



CITY OF
PORTLAND, OREGON
 BUREAU OF DEVELOPMENT SERVICES
 1900 SW 4th Ave., Suite 5000
 Portland, OR 97201



FACILITY PERMIT

13-233547-000-00-FA

Site Address: 5250 NE MARINE DR

Issued: 12/3/13

FX-FIXED SYSTEM:KITCHEN 3207407:ARFF:Airport

PROJECT INFORMATION		Occ. Group	Const. Type
Fixed Extinguishing Systems	Alteration		
Project Description: FIXED SYSTEM - REPLACE CYLINDER AND NOZZLES ON EXISTING RANGE GUARD FIRE SYSTEM			

APPLICANT	UNITED FIRE & SAFETY	Phone (503) 249-0771
PROPERTY OWNER	PORT OF PORTLAND	Phone (503) 944-7376
CONTRACTOR	No Contractor	Phone

<p align="center">Project Details</p> <p>Building/Mechanical Inspector KEOGANT Electrical Inspector BOTKINJ Fire Marshal RANDALLJ Plumbing Inspector SISKJ Return Plans/Permit to? APPLICANT</p>		<p align="center">Project Details</p> <p>Code Edition (Year) 2010 OSSC Energy Code Edition 2010 Oregon Energ Folder Name FIXED SYSTEM Project Reference Number EAN11DO53 10158 Zoning - Property (1) IG2hsxPA,IG2hxPA,</p>	
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Permit Final 03/04/14

Jerry Randall

FOR INSPECTION CONTACT Randall,Jerry at 503-823-3802

Fire & Life Plans Examiner
 1900 SW 4th Ave
 Portland, Or 97201
 Ph: (503) 823-3802 Fax: (503) 823-7425

This permit expires if, at any time, 180 days pass without an approved inspection. If you are not able to obtain an inspection approval within 180 days, you may request a one-time only extension of 180 days by calling 503-823-5996.

BEFORE YOU DIG ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 1-800-332-2344).

CITY CONTACT Phone:
 E-Mail: Fax: (503) 823-7425

INSPECTION REQUEST PHONE NUMBERS Contact your inspector directly for inspection requests.

TDD: (503) 823-6868

IVR Inspection Request Number:

FACILITIES
APPLICATION FOR PERMIT TO INSTALL FIXED SYSTEM
 City of Portland Oregon
 1300 SE Gideon, Portland, OR 97202-2419
 (503) 823-3712

For PFB Use Only
13-233547 FA
 Permit Number

TOTAL COST OF THIS PERMIT \$ _____ DATE: 11-27-13

RECEIPT# _____ PERMIT APPLICATION # _____

BUILDINGS/FACILITIES PERMIT # BW-12-168830

PFI # _____ BLDG KEY _____ CHECK # _____ CODE: _____

PLANS MUST BE SUBMITTED TO THE FIRE PREVENTION DIVISION AND APPROVED BEFORE INSTALLATION.
LISTED FIRE EXTINGUISHING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING AND MANUFACTURERS' INSTRUCTIONS.

Valuation: \$ 1,542.00

Location

Building Name: PORT OF PORTLAND Occupied as: PORT AIR, FIRE, RESCUE FACILITY

Address: 5250 NE MARINE DR. Portland, OR Zip 97218

Suite # _____ Levels (#) _____

Building/Facilities Permit No.: _____ Appeal No.: _____

Installation	Coverage	System Type	Shut Off
<input type="checkbox"/> New	<input checked="" type="checkbox"/> Hood/vent	<input checked="" type="checkbox"/> Wet Chem	<input checked="" type="checkbox"/> Gas
<input type="checkbox"/> Addition	<input type="checkbox"/> Paint Booth	<input type="checkbox"/> Dry Chem	<input type="checkbox"/> Electrical
<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Computer Room	<input type="checkbox"/> Water	<input checked="" type="checkbox"/> In Existing Building
<input type="checkbox"/> Remove	<input type="checkbox"/> Other	<input type="checkbox"/> FM 200	<input type="checkbox"/> New Construction
<input type="checkbox"/> Repair		<input type="checkbox"/> Halon	
		<input type="checkbox"/> CO2	
		<input type="checkbox"/> Inergen	

