Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

Please Read Application And Notes, If Any, Attached

Permit Number: 081067

PERMIT ISSUED

This is to certify that TOMAKS LLC /Keeley Construction

has permission to Install Hood Systems - Type I, Type II, Type III

AT 140 MARGINAL WAY L 442 A006001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.	Notification of inspection must be given and when permission procured before this building or part thereof is lathed or otherwise closed-in 24 HOUR NOTICE REQUIRED.	A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. Approved

Health Dept. _____

Appeal Board _____

Other _____

Department Name

9/10/08

Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Issue Date:	CBL:
08-1067	9/18/08	442 A006001

Location of Construction:	Owner Name:	Owner Address:	Phone:
140 MARGINAL WAY	TOMAKS LLC	116 ARMOUR RD	207-885-1256
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Keeley Construction	P.O. Box 1174 Portland	2077738499
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		Hood Systems, Commerical	B-7

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Commercial Restaurant/Miss Portland Diner	Commercial Restaurant/Miss Portland Diner - Install Hood Systems - Type I, Type II, Type III	$250.00	$22,700.00	1

FIRE DEPT: ☑ Approved ☐ Denied

TO NFPA 96

Signature: Gene Cass

INSPECTION:

Use Group: A-2 Type: IV

IMC-2003

Signature: CL 9/19/08

Proposed Project Description:

Install Hood Systems - Type I, Type II, Type III

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
lmd	08/20/2008

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland	☐ Variance	☑ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☐ Site Plan	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐	☐ Denied	☐ Denied
Date: OK 8/26/08	Date:	Date:

PERMIT ISSUED

CITY OF PORTLAND

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT | ADDRESS | DATE | PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE | DATE | PHONE

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Date Applied For:	CBL:
08-1067	08/25/2008	442 A006001

Location of Construction:	Owner Name:	Owner Address:	Phone:
140 MARGINAL WAY	TOMAKS LLC	116 ARMOUR RD	207-885-1256
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Keeley Construction	P.O. Box 1174 Portland	(207) 773-8499
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Hood Systems, Commerical	

Proposed Use:	Proposed Project Description:
Commercial Restaurant/Miss Portland Diner - Install Hood Systems - Type I, Type II, Type III	Install Hood Systems - Type I, Type II, Type III

Dept: Zoning **Status:** Approved **Reviewer:** Marge Schmuckal **Approval Date:** 08/26/2008

Note: **Ok to Issue:** ☑

Dept: Building **Status:** Approved with Conditions **Reviewer:** Chris Hanson **Approval Date:** 09/18/2008

Note: **Ok to Issue:** ☑

1) The Hood shall be installed per IMC 2003 and NFPA 96
This permit is approved based on the plans submitted and updated for reductions in the cleaances based on the application of a UL approved fire wrap or equivalent assembly per code.

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Capt Greg Cass **Approval Date:** 08/26/2008

Note: **Ok to Issue:** ☑

1) Install shall comply with NFPA 96.
A compliance letter is required

2) A single source supplier should be used for all through penetrations.

Comments:

8/26/2008-mes: the receipt is dated 8/20/08 but the application is stamped in on 8/25/08 ???

General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Permit # 080179

Location/Address of Construction: 134 Marginal Way		
Total Square Footage of Proposed Structure/Area	Square Footage of Lot	Number of Stories: 1
Tax Assessor's Chart, Block & Lot Chart# Block# Lot# Tax Map 42 Lot 2, 3, 4	Applicant *must be owner, Lessee or Buyer* Name Tomakas LLC Address 16 Armour Dr City, State & Zip Mahwah, NJ 07430	Telephone:
Lessee/~~DBA~~ (If Applicable)	Owner (if different from Applicant) Name Address City, State & Zip	Cost Of Work: $ 22,500 C of O Fee: $ Total Fee: $

AUG 2 5 2008

Current legal use (i.e. single family) Diner Number of Residential Units

If vacant, what was the previous use?

Proposed Specific use: Miss Portland Diner

Is property part of a subdivision? No If yes, please name

Project description:

Contractor's name: Keeley Construction / Portland Airconditioning

Address: 33 Westland /

City, State & Zip Portland, ME / Scarborough, ME Telephone: 773-8400

Who should we contact when the permit is ready: Kathryn Money Telephone: 885-1256

Mailing address: 29 Washington Ave Suite C Scarborough, ME

Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: Date: 8/25/08

This is not a permit; you may not commence ANY work until the permit is issue

Lee Urban - Director of Planning and Development
Jeanie Bourke - Inspection Division Services Director

Kitchen Exhaust System Checklist and code Provisions

Dear Applicant,

The following is a checklist to assist you in filing for a permit for a Kitchen Exhaust system. The applicable Mechanical Code provisions have also been attached. Please complete this and submit job specific construction documents that demonstrate compliance with the attached information.

Hood 1 = 9'5" x 48"
Hood 2 = 9'6" x 40"
Hood 3 = 42" x 40"

Type of System:

Type I Hood 1 Hood 11 Type II Hood 3

Type I systems are systems that vent fryers, grills, broilers, ovens or woks.
Type II systems are systems that vent steamers and other non grease producing appliances.

Type of Materials:

Is the hood Stainless steel or other type of steel? Yes If Other, what Type? 430 SS Hoods 1 & 2, 304 SS Hood 3

Is the duct work Stainless steel or other type of steel? NO If Other, what type? 16 ga Black Iron

Thickness of the steel for the hood 430 SS Hood 1 & 2 / 304 SS Hood 3

Thickness of the duct for the hood 16 ga Black Iron

Type of Hood and Duct Supports

angle iron & thread rod

Type of seams and Joints welded

Grease Gutters provided? Yes - for type 1 Hoods

Hood Clearance reduction to Combustibles design /specs:

1" @ end wall

Duct Clearance reduction to Combustibles design /specs:

0" - Insulated w/ 3M Fire Seal Grease Duct Insulation

Vibration Isolation System:

Flexible duct connector @ fan

Air Velocity within the duct system Hood 1 3080 cfm / Hood 2 3088 cfm / Hood 3 700 cfm

Grease accumulation prevention system:

Grease boxes @ hoods & fans & hinged curbes

Cleanouts not applicable - duct runs less than 8'

Grease Duct enclosure 3m Fire Seal duct wrap

Exhaust Termination Roof X Wall _____

Fire Suppression System Ansul UL300

Exhaust fan mounting and clearance from the roof / wall or Combustibles:

20" (curb height)

Exhaust fan distance from property lines 27'

Exhaust fan distance from other vents or openings 10'

Exhaust fan distance from adjacent buildings 45'

Exhaust fan height above adjoining grade 14'

Hood Specs

Style of Hood Compensating

Type of Filter 16" UL Classified Baffle type Grease Filter

Height of filter above nearest cooking surface 36" min - 47" max

Capacity of hood CFM Hood 1 3060 / Hood 2 3088 / Hood 3 700

Make up Air system description and capacity

Gas fired rooftop modular direct fired heater 4304 CFM

SECTION 506
COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT

506.1 General. Commercial kitchen hood ventilation ducts and exhaust equipment shall comply with the requirements of this section. Commercial kitchen grease ducts shall be designed for the type of cooking appliance and hood served.

506.2 Corrosion protection. Ducts exposed to the outside atmosphere or subject to a corrosive environment shall be protected against corrosion in an approved manner.

506.3 Ducts serving Type I hoods. Type I exhaust ducts shall be independent of all other exhaust systems except as provided in Section 506.3.5. Commercial kitchen duct systems serving Type I hoods shall be designed, constructed and installed in accordance with Sections 506.3.1 through 506.3.12.3.

506.3.1 Duct materials. Ducts serving Type I hoods shall be constructed of materials in accordance with Sections 506.3.1.1 and 506.3.1.2.

506.3.1.1 Grease duct materials. Grease ducts serving Type I hoods shall be constructed of steel not less than 0.055 inch (1.4 mm) (No. 16 Gage) in thickness or stainless steel not less than 0.044 inch (1.1 mm) (No. 18 Gage) in thickness.

Exception: Listed and labeled factory-built commercial kitchen grease ducts shall be installed in accordance with Section 304.1.

506.3.1.2 Makeup air ducts. Make up air ducts connecting to or within 18 inches (457 mm) of a Type I hood shall be constructed and installed in accordance with Sections 603.1, 603.3, 603.4, 603.9, 603.10 and 603.12. Duct insulation installed within 18 inches (457 mm) of a Type I hood shall be noncombustible or shall be listed for the application.

506.3.2 Joints, seams and penetrations of grease ducts. Joints, seams and penetrations of grease ducts shall be made with a continuous liquid-tight weld or braze made on the external surface of the duct system.

Exceptions:

1. Penetrations shall not be required to be welded or brazed where sealed by devices that are listed for the application.
2. Internal welding or brazing shall not be prohibited provided that the joint is formed or ground smooth and is provided with ready access for inspection.
3. Listed and labeled factory-built commercial kitchen grease ducts installed in accordance with Section 304.1.

506.3.2.1 Duct joint types. Duct joints shall be butt joints or overlapping duct joints of either the telescoping or bell type. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch (6 mm). The length of overlap for overlapping duct joints shall not exceed 2 inches (51 mm).

506.3.2.2 Duct-to-hood joints. Duct-to-hood joints shall be made with continuous internal or external liquid-tight welded or brazed joints. Such joints shall be smooth, accessible for inspection, and without grease traps.

