

City of Portland, Maine - Building or Use Permit Application

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

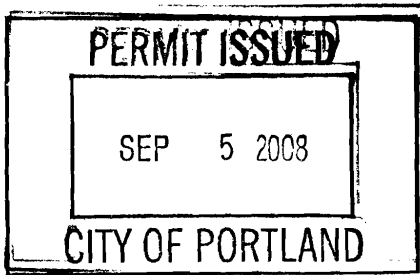
Permit No: 08-1099	Issue Date: 9/4/08	CBL: 063 D010004
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Location of Construction: 53 WEST ST	Owner Name: KEITHLEY JAMES H II & STEVE	Owner Address: 53 WEST ST # 4	Phone:
Business Name:	Contractor Name: Brian LeClair	Contractor Address: 286 Boothby Road Limington	Phone: 2076372395
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone:

Past Use: 5 Unit Condo - Unit#4	Proposed Use: 5 Unit Condo - Unit#4 - Install a Knight Wall mounted gas Boiler in Basement	Permit Fee: \$70.00	Cost of Work: \$4,500.00	CEO District: 2
Proposed Project Description: Install a Knight Wall mounted gas Boiler in Basement		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: R-2 Type: 5B IMC-2007 NFPA-2A Signature: <i>CL</i> 9/4/08	
		PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Signature: _____ Date: _____		

Permit Taken By: Idobson	Date Applied For: 09/03/2008	Zoning Approval
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- This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
- Building permits do not include plumbing, septic or electrical work.
- 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..



Special Zone or Reviews	Zoning Appeal	Historic Preservation
<input type="checkbox"/> Shoreland	<input type="checkbox"/> Variance	<input type="checkbox"/> Not in District or Landmark
<input type="checkbox"/> Wetland	<input type="checkbox"/> Miscellaneous	<input type="checkbox"/> Does Not Require Review
<input type="checkbox"/> Flood Zone	<input type="checkbox"/> Conditional Use	<input type="checkbox"/> Requires Review
<input type="checkbox"/> Subdivision	<input type="checkbox"/> Interpretation	<input type="checkbox"/> Approved
<input type="checkbox"/> Site Plan	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Conditions
Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/>	<input type="checkbox"/> Denied	<input type="checkbox"/> Denied
Date: _____	Date: _____	Date: _____

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.

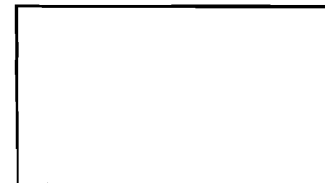
SIGNATURE OF APPLICANT _____ ADDRESS _____ DATE _____ PHONE _____

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



FILL IN AND SIGN WITH INK

APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT



To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL 63 D10004 Use of Building _____ Date _____

Name and address of owner of appliance Isabell Smiles
53 West. St. Portland, ME 04103 Unit # 4

Installer's name and address Brian Leclair
286 BOOTHBY Rd. LIMINGTON, ME 04049 Telephone (207)637-2395

Location of appliance:

- Basement Floor
 Attic Roof

Type of Fuel:

- Gas Oil Solid

Appliance Name:

Knight Boiler

U.L. Approved Yes No

Will appliance be installed in accordance with the manufacture's installation instructions? Yes No

IF NO Explain: _____

The Type of License of Installer:

- Master Plumber # _____
 Solid Fuel # _____
 Oil # _____
 Gas # PNT 5250
 Other _____

Type of Chimney:

- Masonry Lined
 Factory built _____

- Metal
 Factory Built U.L. Listing # _____

- Direct Vent
 Type Concentric UL# _____

Type of Fuel Tank

- Oil
 Gas

Size of Tank _____

Number of Tanks _____

Distance from Tank to Center of Flame _____ feet.

Cost of Work: \$ 4,500

Permit Fee: \$ 70

Approved

Approved with Conditions

Fire: _____
 Ele.: _____
 Bldg.: _____

See attached letter or requirement

[Signature]
 Inspector's Signature

7/4/08
 Date Approved

Signature of Installer Brian Leclair

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Business Name:	Contractor Name: Brian LeClair	Contractor Address: 286 Boothby Road Limington	Phone (207) 637-2395
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	