Total Work Area _____ sf Total No. of Heads 7 No. of Systems 1

Description of Work: REPLACE CYLINDER AND NOZZLES OF EXISTING PORTLAND FIRE SYSTEM

Installing Company Information

Applicant Name: JOE WRIGHT
 Company Name: UNITED FIRE & SAFETY
 Address: 4611 NW ML KING JR.
 City, State, Zip: PORTLAND OR 97211
 Phone/Fax: 503-245-0771 / 503-245-0772

Owner Information

Name: PORT OF PORTLAND KARYN BARR
 Phone/Fax: 503-460-4600

Mail permit to: CALL FOR PICK-UP
 Address: _____
 City, state, zip: _____

Name of Applicant: _____ (SIGNATURE) 11/27/13 (DATE)

BY: Jerry Randall INSPECTOR 12/31/13 DATE

PERMIT FEE DOUBLES IF WORK HAS STARTED WITHOUT BENEFIT OF PERMIT

J. Randall

13. 233547 FA

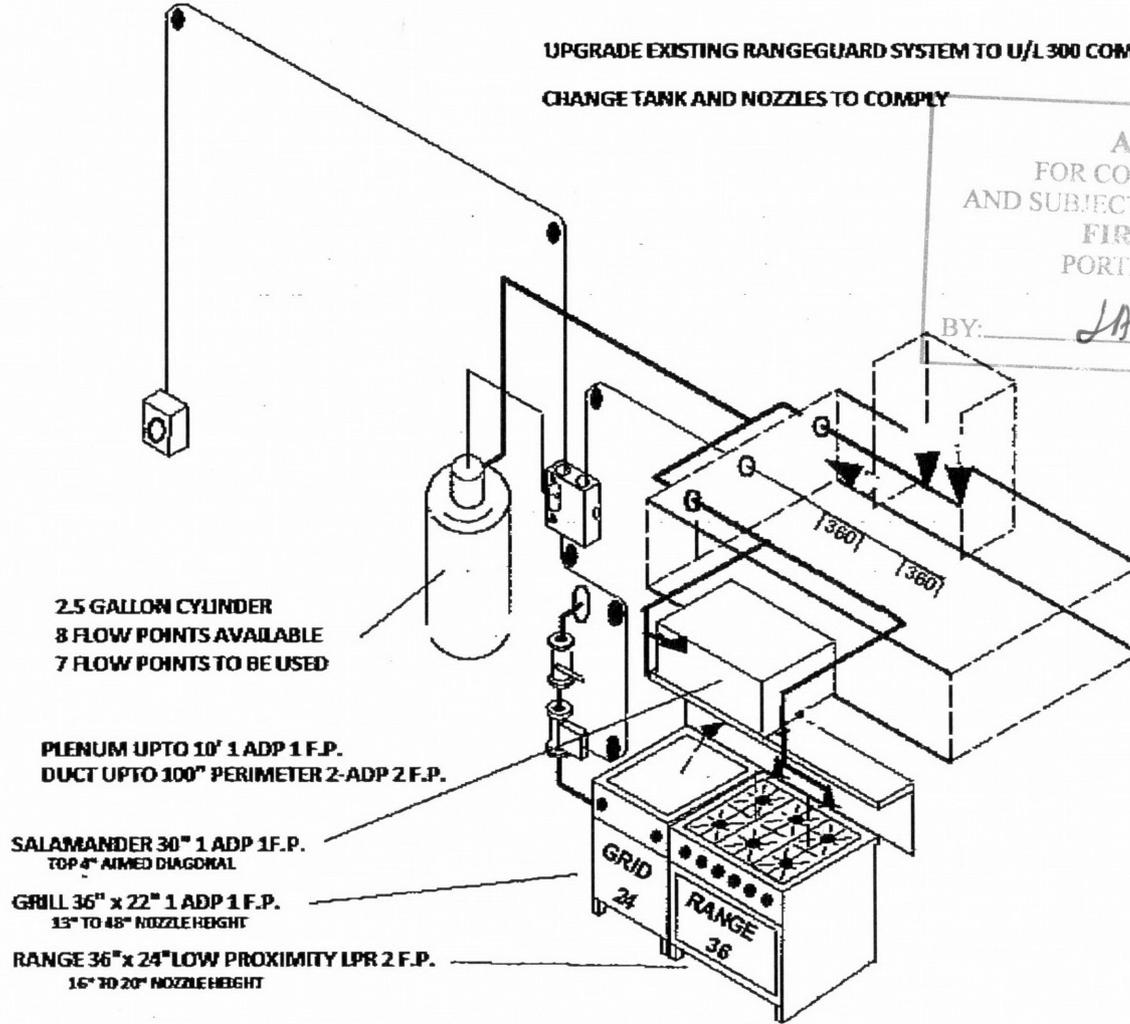
PORT OF PORTLAND PAFR FACILITY
5250 NE MARINE DR.
PORTLAND, OR 97218
KARYN BARR
503-460-4600