Exceptions: This section shall not apply to:

1. A vertical duct-to-hood collar connection made in the top plane of the hood in accordance with all of the following:
   1.1. The hood duct opening shall have a 1-inch-deep (25 mm), full perimeter, welded flange turned down into the hood interior at an angle of 90 degrees from the plane of the opening.
   1.2. The duct shall have a 1-inch-deep (25 mm) flange made by a 1-inch by 1-inch (25 mm by 25 mm) angle iron welded to the full perimeter of the duct not less than 1 inch (25 mm) above the bottom end of the duct.
   1.3. A gasket rated for use at not less than 1,500°F (815°C) is installed between the duct flange and the top of the hood.
   1.4. The duct-to-hood joint shall be secured by stud bolts not less than 0.25 inch (6.4 mm) in diameter welded to the hood with a spacing not greater than 4 inches (102 mm) on center for the full perimeter of the opening. All bolts and nuts are to be secured with lockwashers.
2. Listed and labeled duct-to-hood collar connections installed in accordance with Section 304.1.

506.3.2.3 Duct-to-exhaust fan connections. Duct-to-exhaust fan connections shall be flanged and gasketed at the base of the fan for vertical discharge fans; shall be flanged, gasketed and bolted to the inlet of the fan for side-inlet utility fans; and shall be flanged, gasketed and bolted to the inlet and outlet of the fan for in-line fans.

506.3.2.4 Vibration isolation. A vibration isolation connector for connecting a duct to a fan shall consist of noncombustible packing in a metal sleeve joint of approved design or shall be a coated-fabric flexible duct connector listed and labeled for the application. Vibration isolation connectors shall be installed only at the connection of a duct to a fan inlet or outlet.

506.3.3 Grease duct supports. Grease duct bracing and supports shall be of noncombustible material securely attached to the structure and designed to carry gravity and seismic loads within the stress limitations of the *International Building Code*. Bolts, screws, rivets and other mechanical fasteners shall not penetrate duct walls.

506.3.4 Air velocity. Grease duct systems serving a Type I hood shall be designed and installed to provide an air velocity within the duct system of not less than 1,500 feet per minute (7.6 m/s).

Exception: The velocity limitations shall not apply within duct transitions utilized to connect ducts to differently

506.3.11 Grease duct fire-resistive access opening. Where cleanout openings are located in ducts within a fire-resistance-rated enclosure, access openings shall be provided in the enclosure at each cleanout point. Access openings shall be equipped with tight-fitting sliding or hinged doors that are equal in fire-resistive protection to that of the shaft or enclosure. An approved sign shall be placed on access opening panels with wording as follows: "ACCESS PANEL. DO NOT OBSTRUCT."

506.3.12 Exhaust outlets serving Type I hoods. Exhaust outlets for grease ducts serving Type I hoods shall conform to the requirements of Sections 506.3.12.1 through 506.3.12.3.

506.3.12.1 Termination above the roof. Exhaust outlets that terminate above the roof shall have the discharge opening located not less than 40 inches (1016 mm) above the roof surface.

506.3.12.2 Termination through an exterior wall. Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors, and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the International Building Code. Other exterior openings shall not be located within 3 feet (914 mm) of such terminations.

506.3.12.3 Termination location. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent property lines and air intake openings into any building and shall be located not less than 10 feet (3048 mm) above the adjoining grade level.

Exception: Exhaust outlets shall terminate not less than 5 feet (1524 mm) from an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges away from such locations.

506.4 Ducts serving Type II hoods. Single or combined Type II exhaust systems for food-processing operations shall be independent of all other exhaust systems. Commercial kitchen exhaust systems serving Type II hoods shall comply with Sections 506.4.1 and 506.4.2.

506.4.1 Type II exhaust outlets. Exhaust outlets for ducts serving Type II hoods shall comply with Sections 401.5 and 401.5.2. Such outlets shall be protected against local weather conditions and shall meet the provisions for exterior wall opening protectives in accordance with the International Building Code.

506.4.2 Ducts. Ducts and plenums serving Type II hoods shall be constructed of rigid metallic materials. Duct construction, installation, bracing and supports shall comply with Chapter 6. Ducts subject to positive pressure and ducts conveying moisture-laden or waste-heat-laden air shall be constructed, joined and sealed in an approved manner.

506.5 Exhaust equipment. Exhaust equipment, including fans and grease reservoirs, shall comply with Section 506.5.1 through 506.5.5 and shall be of an approved design or shall be listed for the application.

506.5.1 Exhaust fans. Exhaust fan housings serving a Type I hood shall be constructed as required for grease ducts in accordance with Section 506.3.1.1.

Exception: Fans listed and labeled in accordance with UL 762.

506.5.1.1 Fan motor. Exhaust fan motors shall be located outside of the exhaust airstream.

506.5.2 Exhaust fan discharge. Exhaust fans shall be positioned so that the discharge will not impinge on the roof, other equipment or appliances or parts of the structure. A vertical discharge fan shall be manufactured with an approved drain outlet at the lowest point of the housing to permit drainage of grease to an approved grease reservoir.

506.5.3 Exhaust fan mounting. An upblast fan shall be hinged and supplied with a flexible weatherproof electrical cable to permit inspection and cleaning. The ductwork shall extend a minimum of 18 inches (457 mm) above the roof surface.

506.5.4 Clearances. Exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm).

Exception: Factory-built exhaust equipment installed in accordance with Section 304.1 and listed for a lesser clearance.

506.5.5 Termination location. The outlet of exhaust equipment serving Type I hoods, shall be in accordance with Section 506.3.12.3

Exception: The minimum horizontal distance between vertical discharge fans and parapet-type building structures shall be 2 feet (610 mm) provided that such structures are not higher than the top of the fan discharge opening.

SECTION 507
COMMERCIAL KITCHEN HOODS

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.

Exceptions:

1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.
2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 197, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.
3. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where

installed in frames or holders so as to be readily removable without the use of separate tools, unless designed and installed to be cleaned in place and the system is equipped for such cleaning in place. Removable filter units shall be of a size that will allow them to be cleaned in a dishwashing machine or pot sink. Filter units shall be arranged in place or provided with drip-intercepting devices to prevent grease or other condensate from dripping into food or on food preparation surfaces.

507.11.2 Mounting position. Filters shall be installed at an angle of not less than 45 degrees (0.79 rad) from the horizontal and shall be equipped with a drip tray beneath the lower edge of the filters.

507.12 Canopy size and location. The inside lower edge of canopy-type commercial cooking hoods shall overhang or extend a horizontal distance of not less than 6 inches (152 mm) beyond the edge of the cooking surface, on all open sides. The vertical distance between the front lower lip of the hood and the cooking surface shall not exceed 4 feet (1219 mm).

Exception: The hood shall be permitted to be flush with the outer edge of the cooking surface where the hood is closed to the appliance side by a noncombustible wall or panel.

507.13 Capacity of hoods. Commercial food service hoods shall exhaust a minimum net quantity of air determined in accordance with this section and Sections 507.13.1 through 507.13.4. The net quantity of exhaust air shall be calculated by subtracting any airflow supplied directly to a hood cavity from the total exhaust flow rate of a hood. Where any combination of extra-heavy-duty, heavy-duty, medium-duty, and light-duty cooking appliances are utilized under a single hood, the highest exhaust rate required by this section shall be used for the entire hood.

507.13.1 Extra-heavy-duty cooking appliances. The minimum net airflow for Type I hoods used for extra-heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	550
Single island canopy	700
Double island canopy (per side)	550
Backshelf/pass-over	Not allowed
Eyebrow	Not allowed

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.2 Heavy-duty cooking appliances. The minimum net airflow for Type I hoods used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	400
Single island canopy	600
Double island canopy (per side)	400
Backshelf/pass-over	400
Eyebrow	Not allowed

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.3 Medium-duty cooking appliances. The minimum net airflow for Type I hoods used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	300
Single island canopy	500
Double island canopy (per side)	300
Backshelf/pass-over	300
Eyebrow	250

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.4 Light-duty cooking appliances. The minimum net airflow for Type I hoods used for light duty cooking appliances and food service preparation and cooking operations approved for use under a Type II hood shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Wall-mounted canopy	200
Single island canopy	400
Double island canopy (per side)	250
Backshelf/pass-over	250
Eyebrow	250

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.14 Noncanopy size and location. Noncanopy-type hoods shall be located a maximum of 3 feet (914 mm) above the cooking surface. The edge of the hood shall be set back a maximum of 1 foot (305 mm) from the edge of the cooking surface.

507.15 Exhaust outlets. Exhaust outlets located within the hood shall be located so as to optimize the capture of particulate matter. Each outlet shall serve not more than a 12-foot (3658 mm) section of hood.

507.16 Performance test. A performance test shall be conducted upon completion and before final approval of the installation of a ventilation system serving commercial cooking appliances. The test shall verify the rate of exhaust airflow required by Section 507.13, makeup airflow required by Section 508, and proper operation as specified in this chapter. The permit holder shall furnish the necessary test equipment and devices required to perform the tests.

507.16.1 Capture and containment test. The permit holder shall verify capture and containment performance of the exhaust system. This field test shall be conducted with all appliances under the hood at operating temperatures. Capture and containment shall be verified visually by observing smoke or steam produced by actual or simulated cooking, such as with smoke candles, smoke puffers, etc.

SECTION 508
COMMERCIAL KITCHEN MAKEUP AIR

508.1 Makeup air. Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of

3.3.35.2 *Limited-Combustible Material.* Refers to a building construction material not complying with the definition of noncombustible material that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259 and includes (1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of ⅛ in. (3.2 mm) that has a flame spread index not greater than 50; and (2) materials, in the form and thickness used, other than as described in (1), having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion. [*5000*:3.3]

3.3.35.3* *Noncombustible Material.* A material not capable of supporting combustion.

3.3.36 **Pitched.** To be fixed or set at a desired angle or inclination.

3.3.37 **Qualified.** A competent and capable person or company that has met the requirements and training for a given field acceptable to the AHJ.