Proposed Use: 5 Unit Condo - Unit#4 - Install a Knight Wall mounted gas Boiler in Basement	Proposed Project Description: Install a Knight Wall mounted gas Boiler in Basement
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Dept: Zoning	Status: Approved	Reviewer: Chris Hanson	Approval Date: 09/04/2008
Note:	Ok to Issue: <input checked="" type="checkbox"/>		
Dept: Building	Status: Approved with Conditions	Reviewer: Chris Hanson	Approval Date: 09/04/2008
Note:	Ok to Issue: <input checked="" type="checkbox"/>		
1) Prior to installing the solid fuel appliance, the product information which includes the UL listing shall be submitted. The heating unit shall be installed per the Listing, NFPA 211, IMC 2003 and the manufacturers instructions. 2) The appliance shall be installed in accordance with the IMC 2003 and NFPA 211 3) The heating appliance/stove shall be installed, maintained and operated in accordance with the terms of the listing. 4) The installation must comply with the State of Maine Gas Regulations.			

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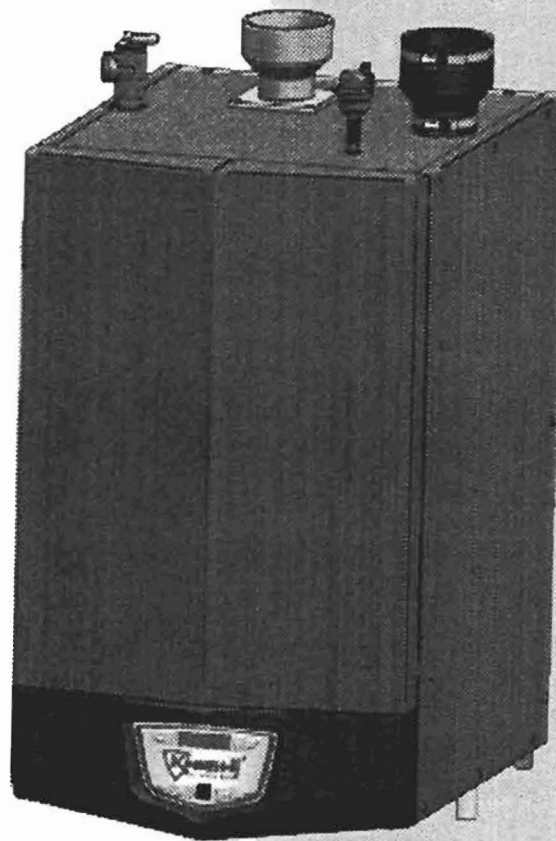
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Installation & Operation Manual
Models: 50 - 210



WARNING

This manual must only be used by a qualified heating installer / service technician. Read all instructions, including this manual and the Knight Wall Mount Service Manual, before installing. Perform steps in the order given. Failure to comply could result in severe personal injury, death, or substantial property damage.



Lochinvar[®]
High Efficiency Water Heaters, Boilers and Pool Heaters

Save this manual for future reference.

1 Determine boiler location *(continued)*

Provide air openings to room:

Knight wall mount boiler alone in boiler room

- No air ventilation openings into the boiler room are needed when clearances around the Knight wall mount boiler are at least equal to the SERVICE clearances shown in FIG.'s 1-1 and 1-2. For spaces that do NOT supply this clearance, provide two openings as shown in FIG. 1-1. Each opening must provide one square inch free area per 1,000 Btu/hr of boiler input.

Knight wall mount boiler in same space with other gas or oil-fired appliances

- Follow the National Fuel Gas Code (U.S.) or CSA B149.1 and B149.2 (Canada) to size/verify size of the combustion/ventilation air openings into the space.

⚠ WARNING

The space must be provided with combustion/ventilation air openings correctly sized for all other appliances located in the same space as the Knight wall mount boiler.

Do not install the boiler in an attic.

Failure to comply with the above warnings could result in severe personal injury, death, or substantial property damage.

- Size openings only on the basis of the other appliances in the space. No additional air opening free area is needed for the Knight wall mount boiler because it takes its combustion air from outside (direct vent installation).

Wall mounting location

Ensure the wall for which the boiler is intended to be mounted is comprised of either, cement, brick, block, or wooden studs spaced 16" apart from center. Ensure the wall is capable of supporting at least 200 pounds.

If flooding is possible, elevate the boiler sufficiently to prevent water from reaching the boiler.

Ensure the boiler is installed in a location that minimizes the risk of water damage due to valves, pumps, etc.

Residential garage installation

Precautions

Take the following special precautions when installing the boiler in a residential garage. If the boiler is located in a residential garage, per ANSI Z223.1, paragraph 5.1.9:

- Mount the boiler with a minimum of 18 inches above the floor of the garage to the bottom of the boiler to ensure the burner and ignition devices will be no less than 18 inches above the floor.
- Locate or protect the boiler so it cannot be damaged by a moving vehicle.

