

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 06-1145	Issue Date: PERMIT ISSUED AUG 11 2006	CBL: D045 B011020
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Location of Construction: 88 PARK ST	Owner Name: ROLLINS MARY ELLEN	Owner Address: 90 PARK ST # 20	Phone:
Business Name:	Contractor Name: Jims Plumbing & Heating Inc.	Contractor Address: 98 Lamb Rd Westbrook	Phone: 2078548068
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone: CITY OF PORTLAND

Past Use: Residential / Condos	Proposed Use: Residential / Condos install a Buderus hot water boiler w/ 2 275 gal tanks	Permit Fee: \$420.00	Cost of Work: \$40,000.00	CEO District: 2
Proposed Project Description: install a Buderus hot water boiler w/ 2 275 gal tanks		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: HVAC Type: 8/2/06 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: _____		

Proposed Project Description:
install a Buderus hot water boiler w/ 2 275 gal tanks

FIRE DEPT: Approved Denied

INSPECTION:
Use Group: HVAC Type:
8/2/06
Signature: [Signature]

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)
Action: Approved Approved w/Conditions Denied
Signature: _____ Date: _____

Permit Taken By: dmartin	Date Applied For: 08/04/2006	Zoning Approval
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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..	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: _____	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 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: _____
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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.

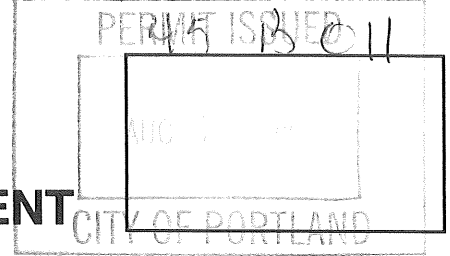
SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
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RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE	DATE	PHONE
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FILL IN AND SIGN WITH INK

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 Park ST Condo Ass Use of Building condominiums Date 8/3/06
Name and address of owner of appliance same

Installer's name and address JIM'S PL & HTG 84 Lamb St, Westbrook
Telephone 650 0611

Location of appliance:

- Basement
- Attic
- Floor
- Roof

Type of Fuel:

- Gas
- Oil
- Solid

Appliance Name: Buderus G315/6
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 # 1948
- Solid Fuel # _____
- Oil # MS 3000 1458
- Gas # _____
- Other _____

Type of Chimney:

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

Type of Fuel Tank

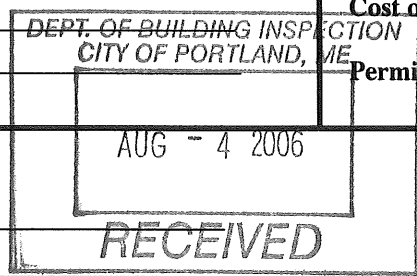
- Oil
- Gas

Size of Tank 2 - 275 gal

Number of Tanks 2

Distance from Tank to Center of Flame 10 feet.

Cost of Work: \$ 40,000
Permit Fee: \$ 420



Approved

Approved with Conditions

See attached letter or requirement

Fire: _____
Ele.: _____
Bldg.: [Signature]
Signature of Installer Jim M... [Signature]

Inspector's Signature _____ Date Approved _____

155

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Business Name:	Contractor Name: Jims Plumbing & Heating Inc.	Contractor Address: 98 Lamb Rd Westbrook	Phone (207) 854-8068
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	

Proposed Use: Residential / Condos install a Buderus hot water boiler w/ 2 275 gal tanks	Proposed Project Description: nstall a Buderus hot water boiler w/ 2 275 gal tanks
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Dept: Building **Status:** Approved with Conditions **Reviewer:** Mike Nugent **Approval Date:** 08/07/2006**Note:** **Ok to Issue:**

1) Installation shall comply with 2003 International Mechanical Code and State of Maine Oil and Solid Fuel Board Laws and Rules

Benefits of the Buderus 315 *Thermostream* boiler

- High efficiency through full three pass boiler design.
- Minimal standby losses with double wall heat exchanger and 3 1/2" thermal insulation.
- No thermal shock as a result of unique *Thermostream* boiler design.
- No minimum return water temperature requirement eliminates shunt pump.
- Savings in overall equipment cost, installation and annual operating costs.
- Excellent serviceability with reversible full swing burner door and no refractory in the chamber.
- Compact boiler design: assembled block width is only 28".

