozzle must be located **anywhere on the perimeter** of the appliance, 24 in. to 48 in. (61 to 122 cm) above the top edge of the wok and aimed at the center of the wok. See **Figure 3-7.**

   The 2L nozzle, Part No. 551027, is used for low proximity wok protection. This nozzle is a two (2) flow nozzle. The nozzle must be located **anywhere on the perimeter** of the appliance, 13 in. to 24 in. (33 to 61 cm) above the top edge of the wok and aimed at the center of the wok. See **Figure 3-7.**

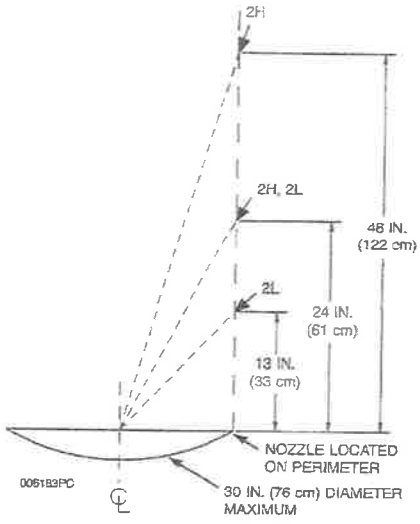


Figure 3-7.

6. **Small Griddle** (1080 sq in. (6968 sq cm) x 36 in. (91 cm) 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 (1) flow nozzle. The nozzle must be located **above any corner** of the hazard surface, 24 in. to 48 in. (61 to 122 cm) above the cooking surface of the appliance and aimed at a point 12 in. (31 cm) over and 12 in. (31 cm) in from the corner below the nozzle. See **Figure 3-8.**

   The 1L nozzle, Part No. 551026, is used for low proximity griddle protection. This nozzle is a one (1) flow nozzle. The nozzle must be located **above any corner** of the hazard surface, 10 in. to 24 in. (25 to 61 cm) above the cooking surface of the appliance and aimed at a point 12 in. (31 cm) over and 12 in. (31 cm) in from the corner below the nozzle. See **Figure 3-8.**

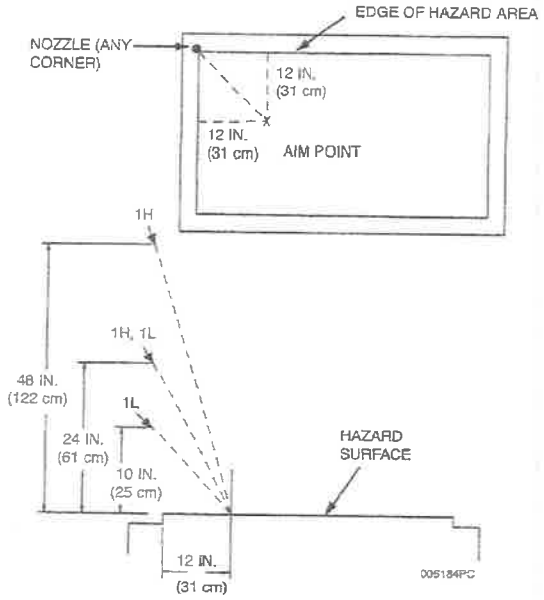


Figure 3-8.

6a. **Small Griddle** (1080 sq in. (6968 sq cm) x 36 in. (91 cm) 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 (2) flow nozzle. The nozzle must be located 0 to 6 in. (0 to 15 cm) from short side of the hazard surface, 24 in. to 48 in. (61 to 122 cm) above the cooking surface of the appliance and aimed at the center of the hazard area. See **Figure 3-8a.**

   The 2L nozzle, Part No. 551027, is used for low proximity griddle protection. This nozzle is a two (2) flow nozzle. The nozzle must be located 0 to 6 in. (0 to 15 cm) from the short side of the hazard surface, 13 in. to 24 in. (33 to 61 cm) above the cooking surface of the appliance and aimed at the center of the hazard area. See **Figure 3-8a.**

