

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND BUILDING PERMIT



This is to certify that

MORRISON K SCOTT & MARY K MORRISON
JTS/Caron & Waltz

PERMIT ID: 2013-00238

Located at

9 PARRIS ST- Unit #1

CBL: 033 I007091

has permission to **Install Lochinvar Knight KBN211 HVAC in Unit #1**

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

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise cloed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be procured prior to occupancy.

Fire Prevention Officer



Code Enforcement Officer / Plan Reviewer

**THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
THERE IS A PENALTY FOR REMOVING THIS CARD**

PERMIT ID: 2013-00238

Located at: 9 PARRIS ST- Unit #1

CBL: 033 I007091

BUILDING PERMIT INSPECTION PROCEDURES
Please call 874-8703 (ONLY)
or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

REQUIRED INSPECTIONS:

Close-in Plumbing/Framing
Final Inspection

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 2013-00238	Issue Date:	CBL: 033 I007091
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Location of Construction: 9 PARRIS ST- Unit #1	Owner Name: MORRISON K SCOTT & MARY K MORRISON JTS	Owner Address: 9 PARRIS ST # 1 PORTLAND , ME 04101	Phone:
Business Name:	Contractor Name: Caron & Waltz	Contractor Address: 321 Lincoln Street South Portland ME 04106	Phone (207) 799-2228
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone: B3 R6
Past Use: Three Residential condos	Proposed Use: Same: Three Residential condos	Permit Fee: \$140.00	Cost of Work: \$12,000.00
Proposed Project Description: Install Lochinvar Knight KBN211 HVAC in Unit #1		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input type="checkbox"/> N/A	INSPECTION: Use Group: HVAC Type: ME Gas Regulator <i>[Signature]</i>
		Signature: _____ Signature: _____	
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: bjs	Date Applied For: 02/05/2013	Zoning Approval		
<ol style="list-style-type: none"> 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 <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: <i>02/17/13</i>	Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: _____	Historic Preservation <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>[Signature]</i>

CERTIFICATION

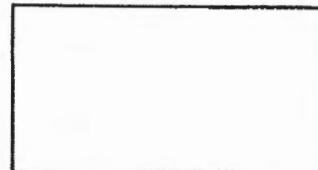
I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, 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 9 PARRIS STREET Use of Building CONDOMINIUMS Date 2/4/13
 Name and address of owner of appliance PARRIS STREET CONDOS.
c/o E. Scott Morrison, 9 PARRIS STREET UNIT #1, PORTLAND, ME 04101
 Installer's name and address CAROL T WALTZ, 321 LINCOLN STREET
SP. PORTLAND, ME 04106 Telephone 799-2228

Location of appliance:

- Basement
- Attic
- Floor
- Roof

Type of Fuel:

- Gas
- Oil
- Solid

Appliance Name: LOGI-INVAR KNIGHT KBN211

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 # PNT1619
- Other _____

Type of Chimney:

- Masonry Lined
Factory built _____
- Metal
Factory Built U.L. Listing # FEB 05 2013
- Direct Vent
Type PVC UL# _____

RECEIVED
FEB 05 2013
 Dept. of Building Inspections
 City of Portland Maine

Type of Fuel Tank

- Oil N/A
- Gas

Size of Tank N/A

Number of Tanks N/A

Distance from Tank to Center of Flame N/A feet.

Cost of Work: \$ 12,000.00

Permit Fee: \$ 140.00

Approved

Fire: _____
 Ele.: _____
 Bldg.: _____

Signature of Installer [Signature]

Approved with Conditions

- See attached letter or requirement

Inspector's Signature _____ Date Approved _____

1 Determine boiler location

Installation must comply with:

- Local, state, provincial, and national codes, laws, regulations, and ordinances.
- National Fuel Gas Code, ANSI Z223.1 – latest edition.
- Standard for Controls and Safety Devices for Automatically Fired Boilers, ANSI/ASME CSD-1, when required.
- National Electrical Code.
- For Canada only: B149.1 Installation Code, CSA C22.1 Canadian Electrical Code Part 1 and any local codes.

NOTICE

The Knight boiler gas manifold and controls met safe lighting and other performance criteria when the boiler underwent tests specified in ANSI Z21.13 – latest edition.