Ratings

Boiler Model	Number of Sections	Gross Output	Boiler HP	Net IBR	Maximum Input		Combustion Efficiency*		Dry Weight	Water Content	Overall Boiler Length	Boiler Block Length
					Oil	Gas	Oil	Gas				
		MBH		MBH	GPH	MBH	%	%	Lbs.	Gal.	L _G , In.	L _K , In.
G315/5	5	350	10.4	304	3.0	433	86.8	84.2	1197	37.8	44 1/4	38 1/4
G315/6	6	454	13.6	395	3.85	556	86.9	84.3	1391	45.2	50 1/2	44 1/2
G315/7	7	559	16.6	486	4.7	678	87.0	84.4	1585	52.6	56 3/4	50 3/4
G315/8	8	663	19.8	577	5.6	801	87.1	84.4	1779	60.0	63 1/4	57
G315/9	9	768	22.9	668	6.4	924	87.1	84.5	1973	67.4	69 1/2	63 1/2

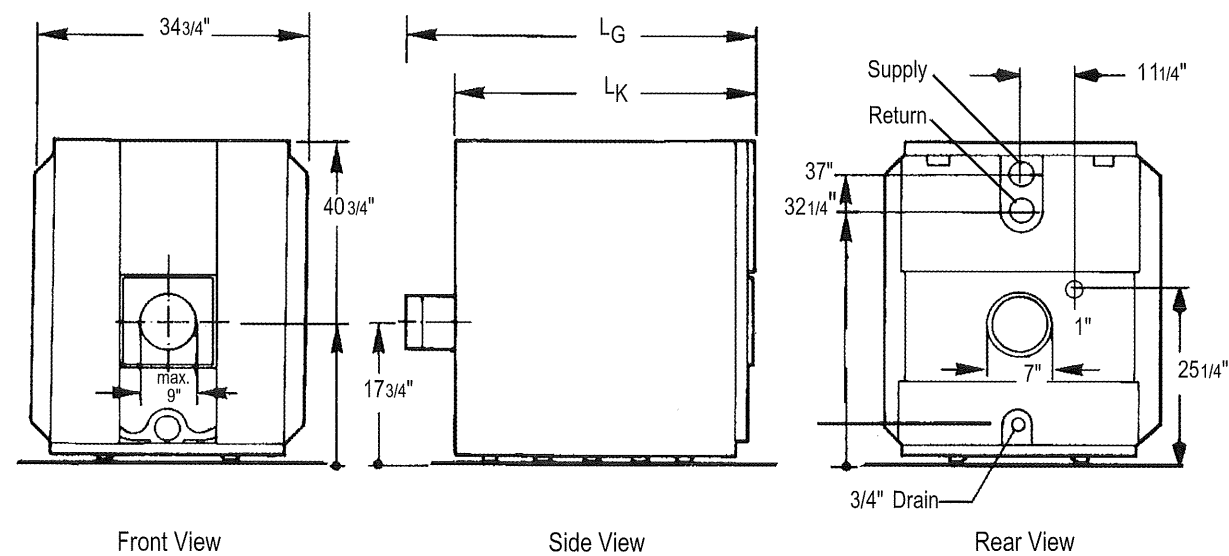
Maximum Boiler Temperature: 240°F Maximum Operating Pressure: 87 psi

* If burner is set up to achieve listed efficiency levels, proper precautions must be observed with respect to possible condensation in the venting system. Use approved venting materials.

Buderus recommends the use of customized Beckett CF, Power Flame or Riello F series burners when firing the G315 with oil. Use Power Flame or Riello for gas firing. All of the above burners are available from Buderus Hydronic Systems.

