

**City of Portland, Maine - Building or Use Permit Application**

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

Permit No: 09-0224	Issue Date:	CBL: 086 A011001
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Location of Construction: 418 SEASHORE AVE PI	Owner Name: WHITE-THOMSON IAN L & BAR	Owner Address: 1897 BRAEMAR RD	Phone:
Business Name:	Contractor Name: Salevsky George	Contractor Address: P.O. Box 6382 Scarborough	Phone 2073325160
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone: IR2

Past Use: Single Family Home	Proposed Use: Single Family Home - Install a BIASI 7 Section Cast Iron Boiler	Permit Fee: \$120.00	Cost of Work: \$10,000.00	CEO District: 1
		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: R3 Type: JB SOME solid fuel IRC 2003	

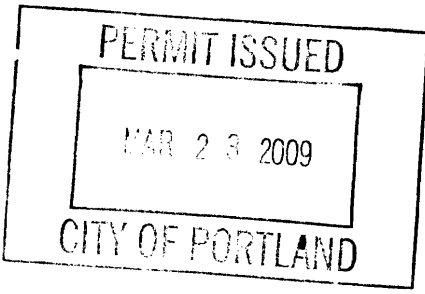
**Proposed Project Description:**  
Install a BIASI 7 Section Cast Iron Boiler

Signature: \_\_\_\_\_  
Signature: *Dr 3/23/09*  
**PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)**  
Action:  Approved  Approved w/Conditions  Denied  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Permit Taken By: Ldobson	Date Applied For: 03/23/2009	<b>Zoning Approval</b>
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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 checked="" type="checkbox"/> Not in District or Landmark
<input type="checkbox"/> Wetland	<input type="checkbox"/> Miscellaneous	<input checked="" type="checkbox"/> Does Not Require Review
<input type="checkbox"/> Flood Zone <i>OK</i>	<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: <i>Jm 3/23/09</i>	Date: _____	Date: _____



**CERTIFICATION**

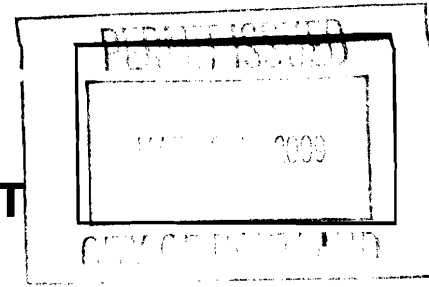
I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, 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 86 A11 Use of Building RESIDENTIAL Date 3/23/09  
 Name and address of owner of appliance IAN WHITE THOMPSON  
400 SENSURE AVE. PEAKS ISLAND  
 Installer's name and address George H. Salvesky  
P.O. Box 6382 Scarborough, ME. 04074 Telephone 207-332-5160

### Location of appliance:

- Basement  Floor  
 Attic  Roof

### Type of Fuel:

- Gas  Oil  Solid

### Appliance Name:

BIASI 7 SECTION CAST IRON BURNER

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 # 1103  
 Oil # 1103  
 Gas # \_\_\_\_\_  
 Other \_\_\_\_\_

### Type of Chimney:

- Masonry Lined  
 Factory built \_\_\_\_\_

- Metal  
 Factory Built U.L. Listing # 103

- Direct Vent  
 Type \_\_\_\_\_ UL# \_\_\_\_\_

### Type of Fuel Tank

- Oil MAR 23 2009  
 Gas

Size of Tank 275 GALLONS

Number of Tanks 1

Distance from Tank to Center of Flame 7 feet.

Cost of Work: \$ 10,000.00

Permit Fee: \$ 120

### Approved

### Approved with Conditions

Fire: \_\_\_\_\_

Ele.: \_\_\_\_\_

Bldg.: \_\_\_\_\_

- See attached letter or requirement

Inspector's Signature

Date Approved

Signature of Installer

George H. Salvesky

White - Inspection

Yellow - File

Pink - Applicant's

Gold - Assessor's Copy

**City of Portland, Maine - Building or Use Permit**

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<b>Permit No:</b> 09-0224	<b>Date Applied For:</b> 03/23/2009	<b>CBL:</b> 086 A011001
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<b>Business Name:</b>	<b>Contractor Name:</b> Salevsky George	<b>Contractor Address:</b> P.O. Box 6382 Scarborough	<b>Phone</b> (207) 332-5160
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> HVAC	

<b>Proposed Use:</b> Single Family Home - Install a BIASI 7 Section Cast Iron Boiler	<b>Proposed Project Description:</b> Install a BIASI 7 Section Cast Iron Boiler
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**Dept:** Zoning      **Status:** Approved with Conditions      **Reviewer:** Tom Markley      **Approval Date:** 03/23/2009

**Note:** **Ok to Issue:**

- 1) This is NOT an approval for an additional dwelling unit. You SHALL NOT add any additional kitchen equipment including, but not limited to items such as stoves, microwaves, refrigerators, or kitchen sinks, etc. Without special approvals.
- 2) This property shall remain a single family dwelling. Any change of use shall require a separate permit application for review and approval.