Before locating the boiler, check:

1. Check for nearby connection to:
 - System water piping
 - Venting connections
 - Gas supply piping
 - Electrical power
2. Locate the appliance so that if water connections should leak, water damage will not occur. When such locations cannot be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the appliance. The pan must not restrict combustion air flow. Under no circumstances is the manufacturer to be held responsible for water damage in connection with this appliance, or any of its components.
3. Check area around the boiler. Remove any combustible materials, gasoline and other flammable liquids.

WARNING

Failure to keep boiler area clear and free of combustible materials, gasoline, and other flammable liquids and vapors can result in severe personal injury, death, or substantial property damage.

4. The Knight boiler must be installed so that gas control system components are protected from dripping or spraying water or rain during operation or service.
5. If a new boiler will replace an existing boiler, check for and correct system problems, such as:
 - System leaks causing oxygen corrosion or heat exchanger cracks from hard water deposits.
 - Incorrectly-sized expansion tank.
 - Lack of freeze protection in boiler water causing system and boiler to freeze and leak.

WARNING

This appliance is certified as an indoor appliance. Do not install the appliance outdoors or locate where the appliance will be exposed to freezing temperatures or to temperatures that exceed 100°F.

Do not install the appliance where the relative humidity may exceed 93%. Do not install the appliance where condensation may form on the inside or outside of the appliance, or where condensation may fall onto the appliance.

Failure to install the appliance indoors could result in severe personal injury, death, or substantial property damage.

WARNING

This appliance requires a special venting system. If using PVC the vent connection to the appliance must be made with the starter CPVC pipe section provided with the appliance. The field provided vent fittings must be cemented to the CPVC pipe section. Use only the vent materials, primer and cement specified in this manual to make the vent connections. Failure to follow this warning could result in fire, personal injury, or death.

Closet and alcove installations

A closet is any room the boiler is installed in which is less than 67 cubic feet for KBN081 and KBN106 models, 86 cubic feet for KBN151 models, 107 cubic feet for KBN211 models, and 120 cubic feet for KBN286 models.

An alcove is any room which meets the criteria for a closet with the exception that it does not have a door.

Example: Room dimensions = 4 feet long, 3 feet wide, and 8 foot ceiling = 4 x 3 x 8 = 96 cubic feet. This would be considered a closet for a Knight Boiler.

WARNING

For closet and alcove installations as shown in FIG.'s 1-1 and 1-2, CPVC, polypropylene or stainless steel vent material must be used inside the structure. The ventilating air openings shown in FIG.'s 1-1 and 1-2 are required for this arrangement. Failure to follow this warning could result in fire, personal injury, or death.

Provide clearances:

Clearances from combustible materials

1. Hot water pipes—at least 1/4" (6 mm) from combustible materials.
2. Vent pipe – at least 1" (25 mm) from combustible materials.
3. See FIG.'s 1-1 and 1-2 on page 9 for other clearance minimums.

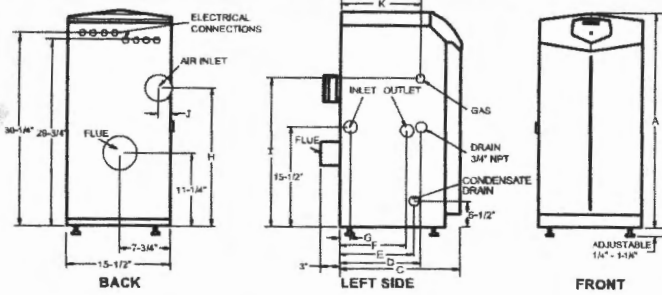
Clearances for service access

1. See FIG.'s 1-1 and 1-2 on page 9 for recommended service clearances. If you do not provide the minimum clearances shown, it may not be possible to service the boiler without removing it from the space.

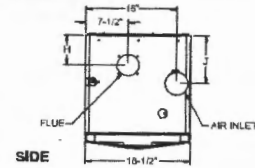
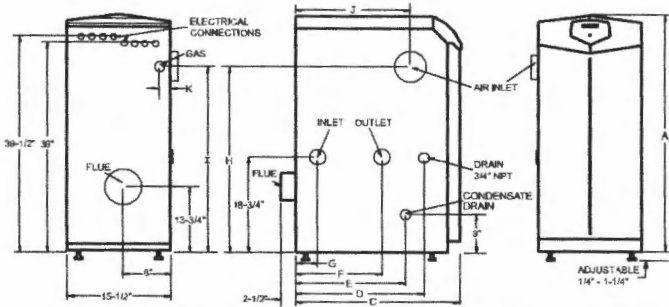
KNIGHT® BOILER DIMENSIONS AND SPECIFICATIONS - FLOOR-STANDING MODELS