CONTRACTOR:
UNITED FIRE AND SAFETY
4611 NE MLK JR
PORTLAND, OR 97211
503-249-0771
CCB#065290
JOE KNIGHTON

UPGRADE EXISTING RANGEGUARD SYSTEM TO U/L 300 COMPLIANCE
CHANGE TANK AND NOZZLES TO COMPLY

APPROVED
FOR CONDITIONS SHOWN
AND SUBJECT TO FINAL INSPECTION
FIRE MARSHAL
PORTLAND, OREGON

BY: *JAN* DATE: *12-3-13*



2.5 GALLON CYLINDER
8 FLOW POINTS AVAILABLE
7 FLOW POINTS TO BE USED

PLENUM UPTO 10' 1 ADP 1 F.P.
DUCT UPTO 100" PERIMETER 2-ADP 2 F.P.

SALAMANDER 30" 1 ADP 1 F.P.
TOP 4" AIMED DIAGONAL

GRILL 36" x 22" 1 ADP 1 F.P.
13" TO 48" NOZZLE HEIGHT

RANGE 36" x 24" LOW PROXIMITY LPR 2 F.P.
16" TO 20" NOZZLE HEIGHT

13-233547 FA



Badger® Range Guard® Nozzle Parameters*

Duct	Perimeter Max	Diameter Max	Length	Nozzle Type	Flows	Manual Page #
Up to 50' Perimeter Duct (11.78" max throw)	50'	15.91"	Unlimited	ADP	1	3-35
Up to 100' Perimeter Duct (11.78" max throw)	100'	23.8"	Unlimited	ADP (min 2)	1 ea	3-36
Greater than 100' Perimeter Duct (11.78" max throw)	Refer to manual	Refer to manual	Unlimited	ADP	1 ea	3-37
Plenum	Length Max	Width Max	Filters	Nozzle Type	Flows	Manual Page #
Plenum	10'	4'	"V" Bank or Single	ADP	1	3-33
Appliance	Hazard Area (not incl drip board) (inches)	Nozzle Height/Dist (inches)	Nozzle Position	Nozzle Type	Flows	Manual Page #
Range, Four-Burner	28 X 28	20 to 42	Within 9" radius of mid point	R	1	3-15
Range, Low Proximity	24 x 24	16 to 20	Centered over hazard	LPR	1	3-18
Griddle (with/without raised ribs), Flat Cooking Surface	30 X 42	13 to 48	On perimeter, aim w/in 3" rad of ctr	ADP	1	3-27
Fryer, Single Vat (Drip Board up to 5")	18 X 18	27 to 45	45° to 90° from horizontal	F	2	3-6
Fryer, Single Vat (2 nozzle, Drip Board up to 6-1/2")	18-1/2 X 18	27-1/2 to 45	45° to 90° from horizontal	(2) F	2 ea	3-7
Fryer, Single Vat (Drip Board up to 10-1/2")	14 x 14	27-1/2 to 45	45° to 90° from horizontal	F	2	3-9