3.3.38 **Recirculating Systems.** Systems for control of smoke or grease-laden vapors from commercial cooking equipment that do not exhaust to the outside.

3.3.39 **Removable.** Capable of being transferred to another location with a limited application of effort and tools.

3.3.40 **Replacement Air.** Air deliberately brought into the structure, then specifically to the vicinity of either a combustion process or a mechanically or thermally forced exhausting device, to compensate for the vapor and/or gases being consumed or expelled.

3.3.41 **Single Hazard Area.** Where two or more hazards can be simultaneously involved in fire by reason of their proximity, as determined by the authority having jurisdiction.

3.3.42 **Solid Cooking Fuel.** Any solid, organic, consumable fuel such as briquettes, mesquite, hardwood, or charcoal.

3.3.43 **Solvent.** A substance (usually liquid) capable of dissolving or dispersing another substance; a chemical compound designed and used to convert solidified grease into a liquid or semiliquid state in order to facilitate a cleaning operation.

3.3.44 **Space.**

3.3.44.1 *Concealed Spaces.* That portion(s) of a building behind walls, over suspended ceilings, in pipe chases, attics, and in whose size might normally range from 44.45 mm (1¾ in.) stud spaces to 2.44 m (8 ft) interstitial truss spaces and that might contain combustible materials such as building structural members, thermal and/or electrical insulation, and ducting.

3.3.44.2 *Confined Space.* A space whose volume is less than 1.42 m^3/ 293 W (50 ft^3/1000 Btu/hr) of the aggregate input rating of all appliances installed in that space. [211:3.3]

3.3.45 **Spark Arrester.** A device or method that minimizes the passage of airborne sparks and embers into a plenum, duct, and flue.

3.3.46 **Thermal Recovery Unit.** A device or series of devices whose purpose is to reclaim only the heat content of air, vapors, gases, or fluids that are being expelled through the exhaust system and to transfer the thermal energy so reclaimed to a location whereby a useful purpose can be served.

3.3.47* **Trained.** A person who has become proficient in performing a skill reliably and safely through instruction and practice/field experience acceptable to the AHJ.

3.3.48 **Trap.** A cuplike or U-shaped configuration located on the inside of a duct system component where liquids can accumulate.

Chapter 4 General Requirements

4.1 **General.**

4.1.1 Cooking equipment used in processes producing smoke or grease-laden vapors shall be equipped with an exhaust system that complies with all the equipment and performance requirements of this standard.

4.1.1.1* Cooking equipment that has been listed in accordance with UL 197 or an equivalent standard for reduced emissions shall not be required to be provided with an exhaust system.

4.1.1.2 The listing evaluation of cooking equipment covered by 4.1.1.1 shall demonstrate that the grease discharge at the exhaust duct of a test hood placed over the appliance shall not exceed 5 mg/m^3 when operated with a total airflow of 0.236 cubic meters per second (500 cfm).

The text of 4.1.1 has been revised by a tentative interim amendment (TIA). See page 1.

4.1.2 All such equipment and its performance shall be maintained in accordance with the requirements of this standard during all periods of operation of the cooking equipment.

4.1.3 The following equipment shall be kept in good working condition:

(1) Cooking equipment
(2) Hoods
(3) Ducts (if applicable)
(4) Fans
(5) Fire-extinguishing systems
(6) Special effluent or energy control equipment

4.1.3.1 Maintenance and repairs shall be performed on all components at intervals necessary to maintain these conditions.

4.1.4 All airflows shall be maintained.

4.1.5 The responsibility for inspection, maintenance, and cleanliness of the ventilation control and fire protection of the commercial cooking operations shall be the ultimate responsibility of the owner of the system provided that this responsibility has not been transferred in written form to a management company or other party.

4.1.6* All solid fuel cooking equipment shall comply with the requirements of Chapter 14.

4.1.7 Multi-tenant applications shall require the concerted cooperation of design, installation, operation, and maintenance responsibilities by tenants and by the building owner.

4.1.8 All interior surfaces of the exhaust system shall be accessible for cleaning and inspection purposes.

6.2.1.2 Where grease removal devices are used in conjunction with charcoal or charcoal-type broilers, including gas or electrically heated charbroilers, a minimum vertical distance of 1.22 m (4 ft) shall be maintained between the lower edge of the grease removal device and the cooking surface.

6.2.1.3 For cooking equipment without exposed flame and where flue gases bypass grease removal devices, the minimum vertical distance shall be permitted to be reduced to not less than 152.4 mm (6 in.).

6.2.1.4 Where a grease removal device is listed for separation distances less than those required in 6.2.1.1 and 6.2.1.2, the listing requirements shall be permitted.

6.2.1.5 Grease removal devices supplied as part of listed hood assemblies shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

6.2.2 Grease Removal Device Protection.

6.2.2.1* Grease removal devices shall be protected from combustion gas outlets and from direct flame impingement occurring during normal operation of cooking appliances producing high flue gas temperatures, where the distance between the grease removal device and the appliance flue outlet (heat source) is less than 457.2 mm (18 in.).

6.2.2.2 This protection shall be permitted to be accomplished by the installation of a steel or stainless steel baffle plate between the heat source and the grease removal device.

6.2.2.3 The baffle plate shall be sized and located so that flames or combustion gases travel a distance not less than 457.2 mm (18 in.) from the heat source to the grease removal device.

6.2.2.4 The baffle shall be located not less than 152.4 mm (6 in.) from the grease removal devices.

6.2.3 Grease Filters.

6.2.3.1 Grease filters shall be listed and constructed of steel or listed equivalent material.

6.2.3.2 Grease filters shall be of rigid construction that will not distort or crush under normal operation, handling, and cleaning conditions.

6.2.3.3 Grease filters shall be arranged so that all exhaust air passes through the grease filters.

6.2.3.4 Grease filters shall be easily accessible and removable for cleaning.

6.2.3.5 Grease filters shall be installed at an angle not less than 45 degrees from the horizontal.

6.2.4 Grease Drip Trays.

6.2.4.1 Grease filters shall be equipped with a grease drip tray beneath their lower edges.

6.2.4.2 Grease drip trays shall be kept to the minimum size needed to collect grease.

6.2.4.3 Grease drip trays shall be pitched to drain into an enclosed metal container having a capacity not exceeding 3.785 L (1 gal).

6.2.5 **Grease Filter Orientation.** Grease filters that require a specific orientation to drain grease shall be clearly so designated, or the hood shall be constructed so that filters cannot be installed in the wrong orientation.

Chapter 7 Exhaust Duct Systems

7.1 General.

7.1.1 Ducts shall not pass through fire walls.

7.1.2* All ducts shall lead directly to the exterior of the building, so as not to unduly increase any fire hazard.

7.1.3 Duct systems shall not be interconnected with any other building ventilation or exhaust system.

7.1.4 All ducts shall be installed without forming dips or traps that might collect residues. In manifold (common duct) systems, the lowest end of the main duct shall be connected flush on the bottom with the branch duct.

7.1.5 Openings required for accessibility shall comply with Section 7.3.

7.1.6 A sign shall be placed on all access panels stating the following:

ACCESS PANEL — DO NOT OBSTRUCT

7.1.7 Listed grease ducts shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

7.2 **Clearance.** Clearance between ducts and combustible materials shall be provided in accordance with the requirements of Section 4.2.

7.3 Openings.

7.3.1 Openings shall be provided at the sides or at the top of the duct, whichever is more accessible, and at changes of direction.

7.3.2 Openings shall be protected by approved access constructed and installed in accordance with the requirements of 7.4.4.

7.3.3 Openings shall not be required in portions of the duct that are accessible from the duct entry or discharge.

7.3.4 For hoods with dampers in the exhaust or supply collar, an access panel for cleaning and inspection shall be provided in the duct or the hood within 457 mm (18 in.) of the damper.

7.3.5 For common exhaust duct systems, access panel openings shall be provided for installation and servicing of the fire-extinguishing system.

7.3.6 Access panel opening shall not be required in portions of the common exhaust duct or branch duct that are accessible from the branch duct connection to the exhaust hood.

7.3.7 Exhaust fans with ductwork connected to both sides shall have access for cleaning and inspection within 0.92 m (3 ft) of each side of the fan.

7.4 **Openings in Ducts.** All openings shall comply with the requirements of Section 7.4.

7.4.1 Horizontal Ducts.

7.4.1.1 On horizontal ducts, at least one 508 mm by 508 mm (20 in. by 20 in.) opening shall be provided for personnel entry.

7.4.1.2 Where an opening of this size is not possible, openings large enough to permit thorough cleaning shall be provided at 3.7 m (12 ft) intervals.