WALL-MOUNT MODELS

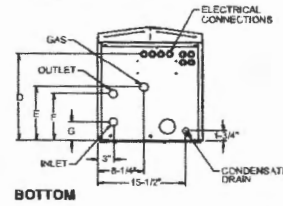
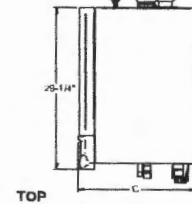
Models:
KBN 081-211



Model:
KBN286



Models:
WBN051-211



KNIGHT HEATING BOILER

Model Number	Input Min. MBH	Input Max. MBH	AFUE %	Heating Capacity MBH	NET I=B=R MBH
WBN051	10	50	95.3	45	39
WBN081	16	80	95.3	72	63
WBN106	21	105	95.4	94	82
WBN151	30	150	95.5	135	119
WBN211	42	210	95.7	190	165
KBN081	16	80	95.3	72	63
KBN106	21	105	95.4	94	82
KBN151	30	150	95.5	135	119
KBN211	42	210	95.7	190	165
KBN286	57	285	96.0	260	226

DIMENSIONS AND SPECIFICATIONS

A	C	D	E	F	G	H	I	J	K	M	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
29-1/4"	15-3/4"	NA	10-3/4"	10-3/4"	2"	6-3/4"	NA	3-1/4"	4-1/4"	2-3/4"	1/2"	1"	2"	2"	130
29-1/4"	15-3/4"	NA	10-3/4"	10-3/4"	2"	6-3/4"	NA	3-1/4"	4-1/4"	2-3/4"	1/2"	1"	2"	2"	130
29-1/4"	15-3/4"	NA	10-3/4"	10-3/4"	3-1/2"	5-1/2"	NA	3-1/4"	4-1/4"	2-3/4"	1/2"	1"	2"	2"	134
29-1/4"	20-3/4"	NA	15-3/4"	8-1/2"	3-1/2"	5-1/2"	NA	8-3/4"	9-3/4"	1-1/2"	1/2"	1"	3"	3"	162
29-1/4"	25"	NA	20"	12"	3-1/2"	5-1/2"	NA	13"	14"	1-1/2"	1/2"	1"	3"	3"	177
33-1/4"	14"	7"	5-3/4"	5"	3"	20-1/2"	22"	1-3/4"	6-1/2"	NA	1/2"	1"	3"	3"	125
33-1/4"	14"	6-1/2"	5-3/4"	4-1/2"	1-1/2"	20-1/2"	22"	1-3/4"	6-1/2"	NA	1/2"	1"	3"	3"	129
33-1/4"	18"	12-1/4"	11-1/2"	10"	1-3/8"	21-1/4"	23"	1-3/4"	12"	NA	1/2"	1"	3"	3"	157
33-1/4"	22-1/4"	16-1/2"	15-3/4"	14-1/4"	5-1/4"	21-1/4"	23"	1-3/4"	16-1/4"	NA	1/2"	1"	3"	3"	172
42-1/4"	19-3/4"	12-3/4"	13-1/2"	6"	2"	34"	31"	11-3/4"	4-1/4"	NA	3/4"	1-1/4"	4"	4"	224

Notes: Indoor installation only. All information subject to change. Change "N" to "L" for LP gas models.