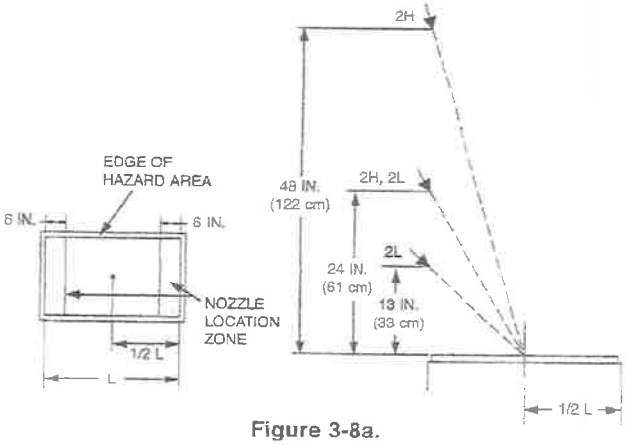


Figure 3-8a.

3. **Larger Burner Range** (784 sq in. (5085 sq cm) maximum, 28 in. (71 cm) longest side maximum)

   One nozzle is available for large range protection: High proximity.

   The Model 2L nozzle, Part No. 551027, is used for high proximity large range protection. This nozzle is a two (2) flow nozzle. **When using high proximity protection, the range cannot be under a backshelf.** This nozzle must be located 34 in. to 48 in. (86 to 122 cm) above the cooking surface, and aimed directly down within the mounting area, based on the hazard size, as described in the Nozzle Positioning Chart. See **Figure 3-5.**

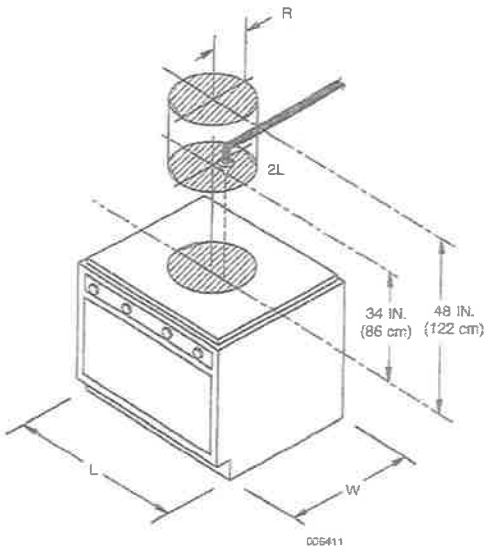


Figure 3-5.

Example: A four burner range has a hazard size of 20 in. (51 cm) in length and 27 in. (69 cm) in width. Follow down the Range Length column in the Nozzle Positioning Chart until you come to 20 in. (51 cm). Continue down this column until the correct width appears in the width column. When the width of 27 in. (69 cm) is arrived at, read across to the radius column to determine the size of radius allowed, for positioning of the nozzle, from the hazard area centerline. In this example, the correct radius is 3 in. (8 cm). The nozzle can be aimed straight down anywhere within a 3 in. (8 cm) radius of the hazard area centerline.