Fryer, Single Vat (Drip Board less than 1")	24 x 24	27-1/2 to 46	On or within perimeter	F	2	3-10
Fryer, Single Vat - Low Proximity (Drip Board up to 7-3/4")	14 X 15-1/2	12 to 24	3.5" to 13.5" offset* Min 8 flow pts on system	LPF	2	3-12
Fryer, Split Vat (Drip Board up to 6")	14 x 15	27 to 45	45° to 90° from horizontal	F	2	3-8
Fryer, Split Vat - Low Proximity (Drip Board to 6")	14 x 15	16 to 27	On or within perimeter	ADP	1	3-11
Krispy Kreme Model 270 d/h Doughnut Fryer	93 x 33	22-1/2 to 29-1/2	See Table 3-11 & Fig 3-9	(8) ADP	1 ea	3-14
Wok (3" to 8" deep)	14 to 28 dia	35 to 56	2" offset from center	GRW	1	3-28
Tilt Skillet / Braising Pan	24 x 24	27-1/2 to 46	Front edge, within perimeter	F	2	3-29
Upright Broiler, Salamander Broiler	30-1/4 X 34	Top 4" of broiler comp	See Table 3-19	ADP	1	3-20
Chain Broiler, Closed Top (1/4" pipe on nozzle drop)	28 X 29	See Table 3-24	See Table 3-24 & Fig 3-20	ADP	1	3-25
Chain Broiler, Open Top (1/4" pipe on nozzle drops)	28 X 29	See Table 3-25	See Table 3-25 & Fig 3-21	(2) ADP	1 ea	3-26
Charbroiler, Gas - Pumice, Lava, Ceramic, Synthetic Rock	22 X 23	24 to 48	45° - 90°; max 2 rock layers	F	2	3-21
Charbroiler, Gas - Radiant / Electric	21 X 24	24 to 48	45° to 90° from horizontal	GRW	1	3-22
Charcoal Broiler, Natural or Mesquite Charcoal	24 X 24	24 to 48	45° - 90°; max 6" fuel depth	ADP	1	3-23
Mesquite Log Charbroiler (wood chips, chunks or logs)	30 X 24	24 to 48	45° - 90°; max 10" fuel depth	DM	3	3-24

*Summary sheet for reference only. Refer to Badger Range Guard Design, Installation, Operation & Maint Manual P/N 60-9127100-000 for complete design and installation requirements.

Component Description

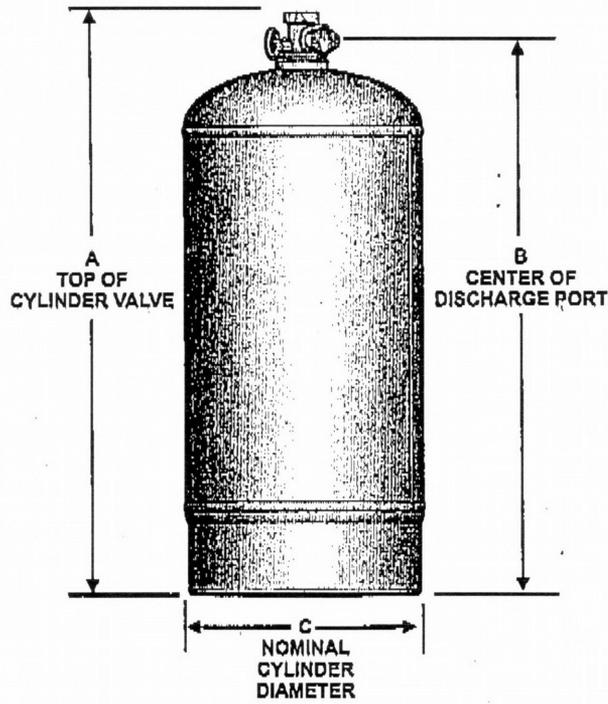


Figure 2-1. Dimensions of Cylinder and Valve Assembly, P/N B-12XXXX

Refer to Figure 5-26 for Cylinder Valve details.