Foodservice Equipment Cut Sheet

Miss Portland Diner

Item Number	18
Description	Condensate Hood
Manufacturer	Captive-Aire
Model Number	4224 VHB-G
Quantity	1 ***Unit*** ea

Electrical Data:

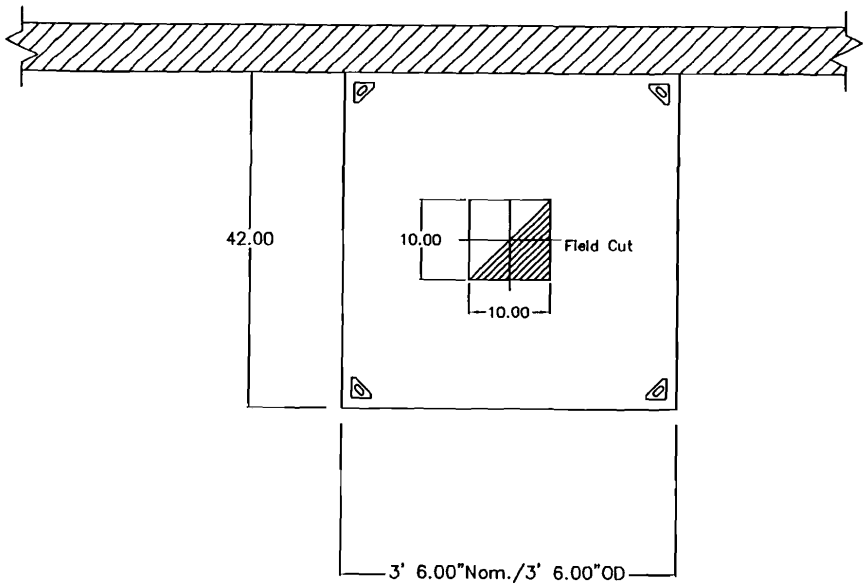
None

Plumbing Data:

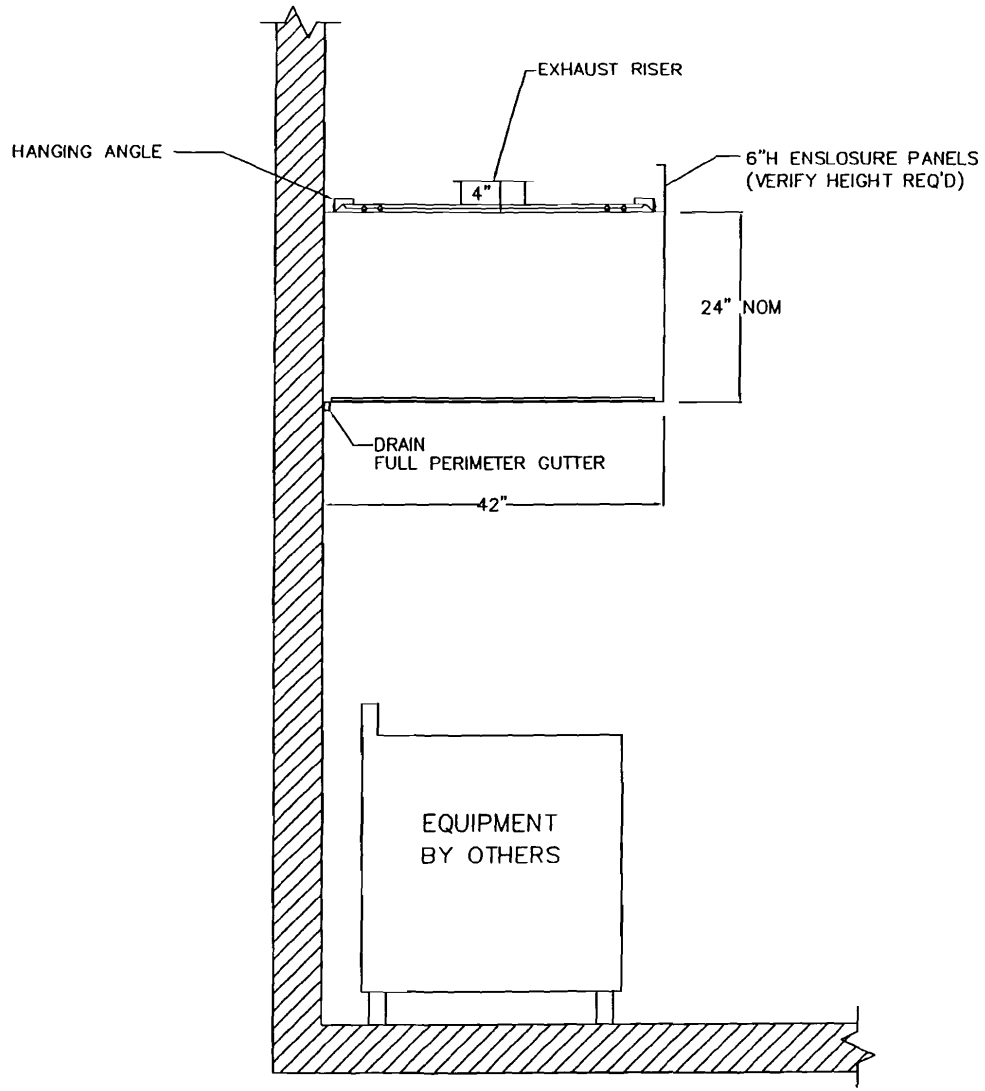
None

Options and Accessories:

Specification data contained on this document should be compared and confirmed with the corresponding "Cut Sheet" hereto. Cut Sheets are considered source documents and thus conflicts or discrepancies between this document and the corresponding cut sheet should be resolved in favor of the cut sheet, which is a factory authorized publication.



PLAN VIEW – Hood #3 – 3' 6.00" LONG 4224VHB–G



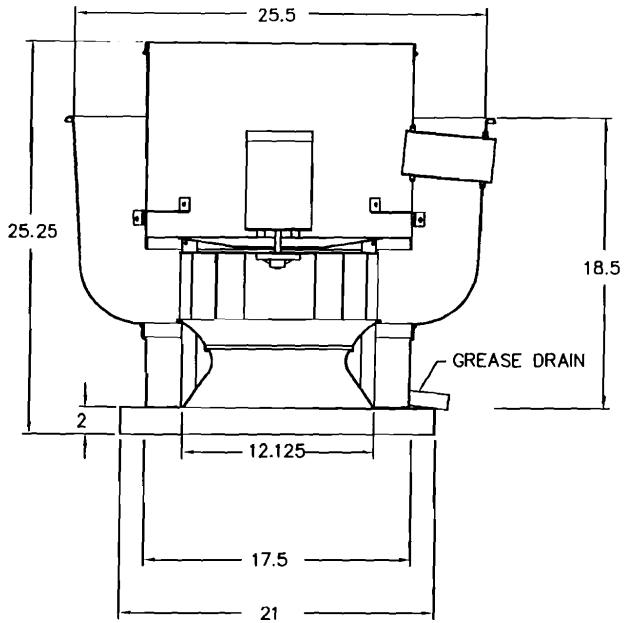
SECTION VIEW – MODEL 4224–VHB–G
Section view for Hood #3

CUSTOMER APPROVAL TO MANUFACTURE:	
Approved as Noted	☐
Approved with NO Exception Taken	☐
Revise and Resubmit	☐
SIGNATURE _____	
Your Title _____ Date _____	

CAPTIVE AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	*JOB #* 777134
DWG # PortlandDiner	*DRAWN BY* BFC
REV. 1.00	*SCALE* 8.5" x 11"

Centrifugal Upblast Direct (Fan #4 DU30HFA)

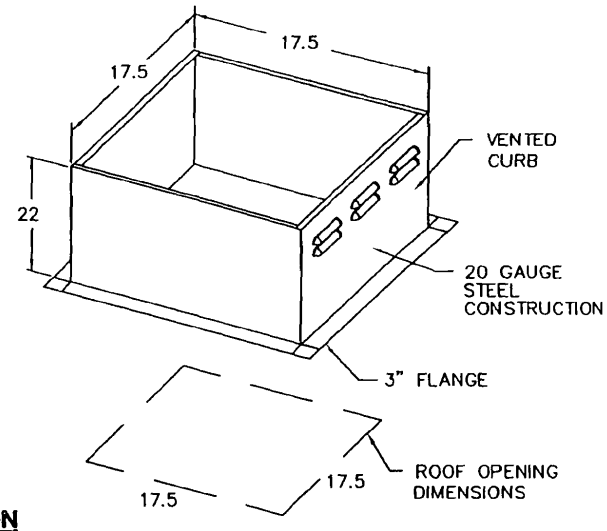


FEATURES:

- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762 – UL705
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

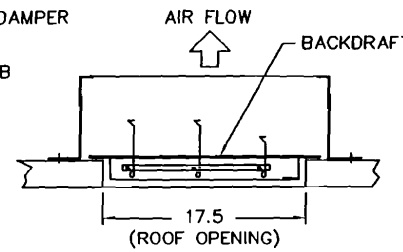
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.



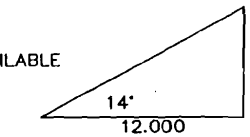
OPTIONS:

BACKDRAFT DAMPER
GREASE BOX
HINGED FAN
PITCHED CURB

BACKDRAFT DAMPER INSTALLATION



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.



SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

FAN INFORMATION

FAN UNIT NO.	MODEL	TAG	EXHAUST CFM	SUPPLY CFM	S.P.	RPM	H.P.	PHASE	VOLT	FLA	WEIGHT LB	SHAFT DIA.	SONES
4	DU30HFA		700	0	0.250	1113	0.250	1	115	4.0	55.80	0.500	6.7

amca CERTIFIED RATINGS SOUND and AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

CUSTOMER APPROVAL TO MANUFACTURE:

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CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	JOB # 777134
DWG # PortlandDiner	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"

HOOD INFORMATION

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM						SUPPLY PLENUM						HOOD CONSTRUCTION	HOOD CONFIG.	
				TOTAL EXH. CFM	RISER(S)					TOTAL SUP. CFM	RISER(S)						END TO END	ROW
					WIDTH	LENG.	DIA.	CFM	S.P.		WIDTH	LENG.	DIA.	CFM	S.P.			
1	4812 SND-2-PSP-F	9' 5.00"	600 Deg.	3060	16"	16"		3060	-0.762"	2142						430 SS Where Exposed	LEFT	ALONE
2	4812 SND-2-PSP-F	9' 6.00"	600 Deg.	3088	16"	16"		3088	-0.776"	2162						430 SS Where Exposed	RIGHT	ALONE
3	4224 VHB-G	3' 6.00"	700 Deg.	700	10"	10"		700	-0.102"	0						304 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	FILTER(S)				LIGHT(S)			LOCATION	UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD WEIGHT
	TYPE	QTY.	HEIGHT	LENGTH	QTY.	TYPE	WIRE GUARD		FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	SWITCHES LOCATION		
1	Alum Baffle w/ Handles	2	16"	16"	3	Incandescent Light Fixt	NO							NO	429 LBS
		4	16"	20"											
2	Alum Baffle w/ Handles	2	16"	16"	3	Incandescent Light Fixt	NO							NO	430 LBS
		4	16"	20"											
3					0									NO	144 LBS