Vent and air piping

The Knight wall mount boiler requires a special vent system, designed for pressurized venting.

You must also install air piping from outside to the boiler air intake adapter. The resultant installation is direct vent (sealed combustion). Note prevention of combustion air contamination below when considering vent/air termination.

Vent and air must terminate near one another and may be vented vertically through the roof or out a side wall. You may use any of the vent/air piping methods covered in this manual. Do not attempt to install the Knight wall mount boiler using any other means.

Be sure to locate the boiler such that the vent and air piping can be routed through the building and properly terminated. The vent/air piping lengths, routing and termination method must all comply with the methods and limits given in this manual.

Prevent combustion air contamination

Install air inlet piping for the Knight wall mount boiler as described in this manual. Do not terminate vent/air in locations that can allow contamination of combustion air. Refer to Table 1A, page 10 for products and areas which may cause contaminated combustion air.

⚠ WARNING

You must pipe combustion air to the boiler air intake. Ensure that the combustion air will not contain any of the contaminants in Table 1A, page 10. Contaminated combustion air will damage the boiler, resulting in possible severe personal injury, death or substantial property damage. Do not pipe combustion air near a swimming pool, for example. Also, avoid areas subject to exhaust fumes from laundry facilities. These areas will always contain contaminants.

3 General venting

Direct venting options

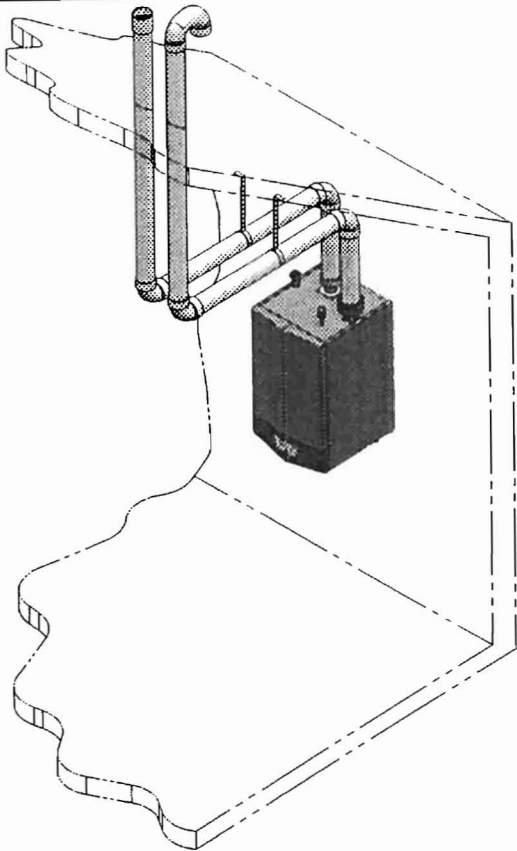


Figure 3-1 Two-Pipe Vertical Termination - See page 23 for more details