Nozzle Positioning Chart

Range Length - L		Range Width – W		Radius – R	
in.	(cm)	in.	(cm)	in.	(cm)
18	(46)	18	(46)	7 1/8	(18)
18	(46)	19	(48)	6 3/4	(17)
18	(46)	20	(51)	6 3/8	(16)
18	(46)	21	(53)	6	(15)
18	(46)	22	(56)	5 5/8	(14)
18	(46)	23	(58)	5 1/4	(13)
18	(46)	24	(61)	4 3/4	(12)
18	(46)	25	(64)	4 3/8	(11)
18	(46)	26	(66)	4	(10)
18	(46)	27	(69)	3 5/8	(9)
18	(46)	28	(71)	3 1/8	(8)
19	(48)	18	(46)	6 3/4	(17)
19	(48)	19	(48)	6 3/8	(16)
19	(48)	20	(51)	6	(15)
19	(48)	21	(53)	5 5/8	(14)
19	(48)	22	(56)	5 1/4	(13)
19	(48)	23	(58)	4 7/8	(12)
19	(48)	24	(61)	4 1/2	(11)
19	(48)	25	(64)	4 1/8	(10)
19	(48)	26	(66)	3 3/4	(9)
19	(48)	27	(69)	3 1/4	(8)
19	(48)	28	(71)	2 7/8	(7)
20	(51)	18	(46)	6 3/8	(16)
20	(51)	19	(48)	6	(15)
20	(51)	20	(51)	5 5/8	(14)
20	(51)	21	(53)	5 1/4	(13)
20	(51)	22	(56)	4 7/8	(12)
20	(51)	23	(58)	4 1/2	(11)
20	(51)	24	(61)	4 1/8	(10)
20	(51)	25	(64)	3 3/4	(9)
20	(51)	26	(66)	3 3/8	(8)
20	(51)	27	(69)	3	(7)
20	(51)	28	(71)	2 5/8	(6)
21	(53)	18	(46)	6	(15)
21	(53)	19	(48)	5 5/8	(14)
21	(53)	20	(51)	5 1/4	(13)
21	(53)	21	(53)	5	(12)
21	(53)	22	(56)	4 5/8	(11)
21	(53)	23	(58)	4 1/4	(10)
21	(53)	24	(61)	3 7/8	(10)
21	(53)	25	(64)	3 1/2	(9)
21	(53)	26	(66)	3 1/8	(8)
21	(53)	27	(69)	2 3/8	(7)
21	(53)	28	(71)	2 1/4	(6)
22	(56)	18	(46)	5 5/8	(14)
22	(56)	19	(48)	5 1/4	(13)
22	(56)	20	(51)	4 7/8	(12)
22	(56)	21	(53)	4 5/8	(11)
22	(56)	22	(56)	4 1/4	(10)
22	(56)	23	(58)	3 7/8	(10)
22	(56)	24	(61)	3 1/2	(9)
22	(56)	25	(64)	3 1/8	(8)
22	(56)	26	(66)	2 3/4	(7)
22	(56)	27	(69)	2 3/8	(6)
22	(56)	28	(71)	2	(5)
23	(58)	18	(46)	5 1/4	(13)
23	(58)	19	(48)	4 7/8	(12)
23	(58)	20	(51)	4 1/2	(11)
23	(58)	21	(53)	4 1/4	(10)
23	(58)	22	(56)	3 7/8	(10)
23	(58)	23	(58)	3 1/2	(9)
23	(58)	24	(61)	3 1/8	(8)
23	(58)	25	(64)	2 7/8	(7)
23	(58)	26	(66)	2 1/2	(6)
23	(58)	27	(69)	2 1/8	(5)
23	(58)	28	(71)	1 5/8	(4)

Fryer – 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 sq in. (5574 sq cm).

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 "Design Chart."
   - If the module considered does not include any portion of the dripboard, use only the maximum frypot area and maximum dimension listed in the "Design Chart."
   - If the module considered includes any dripboard areas, use both the maximum frypot area and dimension listed in the "Design Chart", and the maximum overall area and dimension listed in the "Design Chart."

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.

Design Chart

	Longest Side	Vat Coverage	Coverage with Drip
Option 1	27 3/4 in. (70.5 cm)	324 in^2 (2090 cm^2)	500 in^2 (3226 cm^2)
Option 2	25 3/8 in. (64.5 cm)	371 in^2 (2394 cm^2)	495 in^2 (3194 cm^2)

PIPING LIMITATIONS

Once the nozzle placement and quantity of tanks has been determined, it is necessary to determine the piping configurations between the tank and the nozzles. This section contains the guidelines and limitations for designing the distribution piping so that the wet chemical agent will discharge from the nozzles at a proper flow rate. These limitations must also be referred to when selecting the mounting location for the tanks.

The maximum pipe lengths are based on internal pipe volume. Each size tank is allowed a minimum and maximum total volume of piping, calculated in milliliters.

There is no need to distinguish between what portion of the piping is supply line and what portion is branch line. Only the total volume of the complete piping network has to be considered.