Operational Requirements

1. Set boiler high limits above 131°F (149°F for modulating gas burner) for safe boiler operation.
2. No minimum return water temperature and no minimum flow requirements.
3. Low fire setting must be at least 60% of full fire for a LHL burner.
4. Maintain minimum of 158°F in boiler in case of ice water return temperatures



Buderus
HYDRONIC SYSTEMS

50 Wentworth Ave • Londonderry, NH 03053
Tel: (603) 421-2760 • Fax: (603) 421-2719
Toll Free: (800) 283-3787
Website: www.buderus.net

BHSG315BR.3 7/02

Subject to change without notice.

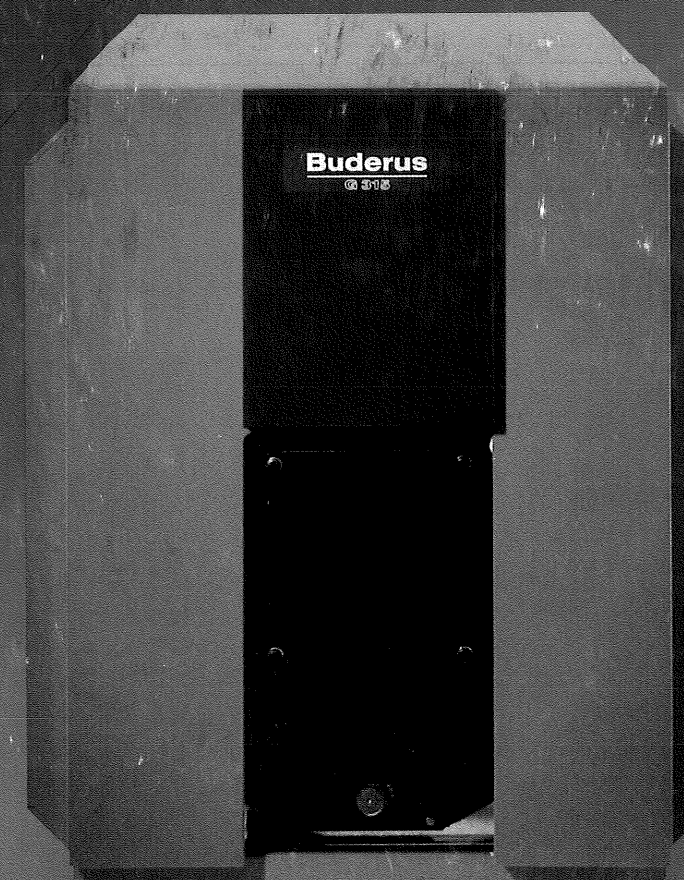
Commercial Cast Iron Hot Water Boilers: G315

Thermostream Boiler Design-Shock Proof

GL-180M Cast Iron

High combustion Efficiencies

Gross Outputs: 350 to 768 MBtu/hr

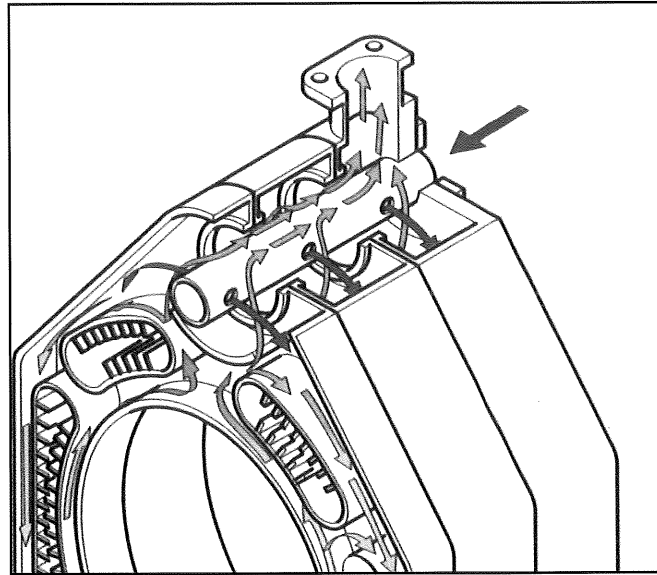


G315 Series

Thermostreamboiler design eliminates thermal shock

Buderus developed the *Thermostream Principle* for cast iron boilers. Return water enters a central distribution pipe and is then injected into, mixed and preheated with supply water in the top header before entering the main heat exchanger. Different diameter ports in the distribution pipe ensure proportionate flow through each section for optimum heat transfer and reduced thermal stresses in the boiler.