HOOD OPTIONS

HOOD NO.	OPTION
1	LEFT END STANDOFF (FINISHED) 1" Wide Insulated
	FIELD WRAPPER 18.00" High Front, Left,
2	RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS
	FIELD WRAPPER 18.00" High Front, Right,
3	FIELD WRAPPER 6.00" High Front, Left, Right,

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	POS.	LENGTH	WIDTH	HEIGHT	RISER(S)				
					WIDTH	LENG.	DIA.	CFM	S.P.
1	Front	114"	16"	6"	12"	20"		1071	0.202"
					12"	20"		1071	0.202"
2	Front	114"	16"	6"	12"	20"		1081	0.205"
					12"	20"		1081	0.205"

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
NSF
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

CUSTOMER APPROVAL TO MANUFACTURE:

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Approved with NO Exception Taken ☐
Revise and Resubmit ☐

SIGNATURE _____

Your Title _____ Date _____

CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	JOB # 777134
DWG # PortlandDiner	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"

FAN INFORMATION

FAN UNIT NO.	FAN UNIT MODEL #	EXHAUST FAN									SUPPLY FAN									
		MODEL	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA	BLOWER	HOUSING	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA
1	NCA18FA	NCA18FA		3060	- 1.000"	889	1.500	1	230	10.2										
2	NCA18FA	NCA18FA		3088	- 1.000"	891	1.500	1	230	10.2										
3	A2-D.500-G15										G15	A2-D.500		4304	0.500"	967	3.000	1	230	17.0
4	DU30HFA	DU30HFA		700	- 0.250"	1113	0.250	1	115	4.0										

FAN OPTIONS

FAN NO.	OPTION (Qty. - Descr.)
1	1 - Fan Base Ceramic Seal - For Grease Ducts
1	1 - Grease Box
2	1 - Fan Base Ceramic Seal - For Grease Ducts
2	1 - Grease Box
3	1 - Inlet Pressure Gauge, 0-35"
3	1 - Motorized Backdraft Damper for A2-D Housing
3	1 - Manifold Pressure Gauge, -5 to 15" wc
4	1 - I 15-BDD Damper

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	BTU's	TEMP. RISE	GAS TYPE
3	323014	85 deg F	LP

CURB ASSEMBLIES

NO.	ON FAN	ITEM	SIZE
1	# 1	Curb	26.500"W x 26.500"L x 20.000"H Pitched Vented Hinged
2	# 2	Curb	26.500"W x 26.500"L x 20.000"H Pitched Vented Hinged
3	# 3	Curb	31.0"W x 79.0"L x 20.0"H Pitched Along Width, Right Insulated
4	# 4	Curb	19.500"W x 19.500"L x 22.000"H Pitched Vented Hinged

CUSTOMER APPROVAL TO MANUFACTURE:

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Approved with NO Exception Taken ☐

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Your Title _____ Date _____

ROOF PITCH FOR CURB(S) MUST BE SPECIFIED PRIOR TO RELEASING ORDER

___:12

CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	JOB # 777134
DWG # PortlandDiner	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"

Foodservice Equipment Cut Sheet

Miss Portland Diner

Item Number	31
Description	Exhaust Hood with Fire Suppression System 2
Manufacturer	Captive-Aire
Model Number	4812 SND-2-PSP-F
Quantity	1 ***Unit*** ea

Electrical Data:

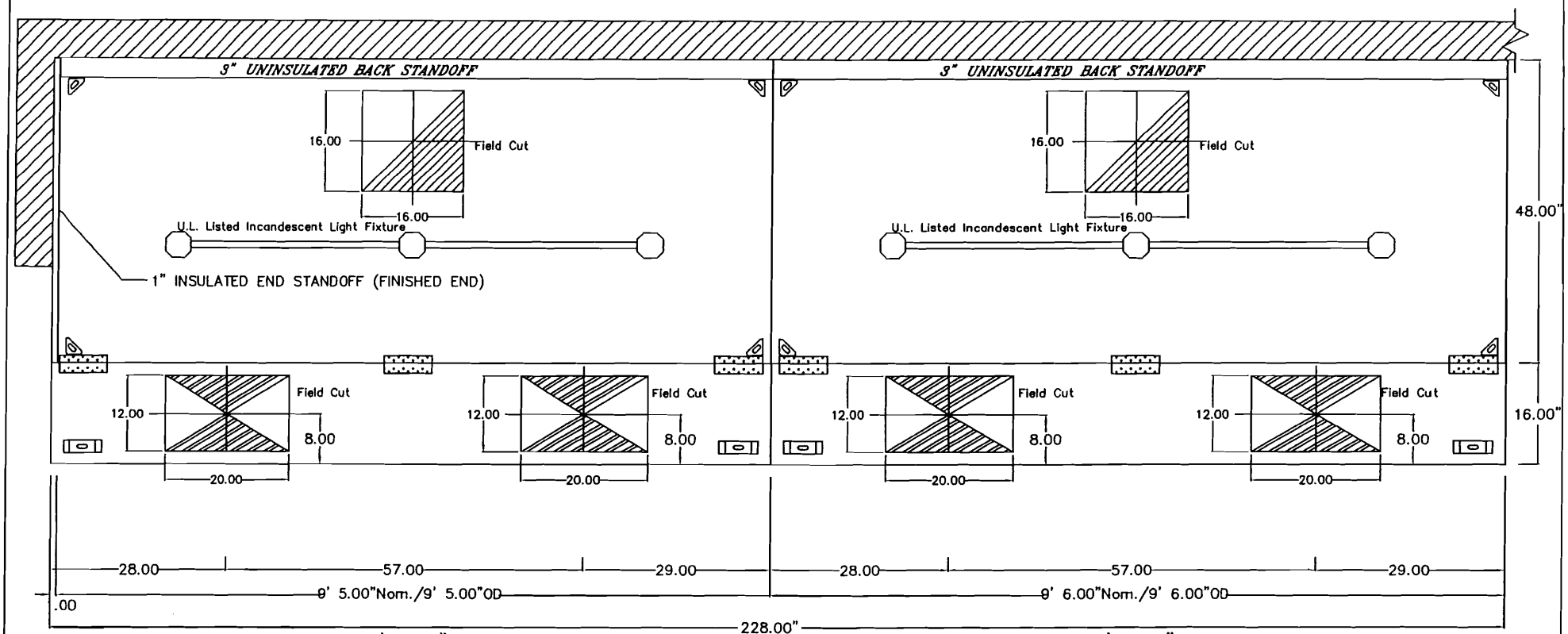
120-Volt, 1-Phase, 0.6-Kw., 5.0-Amps, Direct Connection thru Switch (Lights)

Plumbing Data:

None

Options and Accessories:

Specification data contained on this document should be compared and confirmed with the corresponding "Cut Sheet" hereto. Cut Sheets are considered source documents and thus conflicts or discrepancies between this document and the corresponding cut sheet should be resolved in favor of the cut sheet, which is a factory authorized publication.



PLAN VIEW – Hood #1 – 9' 5.00" LONG 4812SND–2–PSP–F

PLAN VIEW – Hood #2 – 9' 6.00" LONG 4812SND–2–PSP–F

CUSTOMER APPROVAL TO MANUFACTURE:	
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Approved with NO Exception Taken	☐
Revise and Resubmit	☐
SIGNATURE	
Your Title	Date

CAPTIVEAIRE

JOB	Portland Diner		
LOCATION			
DATE	5/14/2008	*JOB #*	777134
DWG #	PortlandDiner	*DRAWN BY*	BFC
REV.	1.00	*SCALE*	8.5" x 11"

THE HOOD MAY BE INSTALLED WITH A 0 INCH CLEARANCE TO COMBUSTIBLE MATERIALS IF CONSTRUCTED IN ONE OF THE FOLLOWING METHODS:

3" UNINSULATED STANDOFF

1" INSULATED STANDOFF

1" INSULATED BACKSPLASH

BACK RETURN SUPPLY PLENUM

TABLE 1

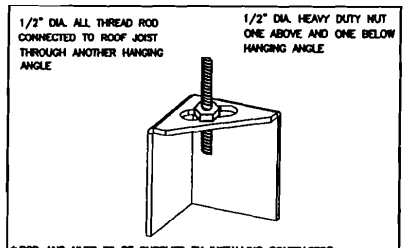
ETL LISTING DESCRIPTION

THE CAPTIVE AIRE MODEL SND-2 HAS BEEN E.T.L. TESTED, LISTED, AND APPROVED TO EXHAUST A MINIMUM OF 294 CFM PER LINEAR FOOT OVER 600 DEGREE COOKING EQUIPMENT

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. ALL ASSOCIATED HANGER MATERIALS BY INSTALLING CONTRACTORS.
4. 6" LONG FACTORY LOCATED AND WELDED HANGER BRACKETS AS SHOWN ON PLANS.
5. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER THE PLANS BY MECHANICAL CONTRACTORS.
6. ALL LIGHTS SHOWN INSTALLED BY CAPTIVE-AIRE, ARE FACTORY PREWIRED PER THE PLANS. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTOR.
7. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
8. SEISMIC RESTAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
9. INSTALLING CONTRACTORS ASSUME ALL RELATED REPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.
10. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.
11. NOMINAL HOOD DIMENSIONS AS SHOWN ON DRAWINGS.