Table 2-1. Cylinder and Valve Assembly Specifications

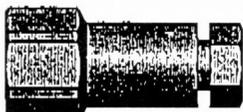
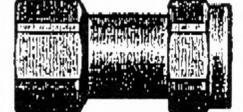
Cylinder and Valve Assembly Part Number (Old P/N)	Model	Maximum Flow Number	Dimensions		
			A	B	C
60-120001-001 (B120001)	RG-1.25G	4	15-1/4 in. (387 mm)	13-3/4 in. (349 mm)	8 in. (203 mm)
60-120002-001 (B120002)	RG-2.5G	8	21 in. (534 mm)	19-5/8 in. (498 mm)	9 in. (230 mm)
60-120003-001 (B120003)	RG-4GS	12	19 in. (483 mm)	17-1/2 in. (444 mm)	12-1/4 in. (311 mm)
60-120006-001 (B120006)	RG-4GM	12	24-3/8 in. (619 mm)	23 in. (584 mm)	10 in. (254 mm)
60-120005-001 (B120005)	RG-6G	18	35-1/8 in. (892 mm)	33-3/4 in. (857 mm)	10 in. (254 mm)

Note: It is permissible to use old and/or new cylinders included in this manual on a Range Guard system.

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Component Description

Table 2-5. Range Guard Nozzles

Nozzle Type	Part Number (Old Part Number)	Flow Number	Grooves	
ADP Nozzle	87-120011-001 (B120011)	1	1	
F Nozzle	87-120012-001 (B120012)	2	2	
GRW Nozzle	87-120013-001 (B120013)	1	3	
R Nozzle	87-120014-001 (B120014)	1	4	
DM Nozzle	87-120015-001 (B120015)	3	0	
LPF Nozzle	87-120022-001 (B120022)	2	1 & 4	
LPR Nozzle	87-120024-001 (B120024)	1	Disc & Core	
<p>Note: It is permissible to use old and/or new nozzles included in this manual in a Range Guard system.</p>				

2-1

2-1.

FAX

Date 11/27/2013

Number of pages including cover sheet 1 | 2

TO: Susan
Portland Fire Permit Office

Phone 503-823-3712
Fax 503-823-3925

FROM: Ed Wallace
United Fire, Health, & Safety
4611 N. E. M.L.K. Jr. Blvd.
Portland, Or. 97211
CCB# 65290
E-Mail ed@unitedfireandsafety.com
Phone 503-249-0771
Fax 503-249-0572

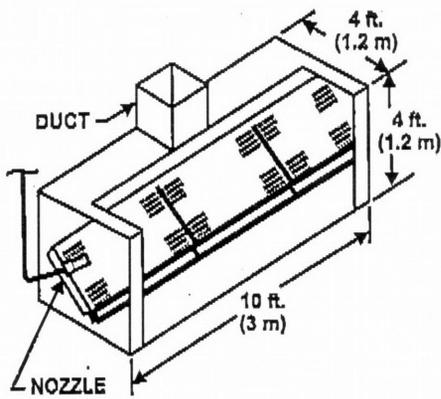
CC:

REMARKS: Urgent For your review Reply ASAP Please Comment

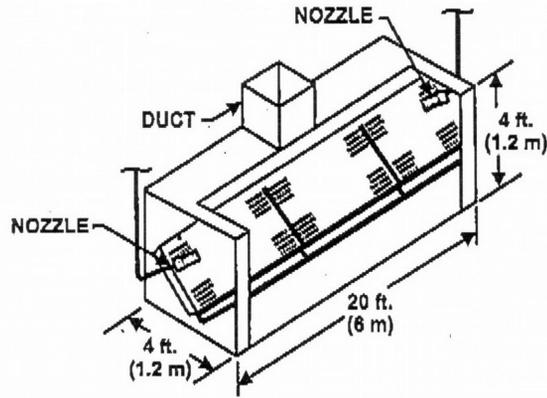
Hi Susan,
~~Please charge my visa card for this permit.~~
Thanks,
Ed Wallace