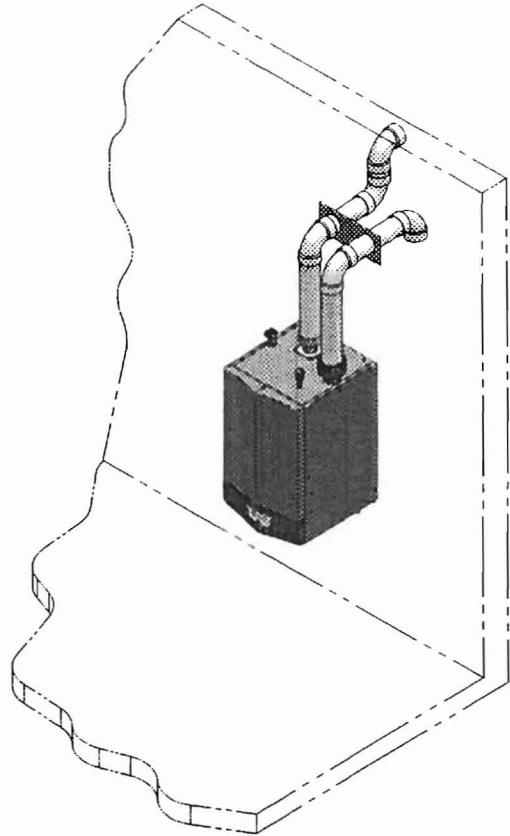


Figure 3-2 Two-Pipe Sidewall Termination - See page 17 for more details

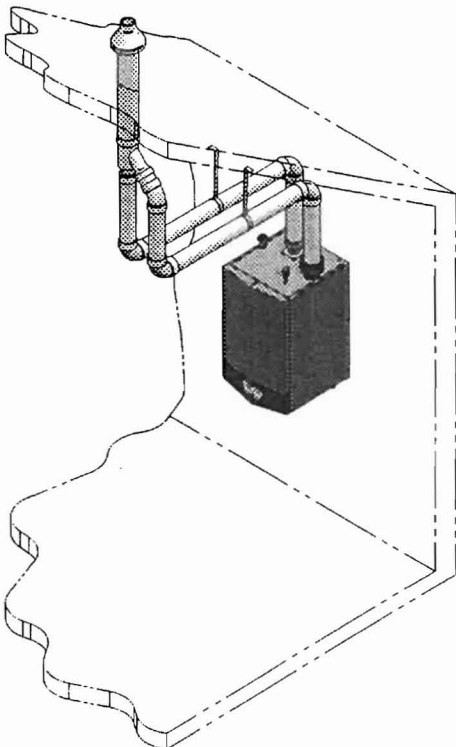


Figure 3-3 Concentric Vertical Termination - See page 25 for more details

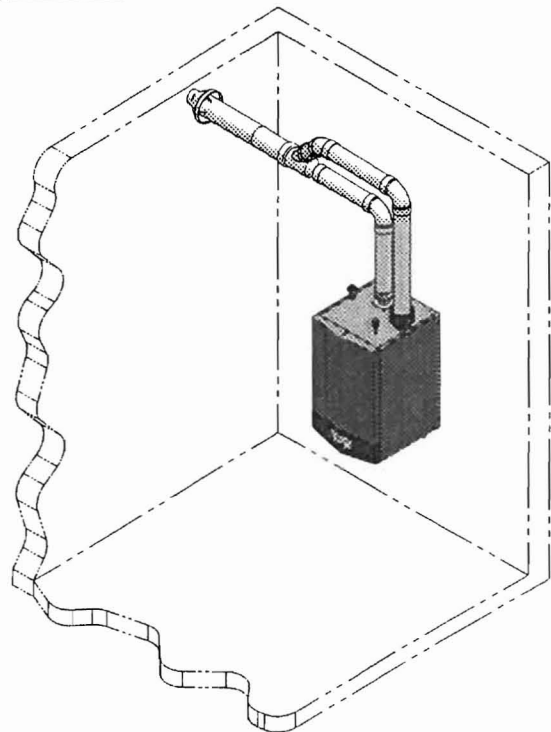


Figure 3-4 Concentric Sidewall Termination - See page 20 for more details

3 General venting *(continued)*

NOTICE

Combustion air piping to the outside **MUST BE** used. Use of combustion air from the room via louvers, plenums, or any other device is not authorized.

The Knight wall mount boiler uses model specific combustion air intake and vent piping sizes as detailed in Table 3B below.

NOTICE

Increasing or decreasing the size of the combustion air or vent piping beyond the sizes listed in Table 3B is not authorized.

Air intake/vent connections

1. **Combustion Air Intake Connector** (FIG. 3-5) - Used to provide combustion air directly to the unit from outdoors. A fitting is provided on the unit for final connection. Combustion air piping must be supported per guidelines listed in the National Mechanical Code, Section 305, Table 305.4 or as local codes dictate.
2. **Vent Connector** (FIG. 3-5) - Used to provide a passageway for conveying combustion gases to the outside. A transition fitting is provided on the unit for final connection. Vent piping must be supported per the National Building Code, Section 305, Table 305.4 or as local codes dictate.

Maximum allowable combustion air and vent piping lengths are as follows:

Table 3B Maximum Combustion Air and Vent Piping Lengths

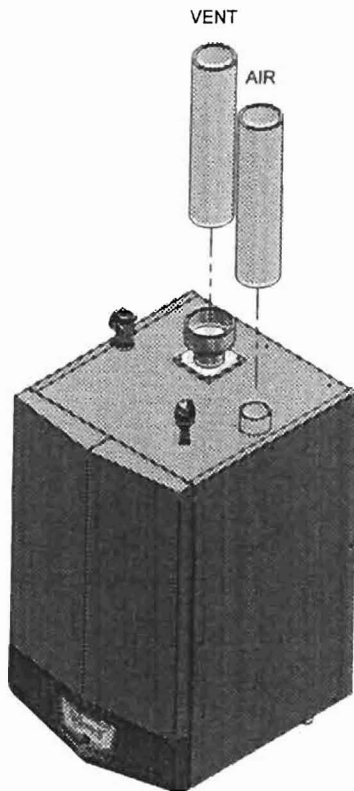
Model	2" Max Vent/Air	3" Max Vent/Air
50	40 feet	100 feet
80	40 feet	100 feet
105	40 feet	100 feet
150	N/A	100 feet
210	N/A	100 feet

Note: The minimum combustion air and vent piping length is 12 equivalent feet.