GENERAL NOTES

IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

ND-2 HANGING ANGLE DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)

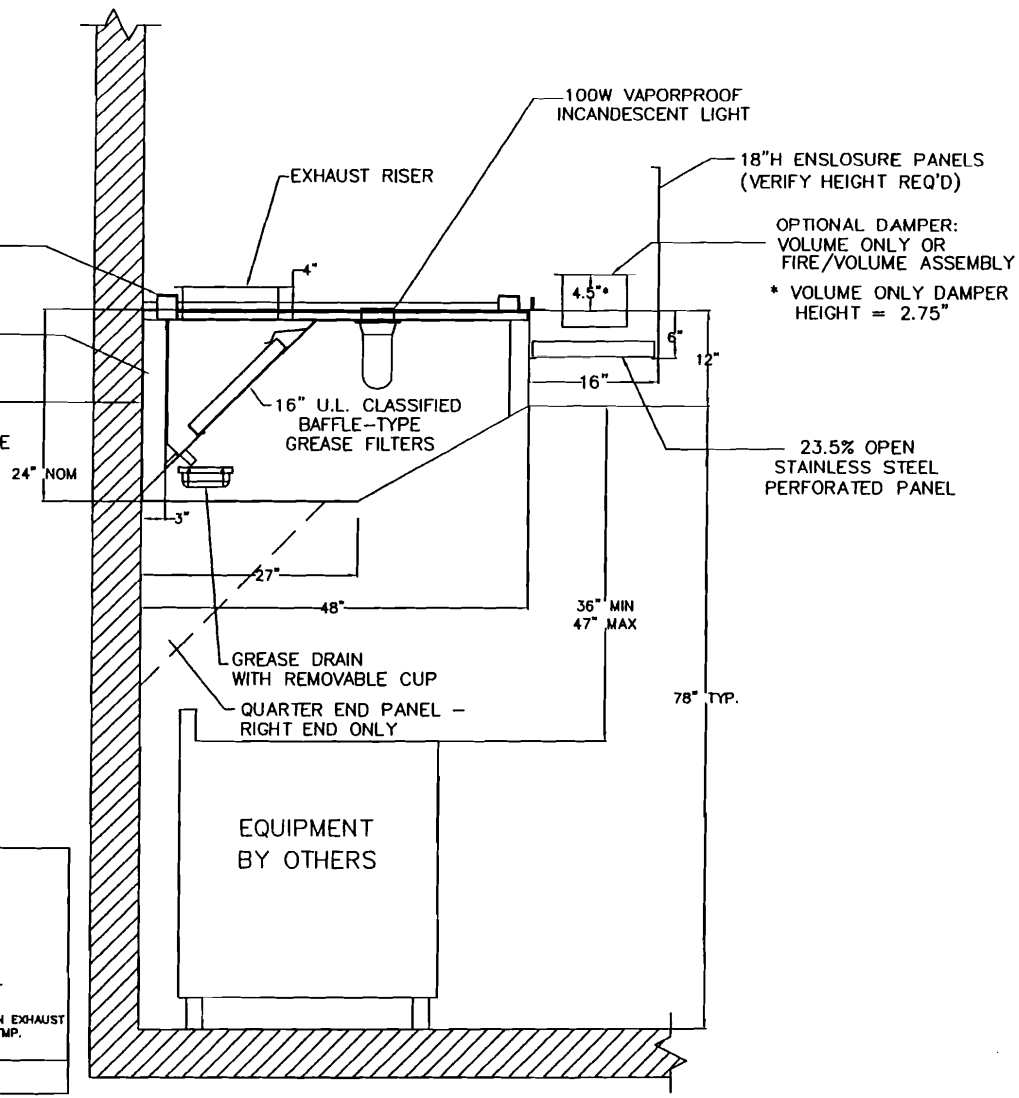
SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED

$$\text{TOTAL DUCT AREA} = 144 \times \frac{\text{CFM}}{\text{FMP}(*)}$$

$$\text{DUCT LENGTH} = \frac{\text{TOTAL DUCT AREA}}{\text{DUCT DEPTH}}$$

*CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OG 1600-1800 FPM AND A SUPPLY VELOCITY OF 1000 FMP. PLEASE CONSULT FACTORY FOR MAXIMUM ALLOWABLE DUCT SIZES

CALCULATIONS UTILIZED



SECTION VIEW - MODEL 4812-SND-2 with PSP Accessory

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted ☐

Approved with NO Exception Taken ☐

Revise and Resubmit ☐

SIGNATURE _____

Your Title _____ Date _____

CAPTIVE-AIRE

JOB	Portland Diner		
LOCATION			
DATE	5/14/2008	JOB #	777134
DWG #	PortlandDiner	DRAWN BY	BFC
REV.	1.00	SCALE	8.5" x 11"

HOOD INFORMATION

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM						SUPPLY PLENUM						HOOD CONSTRUCTION	HOOD CONFIG.	
				TOTAL EXH. CFM	RISER(S) WIDTH	RISER(S) LENG.	RISER(S) DIA.	RISER(S) CFM	RISER(S) S.P.	TOTAL SUP. CFM	RISER(S) WIDTH	RISER(S) LENG.	RISER(S) DIA.	RISER(S) CFM	RISER(S) S.P.		END TO END	ROW
1	4812 SND-2-PSP-F	9' 5.00"	600 Deg.	3060	16"	16"		3060	-0.762"	2142						430 SS Where Exposed	LEFT	ALONE
2	4812 SND-2-PSP-F	9' 6.00"	600 Deg.	3088	16"	16"		3088	-0.776"	2162						430 SS Where Exposed	RIGHT	ALONE
	4224 VHB-G	3' 6.00"	700 Deg.	700	10"	10"		700	-0.102"	0						304 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	FILTER(S) TYPE	FILTER(S) QTY.	FILTER(S) HEIGHT	FILTER(S) LENGTH	LIGHT(S) QTY.	LIGHT(S) TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	SWITCHES LOCATION	FIRE SYSTEM PIPING	HOOD WEIGHT
1	Alum Baffle w/ Handles	2	16"	16"	3	Incandescent Light Fixt	NO							NO	429 LBS
		4	16"	20"											
2	Alum Baffle w/ Handles	2	16"	16"	3	Incandescent Light Fixt	NO							NO	430 LBS
		4	16"	20"											
					0									NO	144 LBS

HOOD OPTIONS

HOOD NO.	OPTION
1	LEFT END STANDOFF (FINISHED) 1" Wide Insulated
	FIELD WRAPPER 18.00" High Front, Left,
2	RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS
	FIELD WRAPPER 18.00" High Front, Right,
	FIELD WRAPPER 6.00" High Front, Left, Right,

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	POS.	LENGTH	WIDTH	HEIGHT	RISER(S) WIDTH	RISER(S) LENG.	RISER(S) DIA.	RISER(S) CFM	RISER(S) S.P.
1	Front	114"	16"	6"	12"	20"		1071	0.202"
					12"	20"		1071	0.202"
2	Front	114"	16"	6"	12"	20"		1081	0.205"
					12"	20"		1081	0.205"

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH

NFPA #96
NSF
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted ☐
Approved with NO Exception Taken ☐
Revise and Resubmit ☐
SIGNATURE _____
Your Title _____ Date _____

CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	JOB # 777134
DWG # PortlandDiner	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"

FAN INFORMATION

FAN UNIT NO.	FAN UNIT MODEL #	EXHAUST FAN									SUPPLY FAN									
		MODEL	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA	BLOWER	HOUSING	TAG	CFM	S.P.	RPM	H.P.	ø	VOLT	FLA
1	NCA18FA	NCA18FA		3060	- 1.000"	889	1.500	1	230	10.2										
2	NCA18FA	NCA18FA		3088	- 1.000"	891	1.500	1	230	10.2										
3	A2-D.500-G15										G15	A2-D.500		4304	0.500"	967	3.000	1	230	17.0
4	DU30HFA	DU30HFA		700	- 0.250"	1113	0.250	1	115	4.0										

FAN OPTIONS

FAN NO.	OPTION (Qty. - Descr.)
1	1 - Fan Base Ceramic Seal - For Grease Ducts
	1 - Grease Box
2	1 - Fan Base Ceramic Seal - For Grease Ducts
	1 - Grease Box
3	1 - Inlet Pressure Gauge, 0-35"
	1 - Motorized Backdraft Damper for A2-D Housing
	1 - Manifold Pressure Gauge, -5 to 15" wc
4	1 - I 15-BDD Damper

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	BTU's	TEMP. RISE	GAS TYPE
3	323014	85 deg F	LP

CURB ASSEMBLIES

NO.	ON FAN	ITEM	SIZE
1	# 1	Curb	26.500"W x 26.500"L x 20.000"H Pitched Vented Hinged
2	# 2	Curb	26.500"W x 26.500"L x 20.000"H Pitched Vented Hinged
3	# 3	Curb	31.0"W x 79.0"L x 20.0"H Pitched Along Width, Right Insulated
4	# 4	Curb	19.500"W x 19.500"L x 22.000"H Pitched Vented Hinged