ED IS BRINGING NEW VISA,
THEN CHARGE THE CARD PLEASE

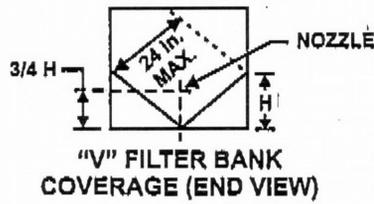
System Design



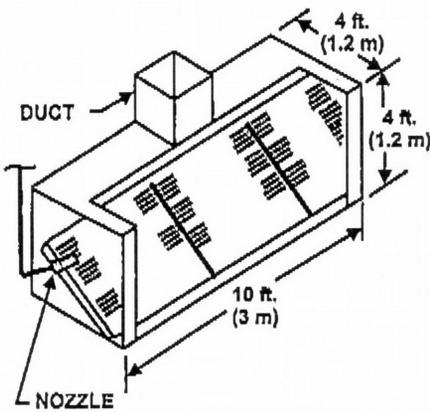
"V" FILTER BANK COVERAGE
10 ft. (3 m) PLENUM



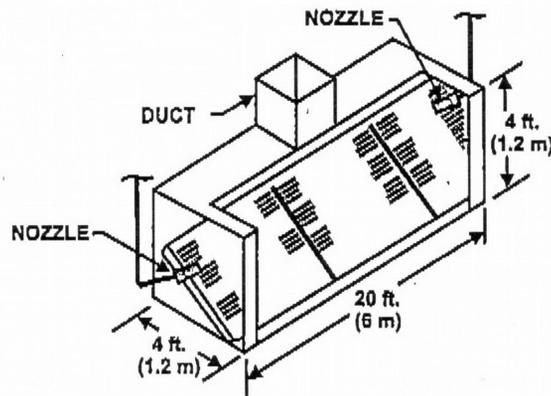
"V" FILTER BANK COVERAGE
20 ft. (6 m) PLENUM



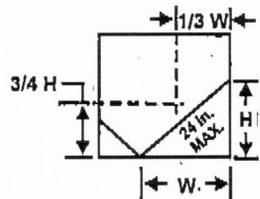
"V" FILTER BANK
COVERAGE (END VIEW)



SINGLE FILTER BANK COVERAGE
10 ft. (3 m) PLENUM



SINGLE FILTER BANK COVERAGE
20 ft. (6 m) PLENUM



SINGLE BANK FILTER
COVERAGE (END VIEW)

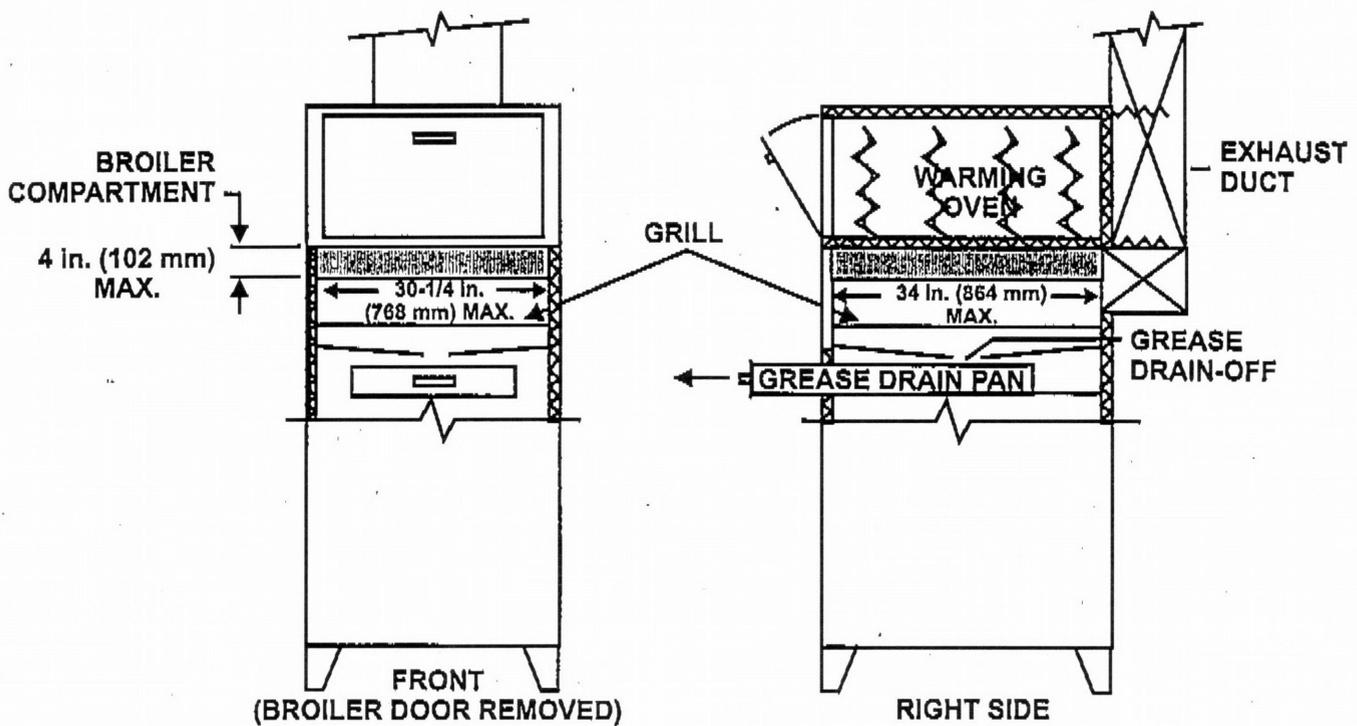
Figure 3-28. ADP Protection Nozzle, P/N B120011