Condensate formation is impossible by design due to internal water circulation and deflection of return water away from directly heated surfaces. Internal water circulation and injection combined with deflection plates ensure condensate free boiler operation under no-flow conditions.



GL-180M gray cast iron: The ideal material for high quality, high efficiency hot water boilers

Buderus GL-180M silicone injected, gray cast iron has excellent corrosion resistance, exceptional casting characteristics, 40% greater flexibility and high thermal conductivity. Buderus incorporates these features in the design and casting of its superior sectional cast iron boilers.

Gray cast iron obtains its superior material characteristics primarily from a high carbon (graphite) and silicone content. Additional elements further enhance the properties of the GL-180M. The graphite appears in two different forms in the microstructure:

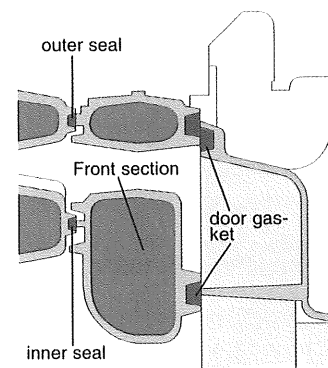
1. Nodular form—benefits: excellent tensile strength and greater elasticity.
2. Graphite flakes—benefits: excellent corrosion resistance against acidic combustion products.

Buderus developed special substances that are impregnated during the casting process to improve the mechanical properties of cast iron. The graphite precipitates into smaller, modified flakes which produce GL-180M cast iron with 40% greater elasticity and a high silicone barrier for corrosion protection. All sections are heat treated to relieve thermal stresses.

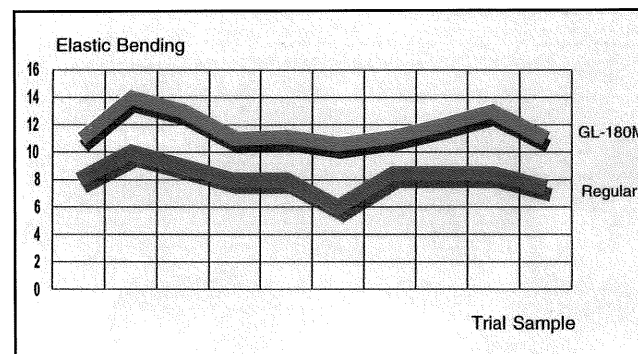
Steel push nipples and tongue and groove sectional construction

Sections are assembled with beveled, surface profiled push nipples for long, trouble-free watertight operation.

Flueways are sealed gastight with tongue and groove section design and elastic high temperature resistant sealing rope. This seal is fully pressed into the groove during assembly to allow positive pressure operation. A permanent dry door gasket ensures repeated positive sealing off of the full swing burner door.



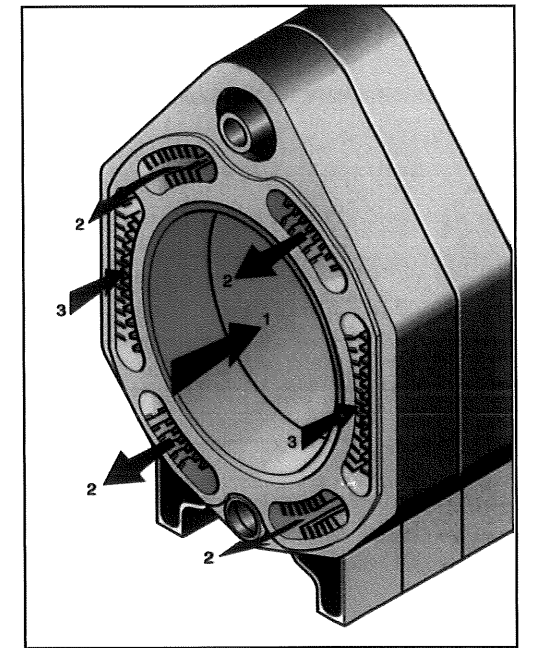
Buderus sealing system: 100% security during boiler lifetime.