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted ☐

Approved with NO Exception Taken ☐

Revise and Resubmit ☐

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ROOF PITCH FOR CURB(S) MUST BE SPECIFIED PRIOR TO RELEASING ORDER

___:12

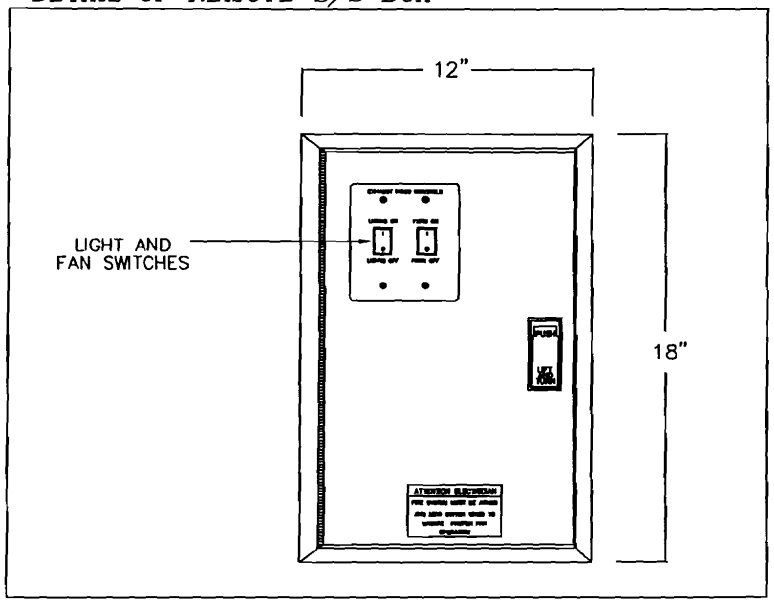
CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	JOB # 777134
DWG # PortlandDiner	DRAWN BY BFC
REV. 1.00	SCALE 8.5" x 11"

ELECTRICAL PACKAGES

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		ROOFTOP STARTERS	OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY			TYPE	ø	H.P.	VOLT.	FLA
1		**22111002**	Wall Mount In SS Box	SS Wall Mount Box	1 Light 1 Fan		Exhaust in Fire	Exhaust	1	1.500	230	10.2
								Exhaust	1	1.500	230	10.2
								Supply	1	3.000	230	17.0

DETAIL OF REMOTE S/S BOX



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CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	*JOB #* 777134
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REV. 1.00	*SCALE* 8.5" x 11"

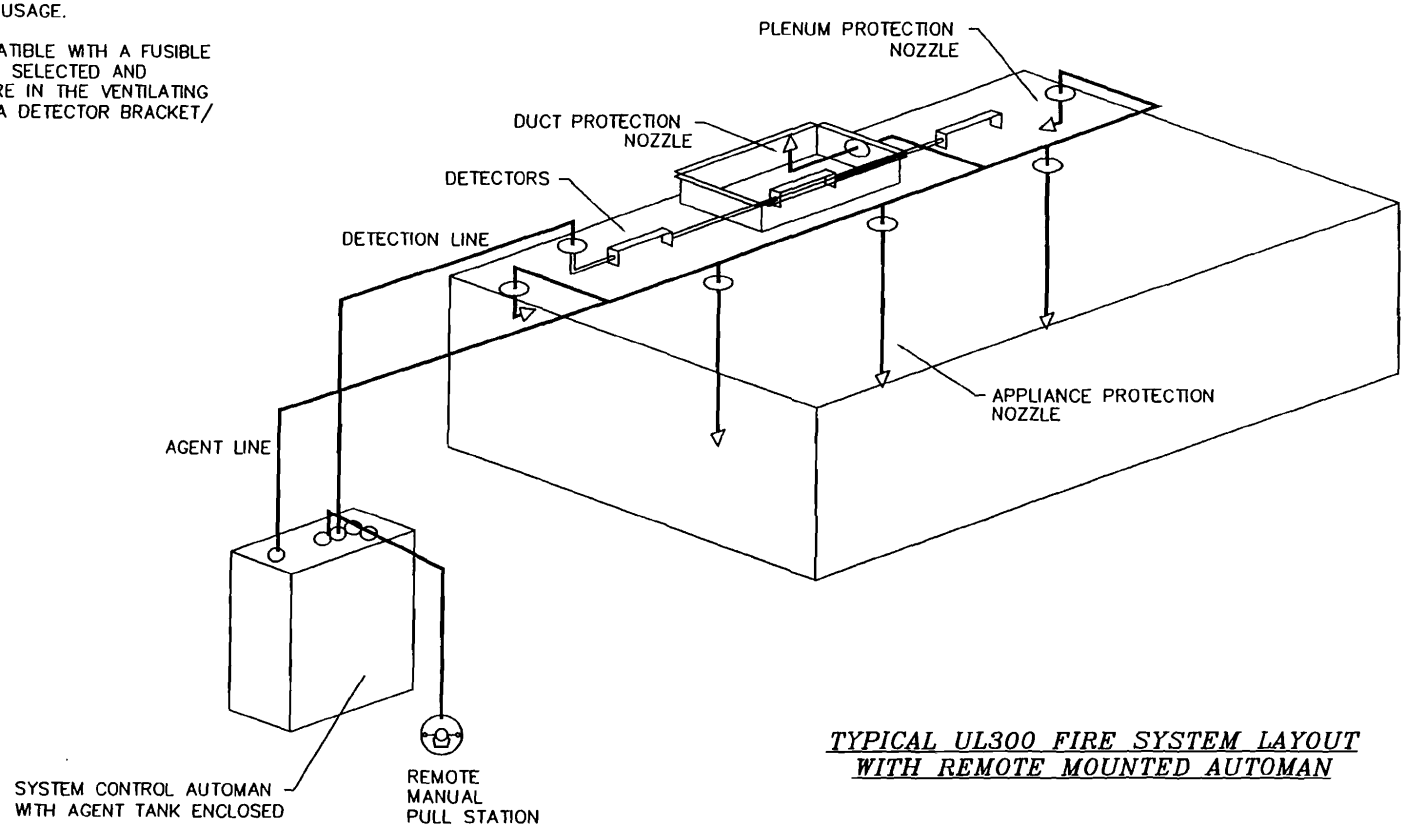
SPECIFICATIONS

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/ LINKAGE ASSEMBLY.



TYPICAL UL300 FIRE SYSTEM LAYOUT WITH REMOTE MOUNTED AUTOMAN

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CAPTIVE-AIRE

JOB	Portland Diner		
LOCATION			
DATE	5/14/2008	*JOB #*	777134
DWG #	PortlandDiner	*DRAWN BY*	BFC
REV.	1.00	*SCALE*	8.5" x 11"

Foodservice Equipment Cut Sheet

Miss Portland Diner

Item Number	32
Description	Exhaust Fan
Manufacturer	Captive-Aire
Model Number	NCA18FA
Quantity	2 ***Unit*** ea

Electrical Data:

230-Volt, 1-Phase, 1-1/2-HP., 10.2-Amps,

Plumbing Data:

None

Options and Accessories:

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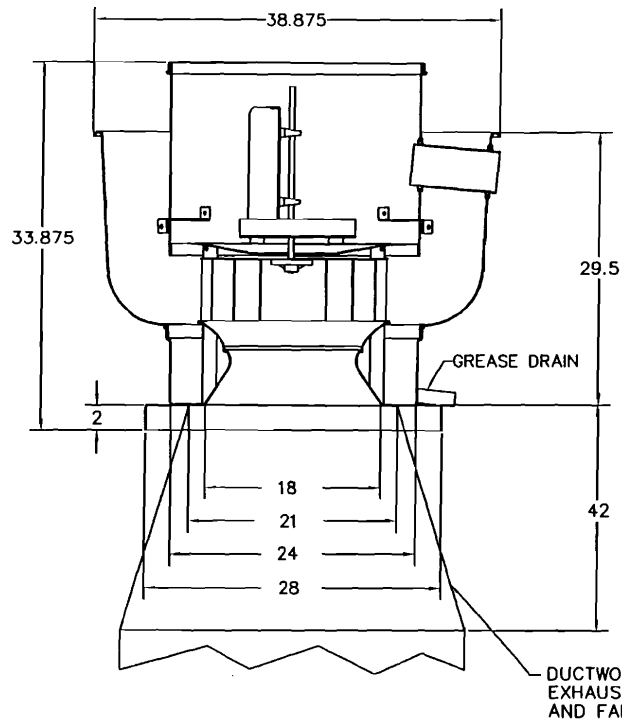
Centrifugal Upblast Belt (Fan #1 & #2 NCA18FA)



FEATURES:

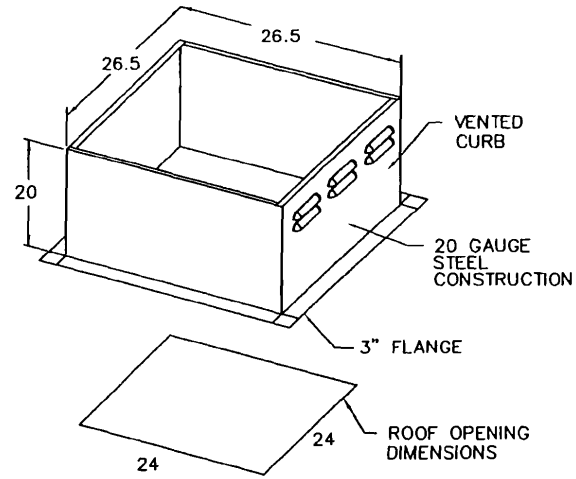
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762
- AMCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

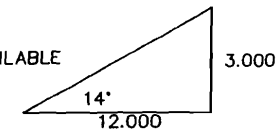
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS:

GREASE BOX
HINGED FAN
PITCHED CURB



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.



SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

FAN INFORMATION

FAN UNIT NO.	MODEL	TAG	EXHAUST CFM	SUPPLY CFM	S.P.	RPM	H.P.	PHASE	VOLT	FLA	WEIGHT LB	SHAFT DIA.	SONES
1	NCA18FA		3060	0	1.000	889	1.500	1	230	10.2	181.89	0.750	11.9
2	NCA18FA		3088	0	1.000	891	1.500	1	230	10.2	181.89	0.750	11.9

amca CERTIFIED RATINGS SOUND and AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL INC.