System Design

3-4.13 Upright Broilers

Table 3-19. ADP Nozzle Coverage Area

Items	Parameters
Broiler Compartment With Maximum Internal Horizontal Dimensions	30-1/4 in. x 34 in. (768 mm x 864 mm)
Nozzle Aim	Through grill toward the center of the grease drain-off opening
Nozzle Location	Within the top 4 in. (102 mm) of space in the broiler compartment. Commonly mounted near the front opening and directed inside the broiler



NOTE: DIMENSIONS SHOWN ARE INSIDE BROILER COMPARTMENT

ADP NOZZLES SHOULD BE MOUNTED ON THE PERIMETER OF THE BROILER TOP (SHADED AREA). IT SHOULD BE DIRECTED THROUGH THE GRILL TOWARD THE CENTER OF THE GREASE DRAIN-OFF OPENING. NOZZLE DISCHARGE SHALL NOT BE OBSTRUCTED BY ANY STRUCTURAL PART OF THE BROILER.

Figure 3-15. ADP Nozzle Placement for Upright Broilers

3-4.20 Griddle — Flat Cooking Surface (With or without Raised Ribs)

Table 3-26. ADP Nozzle Coverage Area

Items	Parameters
Maximum Hazard Area	30 in. x 42 in. (762 mm x 1067 mm)
Nozzle Aim	At a point 3 in. (76 mm) from the midpoint of hazard area
Nozzle Location — any point on the perimeter of appliance	13 in. (330 mm) Min. 48 in. (1219 mm) Max. Note: Positioning the nozzle directly over the appliance is not permitted.