Volume Chart

1/4 in. pipe = 20.5 mls/ft
3/8 in. pipe = 37.5 mls/ft
1/2 in. pipe = 59.8 mls/ft
3/4 in. pipe = 105.0 mls/ft

Tank Chart

Tank Size	Maximum Flow Numbers	Maximum Pipe Volume (milliliters)	*Maximum Volume Allowed Between First Nozzle and Last Nozzle (milliliters)
1.6 Gallon PCL-160	5	1500	600
3.0 Gallon PCL-300	10	1910	1125
4.6 Gallon PCL-460	14	3400	3000
4.6 Gallon PCL-460	15	2600	2000
6.0 Gallon PCL-600	19	4215	1688 per side
6.0 Gallon PCL-600	20	3465	1313 per side

* All piping, including nozzle drops, must be included in the piping calculations.

Minimum Pipe Volumes for a Fryer, Range, and Wok		
Cylinder Size	Entire System	At or before appliance
PCL 160	239 ml - 1 Flow Pt	180 ml - 1 Flow Pt
PCL 300	300 ml - 4 Flow Pts	239 ml - 2 Flow Pts
PCL 460	660 ml - 10 Flow Pts	180 ml - 2 Flow Pts
PCL 600	960 ml - 14 Flow Pts	120 ml - 2 Flow Pts

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DATE (MM/DD/YYYY): 06/29/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER
Pichard Insurance Agency, Inc.
216 Office Plaza Drive

Tallahassee FL 32301

CONTACT NAME: Susan Tabor
PHONE (A/C, No, Ext): 850-877-8029 FAX (A/C, No): 850-877-8103
E-MAIL ADDRESS: Stabor@pichardinsurance.com

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INSURER A: Century Insurance Company
INSURER B: Technology Insurance Company
INSURER C:
INSURER D:
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A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR		USA4116491	02/01/2016	02/01/2017	EACH OCCURRENCE	$ 1,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 50,000
						MED EXP (Any one person)	$ 5,000
						PERSONAL & ADV INJURY	$ 1,000,000
						GENERAL AGGREGATE	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC					PRODUCTS - COMP/OP AGG	$ 2,000,000
							$
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS					COMBINED SINGLE LIMIT (Ea accident)	$
						BODILY INJURY (Per person)	$
						BODILY INJURY (Per accident)	$
						PROPERTY DAMAGE (Per accident)	$
							$
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $					EACH OCCURRENCE	$
						AGGREGATE	$
							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: Y N / A If yes describe under DESCRIPTION OF OPERATIONS below		TWC3527819	02/01/2016	02/01/2017	X WC STATU-TORY LIMITS OTH-ER	
						E.L. EACH ACCIDENT	$ 1,000,000
						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
						E.L. DISEASE - POLICY LIMIT	$ 1,000,000

Cheryl Noland Excluded
Dean Noland Excluded

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

City of Belle Isle
3532 Maggie Blvd.

Orlando, FL 32811

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE <SWT> Susan W. Tabor

Jeff Atwater
CHIEF FINANCIAL OFFICER

Julius Halas
DIVISION DIRECTOR

Casia Sineo
BUREAU CHIEF

Keith McCarthy
SAFETY PROGRAM MANAGER

FLORIDA DEPARTMENT OF FINANCIAL SERVICES
DIVISION OF STATE FIRE MARSHAL
200 East Gaines Street • Tallahassee, Florida 32399-0342
Tel: 850-413-3644 • Fax: 850-410-2467

FIRE EQUIPMENT DEALER LICENSE
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THIS CERTIFIES THAT: ADVANCED FIRE EQUIPMENT OF CENTRAL FLORIDA Inc.
115 S Laurel Avenue
Sanford FL 32771

QUALIFIER: Dean A Noland

Has Complied with Florida statutes and has qualified for the type and class shown here on to service, repair, install or inspect all types Pre-Engineered Fire Extinguishing Systems. Excludes any service, recharge, repair, installation or inspection of any type of Halon System.

Issue Date:	01/01/2016
Type:	07
Class:	04
County:	Seminole
License Permit #	410925-0005-1988
Expiration Date:	12/31/2017

VALID THROUGH 09/30/16

ADVANCED FIRE EQUIPMENT OF
CENTRAL FLORIDA, INC.
115 S LAUREL AVE
SANFORD, FL 32771
DEAN A NOLAND (OWNER)
CHERYL NOLAND (OFFICER)

NOT REGULATED

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