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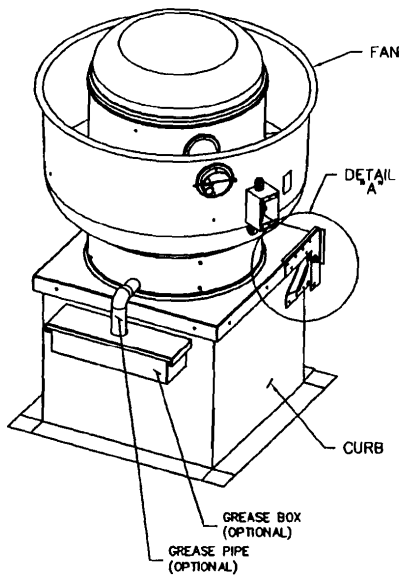
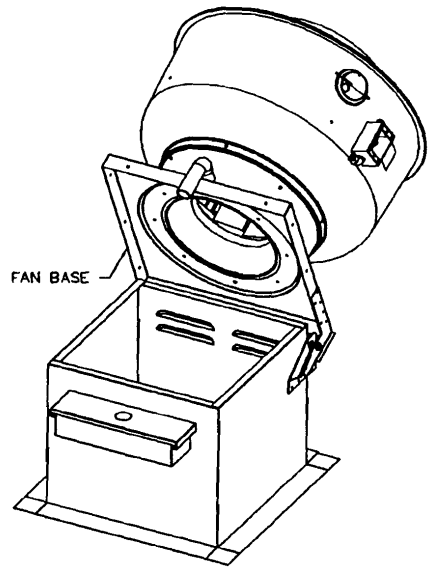
CAPTIVE-AIRE

JOB Portland Diner	
LOCATION	
DATE 5/14/2008	*JOB #* 777134
DWG # PortlandDiner	*DRAWN BY* BFC
REV. 1.00	*SCALE* 8.5" x 11"

FAN IN CLOSED POSITION

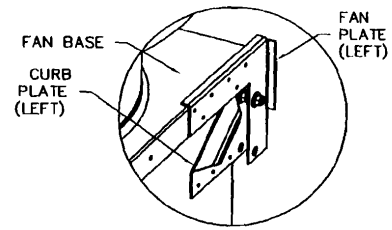


FAN IN OPEN POSITION

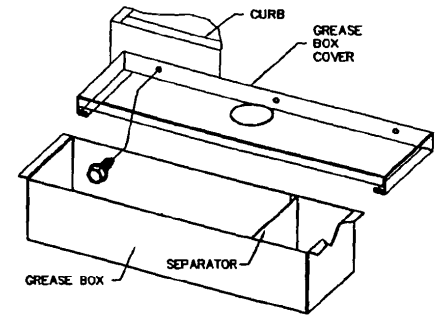


ATTENTION: INSTALLER SHOULD SUPPLY ENOUGH ELECTRICAL CORD TO LET FAN MAKE COMPLETE SWING.

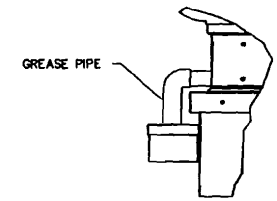
HINGE KIT DETAIL



GREASE BOX INSTALLATION



ATTACH GREASE BOX COVER TO THE CURB 3" BELOW TOP EDGE OF CURB.
USING (3) LONG (3/4" LG.) SCREWS AS SHOWN.
INSTALL GREASE PIPE AS SHOWN.



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SIGNATURE _____	
Your Title _____ Date _____	

CAPTIVE-AIRE

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LOCATION			
DATE	5/14/2008	*JOB #*	777134
DWG #	PortlandDiner	*DRAWN BY*	BFC
REV.	1.00	*SCALE*	8.5" x 11"

Foodservice Equipment Cut Sheet

Miss Portland Diner

Item Number	33
Description	Make-Up Air Unit
Manufacturer	Captive-Aire
Model Number	A2-D.500-G15
Quantity	1 ***Unit*** ea

Electrical Data:

230-Volt, 1-Phase, 3-HP., 17.0-Amps, Direct Connection

Plumbing Data:

1"-Gas @ 323-MBTU's

Options and Accessories:

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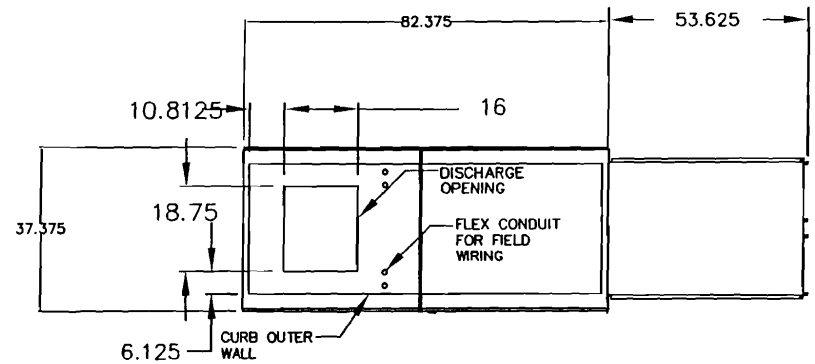
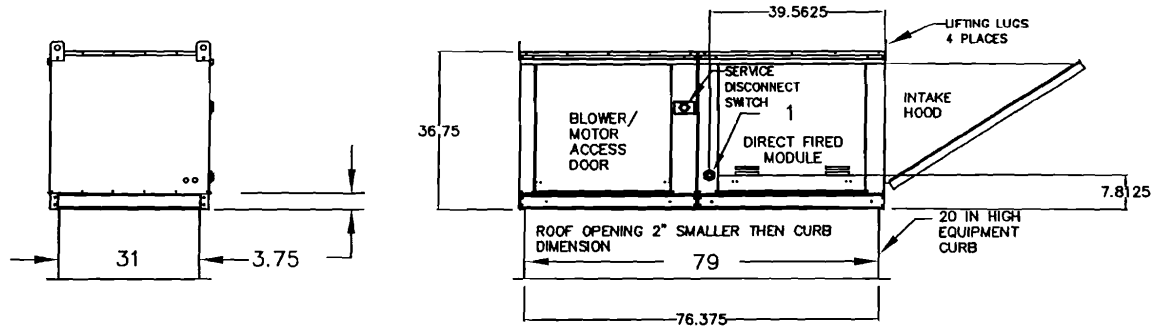
Modular Direct-Fired Heater (Fan #3 A2-D.500-G15)

- (Model#: SFIH-02MDF-F) Sloped Foam Filtered Intake for Size #2 Modular Heater. 26.813" Wide X 53.625" Long X 31.313" High. Includes 2" Foam EZ Kleen Metal Mesh Filters.
- (Model#: A2-D.500-G15) Direct Gas Fired Heated Make Up Air Unit with 15" Blower

- Down Discharge - Air Flow Right -> Left





FAN INFORMATION

FAN NO.	MODEL	TAG	SUPPLY CFM	S.P.	RPM	H.P.	PHASE	VOLT	FLA	WEIGHT LB	Sloped Hood: Filter Size & Qty	Max Filter Velocity
3	A2-D.500-G15		4304	0.500	967	3.000	1	230	17.0	835.90	X	X

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LOCATION	
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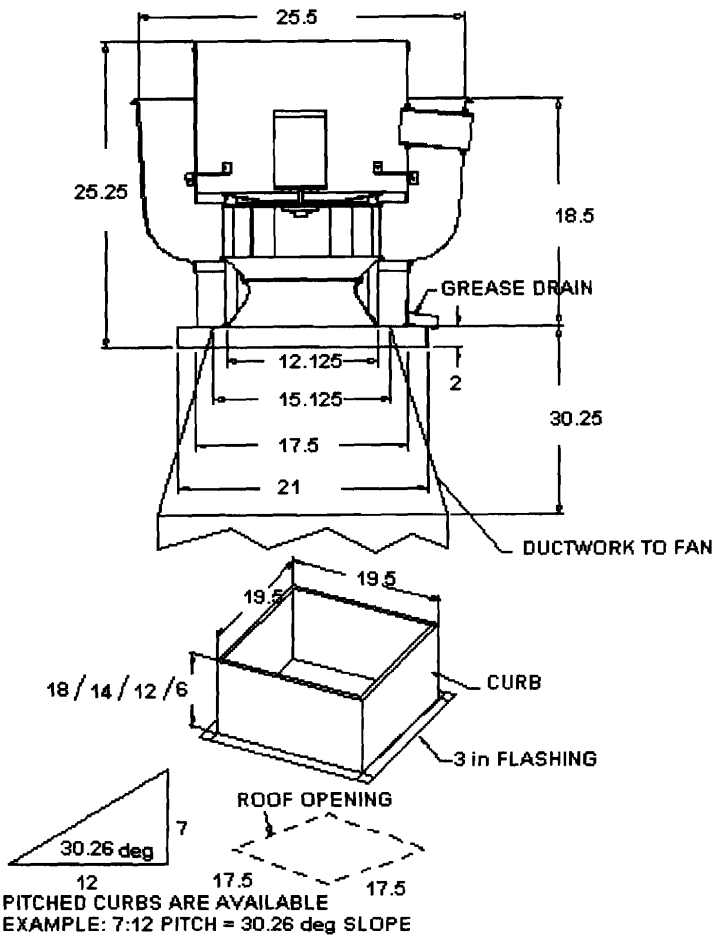
DWG # PortlandDiner	*DRAWN BY* BFC
REV. 1.00	*SCALE* 8.5" x 11"

Dishwasher Hood Fan

DU30HFA



PITCHED CURBS ARE AVAILABLE
EXAMPLE: 7:12 PITCH = 30.26 deg SLOPE

All dimensions in inches.

Rated for **restaurant** and **general ventilation** applications.
Curb for restaurant applications to be 22" high and vented.
Do **not** use backdraft damper on kitchen applications.

Back