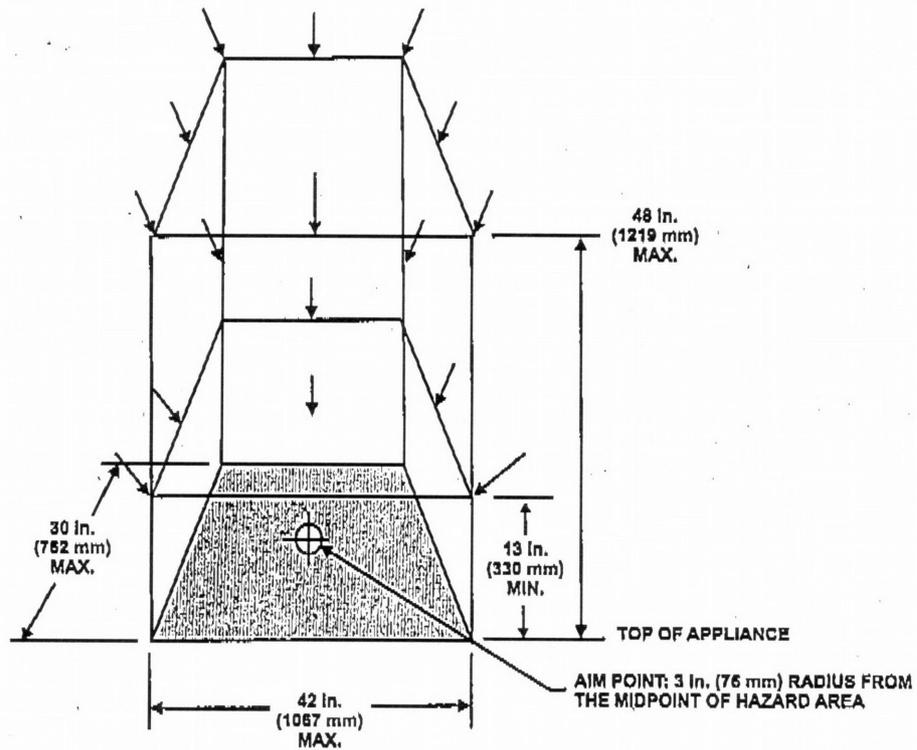


Figure 3-22. Griddle - Flat Cooking Surface

System Design

3-4.12 Four Burner Ranges (LPR), P/N B120024

The low proximity range top coverage provides protection for a range top that has a back shelf or a broiler integral to the regular range.

Table 3-16. LPR Nozzle Coverage Area — Four Burner Range

Items	Parameters
Maximum Hazard Area	24 in. x 24 in. (610 mm x 610 mm)
Nozzle Aim	Midpoint of hazard area
Nozzle Location — Dimension A in Figure 3-13	Refer to Table 3-17

Table 3-17. LPR Nozzle Parameters

Burner Spacing Centerline to Centerline (Dimension B in Figure 3-13)	Nozzle Height (Dimension A) (centrally over the range and under shelf/broiler)
Note: Shape of burner not important.	
14 in. (356 mm)	16 in. (406 mm) Min. 20 in. (508 mm) Max.
Between 12 in. and 14 in. (305 mm and 432 mm)	16 in. (406 mm) Min. 17 in. (432 mm) Max.
Between 10 in. and 12 in. (254 mm and 305 mm)	16 in. (406 mm)

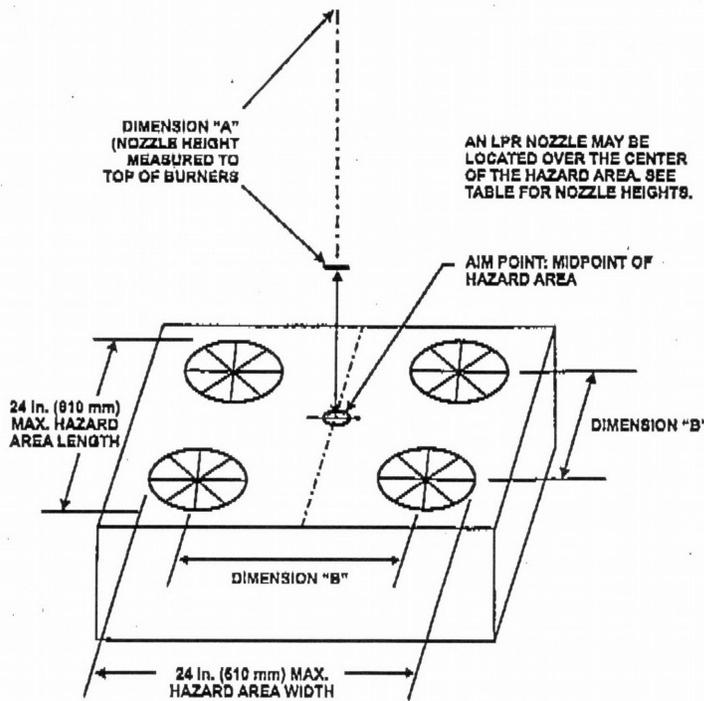


Figure 3-13. LPR Nozzle Coverage for a 4-Burner Range (LPR)