When determining equivalent combustion air and vent length, add 5 feet for each 90° elbow, 3 feet for each 45° elbow, and 3 feet for the concentric vent kit, see example below.

EXAMPLE: 20 feet of PVC pipe + (4) 90° elbows + (2) 45° elbows + (1) concentric vent kit = 49 equivalent feet of piping.

Figure 3-5 Near Boiler Venting Model 50



4 Sidewall direct venting

Vent/air termination – sidewall

WARNING Follow instructions below when determining vent location to avoid possibility of severe personal injury, death, or substantial property damage.

WARNING A gas vent extending through an exterior wall shall not terminate adjacent to a wall or below building extensions such as eaves, parapets, balconies, or decks. Failure to comply could result in severe personal injury, death, or substantial property damage.

WARNING Do not connect any other appliance to the vent pipe or multiple boilers to a common vent pipe. Failure to comply could result in severe personal injury, death, or substantial property damage.

NOTICE Installation must comply with local requirements and with the National Fuel Gas Code, ANSI Z223.1 for U.S. installations or CSA B149.1 or B149.2 for Canadian installations.

Determine location

Locate the vent/air terminations using the following guidelines:

1. The total length of piping for vent or air must not exceed the limits given in the General Venting Section on page 15 of this manual.
2. The air piping must terminate in a down-turned elbow as shown in FIG. 4-1. This arrangement avoids recirculation of flue products into the combustion air stream.
3. The vent piping must terminate in an elbow pointed outward or away from the air inlet, as shown in FIG. 4-1.

WARNING Do not exceed the maximum lengths of the outside vent piping shown in FIG. 4-1. Excessive length exposed to the outside could cause freezing of condensate in the vent pipe, resulting in potential boiler shutdown.

4. You must consider the surroundings when terminating the vent and air:
 - a. Position the vent termination where vapors will not damage nearby shrubs, plants or air conditioning equipment or be objectionable.
 - b. The flue products will form a noticeable plume as they condense in cold air. Avoid areas where the plume could obstruct window views.

- c. Prevailing winds could cause freezing of condensate and water/ice buildup where flue products impinge on building surfaces or plants.
- d. Avoid possibility of accidental contact of flue products with people or pets.
- e. Do not locate the terminations where wind eddies could affect performance or cause recirculation, such as inside building corners, near adjacent buildings or surfaces, window wells, stairwells, alcoves, courtyards, or other recessed areas.

WARNING Sidewall vent and air inlet terminations must terminate in the same pressure zone.

Figure 4-1 Sidewall Termination of Air and Vent

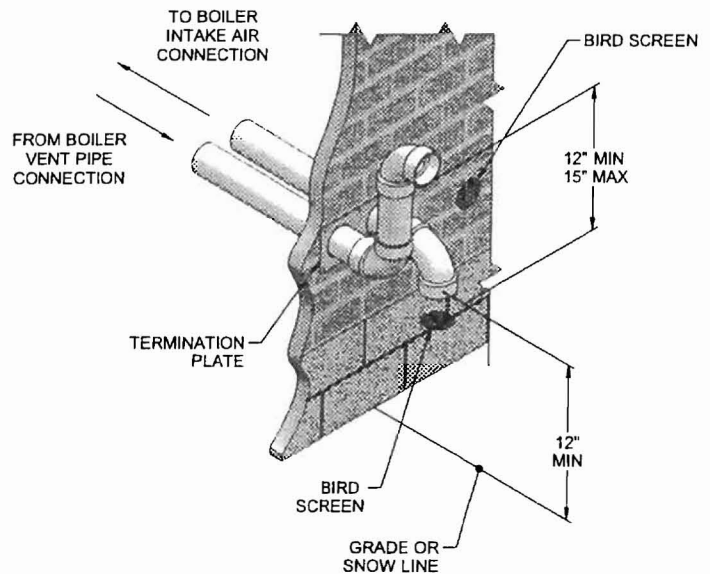


Figure 4-2 Alternate Sidewall Termination of Air and Vent if Space Allows