SMART SYSTEM™ FEATURES

- ▶ **SMART SYSTEM Digital Operating Control**
 - ▶ Multi-Color Graphic LCD Display with Navigation Dial and Soft Keys
- ▶ **Three Setpoint Temperature Inputs**
- ▶ **Built-In Cascading Sequencer for up to 8 Boilers**
 - ▶ Lead Lag
 - ▶ Efficiency Optimization
- ▶ **Outdoor Reset Control with Outdoor Air Sensor**
 - ▶ Programmable for Three Reset Temperature Inputs
- ▶ **Programmable System Efficiency Optimizers**
 - ▶ Night Setback w/Override Function
 - ▶ DHW Night Setback w/Override Function
 - ▶ Anti-Cycling
 - ▶ Outdoor Air Reset Curve
 - ▶ Ramp Delay
 - ▶ Boost Temperature & Time
- ▶ **Three Pump Control**
 - ▶ System Pump with Parameter for Continuous Operation
 - ▶ Boiler Pump with Variable Speed Pump Control*
 - ▶ Domestic Hot Water Pump
- ▶ **Domestic Hot Water Prioritization**
 - ▶ DHW tank piped with priority in the boiler loop
 - ▶ DHW tank piped as a zone in the system with the pumps controlled by the Smart System
 - ▶ DHW Modulation Limiting
 - ▶ Separately Adjustable SH/DHW Switching Times*
- ▶ **Building Management System Integration**
 - ▶ 0-10VDC Input to Control Modulation or Set Point
 - ▶ 0-10VDC Modulation Rate Output
 - ▶ 0-10VDC Input Signal from Variable Speed System Pump*
 - ▶ 0-10VDC Input to Enable/Disable call for heat

*Exclusive feature, available only from Lochinvar

- ▶ **High-Voltage Terminal Strip**
 - ▶ 120 VAC / 60 Hertz / 1 Phase Power Supply
 - ▶ Three Sets of Pump Contacts
- ▶ **Low Voltage Terminal Strip**
 - ▶ 24 VAC Device Relay
 - ▶ Proving Switch Contacts
 - ▶ Flow Switch Contacts
 - ▶ Alarm on Any Failure Contacts
 - ▶ Runtime Contacts
 - ▶ DHW Thermostat Contacts
 - ▶ 3 Space Heat Thermostat Contacts
 - ▶ System Sensor Contacts
 - ▶ DHW Tank Sensor Contacts
 - ▶ Outdoor Air Sensor Contacts
 - ▶ Cascade Contacts
 - ▶ 0-10VDC BMS External Control Contact
 - ▶ 0-10VDC Boiler Rate Output Contacts
 - ▶ 0-10VDC Variable Speed System Pump Signal Input
 - ▶ 0-10VDC Signal to Control Variable Speed Boiler Pump
 - ▶ Modbus Contacts
- ▶ **Time Clock**
- ▶ **Data Logging**
 - ▶ Hours Running, Space Heating
 - ▶ Hours Running, Domestic Hot Water
 - ▶ Ignition Attempts
 - ▶ Last 10 Lockouts
- ▶ **Access to BMS Settings through Graphic LCD Display**
- ▶ **Maintenance Reminder**
 - ▶ Custom Maintenance Reminder with Contractor Info
 - ▶ Installer Ability to De-activate Service Reminder
- ▶ **Low-Water Flow Safety Control & Indication**
- ▶ **Dual Level Password Security**
- ▶ **Customizable Freeze Protection Parameters**

STANDARD FEATURES

- ▶ **Energy Star™ Qualified**
- ▶ **Up to 96% DOE AFUE Efficiency**
- ▶ **Modulating Burner with 5:1 Turndown**
 - ▶ Direct-Spark Ignition
 - ▶ Low-NOx Operation
 - ▶ Field Convertible from Natural to LP Gas
- ▶ **ASME Stainless Steel Heat Exchanger**
 - ▶ 30 psi ASME Relief Valve
- ▶ **Vertical & Horizontal Direct-Vent**
 - ▶ PVC, CPVC or SS Venting up to 100 feet
 - ▶ Factory Supplied Sidewall Vent Termination
- ▶ **Smart System Control**
- ▶ **Condensate Trap**
- ▶ **Other Features**
 - ▶ Automatic Reset High Limit
 - ▶ Adjustable High Limit w/Manual Reset
 - ▶ Boiler Circulating Pump
 - ▶ Adjustable Leveling Legs (KB Models only)
 - ▶ Wall-Mount Bracket (WB Models only)
 - ▶ Zero Clearances to Combustible Materials
 - ▶ 12-Year Limited Warranty (See Warranty for Details)

OPTIONAL EQUIPMENT

- ▶ Modbus Communication
- ▶ Condensate Neutralization Kit
- ▶ Flow Switch
- ▶ Low-Water Cutoff w/Manual Reset & Test
- ▶ Alarm Bell
- ▶ Concentric Vent Kit
- ▶ SMART SYSTEM PC Software
- ▶ Stack Frame

FIRING CODES

- ▶ M9 Standard Construction
- ▶ M7 California Code