All cast iron is not the same. With the addition of special inoculants, Buderus has developed a more elastic, corrosion resistant gray cast iron material.

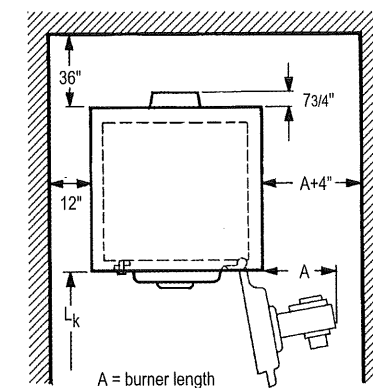
Standard features

- Hot water only, for use with oil or gas.
- Full-size burner door hinged left or right (field adjustable).
- Supply and return connections at rear of boiler.
- Blue enamel jacket with 3" wrap-around thermal insulation.
- Flexible GL-180M cast iron with silicon "barrier skin".
- Precision casting eliminates need for manual grinding.
- No refractory or target cup needed due to chamber geometry.
- Precision machined steel push nipple sectional construction.
- Tongue and groove flueside sealing for pressurized operation.
- Available as factory assembled or knocked-down.
- 2" water connections for G315/5, G315/6 and G315/7 models.
- 3" water connections for G315/8 and G315/9 models.
- 3" supply manifold with NPT control tappings.



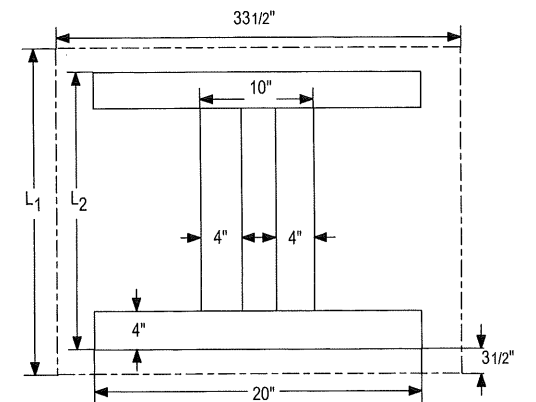
True 3-pass design for high efficiency

Boiler clearances



Foundation preparations

The boiler must be placed on a smooth, level concrete base, 33 1/2" wide. Cement in the base or place on its top either 4" x 1/4" flat steel plates or 4" x 2" x 1/4" angle irons for boiler support. Dimensions L1 and L2 are specified in the table below.



Boiler Model	315/5	315/6	315/7	315/8	315/9
Foundation Length L ₁	36"	42 1/4"	48 1/2"	54 3/4"	61"
Flat Plate Length L ₂	28 3/4"	35"	41 1/4"	47 1/2"	54"

Commercial boiler specifications

1. There shall be provided and installed a quantity of ____ G315 Buderus sectional cast iron hot water boiler(s) with a total gross output rating of ____ MBH, suitable for forced draft firing with No. 2 fuel oil, natural gas or propane. Maximum operating pressure of the boiler(s) shall be 87 psi. They shall bear the ASME stamp and IBR rating.
2. Boiler(s) shall be fabricated with GL-180M high silicone cast iron. They shall be of wet base, double wall, sectional construction with precision machined steel push nipples. Boiler(s) shall have a 5 year warranty against defects in the heat exchanger.
3. Boiler(s) shall be of full three pass design, and capable of achieving combustion efficiencies of 87% on oil and 84% on gas at full firing rate. Boiler(s) shall contain no refractory material or combustion target wall.
4. Boiler(s) shall be capable of sustained operation at any return water temperature under normal conditions without any means external to the boiler to temper or preheat the return water.
5. Access to boiler firesides for inspection and service shall be through a fully insulated and jacketed door, field adjustable for left or right hinging. The seal between door and boiler casing shall be a permanent dry gasket for repeated positive sealing. All flue passages shall be accessible only through the front door and removable rear clean-out covers.
6. Boiler(s) shall be furnished with a heavy-gauge baked enamel jacket with a full 3 1/2" insulation on top and all sides, flanged rear water connections and a cast iron flue collector for long life.