**Dept:** Building      **Status:** Approved with Conditions      **Reviewer:** Tom Markley      **Approval Date:** 03/23/2009

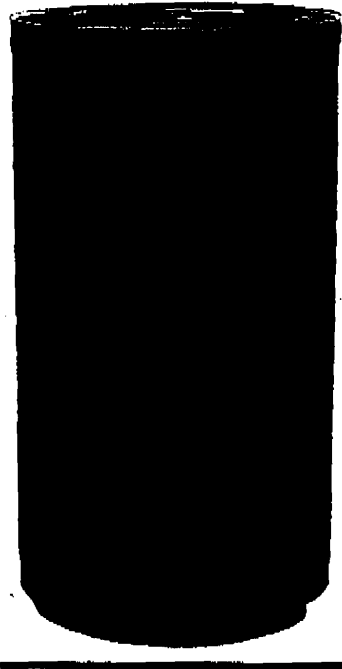
**Note:** **Ok to Issue:**

- 1) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approval prior to work.
- 2) Installation shall comply with 2003 International Mechanical Code and State of Maine Oil and Solid Fuel Board Laws and Rules

# HEATING SYSTEM

## ALL THE HEAT & HOT WATER YOU NEED...

AT A FRACTION OF THE COST



**O**ur B10 Boiler, coupled with an indirect storage tank, will supply all the hot water you need; which means no more cold showers.

In the summer, the B10 boiler only needs to fire once or twice a day, because ample amounts of domestic hot water (DHW) are readily available in a 40-gallon indirect storage tank. Compare that to a single pass boiler, which may use a tankless coil holding less than 1/2 gallon of DHW. This requires the single pass boiler to maintain 160° F

temperature continuously (even in the summer) to sustain your hot water supply. With the BIASI B10 boiler and an indirect storage tank, you'll always be in hot water, and at a lower cost than a conventional boiler system or an electric water heater.

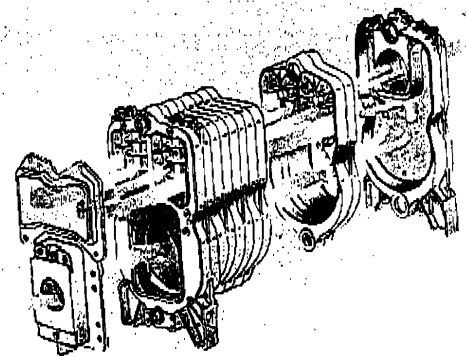
## BIASI B10-SERIES ADVANTAGES

- **Lifetime Warranty**
- **Can reduce heat and hot water costs by half**
- **UL and CUL Listed**
- **BIASI B10 boilerblock is ASME rated for 58 psi**
- **GG20 flexible cast iron construction for superior durability**
- **Quiet Operation**
- **Multi-fuel capability (adapts easily to oil or gas burners)**
- **Direct vent listed oil or gas (no chimney needed)**
- **Uses the smallest possible volume of water (as little as 3 gallons)**
- **Low maintenance; easy to access, easy to clean**
- **Extra heavy insulation for low jacket and standby losses**
- **Compatible with all electronic control systems**

### BIASI B10...The Right Size for the Job

Boiler Model*	Heating Capacity (MBH)	AFUE Efficiency (%)	Water Content (Gals.)	Dimensions L-W-H (Inches)	Weight (Lbs.)
B-3	67	86.7	3.7	15.5 · 19 · 30	247
B-4	97	86.8	4.7	19.5 · 19 · 30	307
B-5	124	87.3	5.7	23.5 · 19 · 30	367
B-6	153	86.8	6.7	28.5 · 19 · 30	427
B-7	185	86.9	7.7	33.5 · 19 · 30	486
B-8	211	86.9	8.7	38.5 · 19 · 30	546
B-9	257	86.6	9.7	42.5 · 19 · 30	606

Maximum water working pressure: 58 PSI. The efficiency ratings are based on a combustion condition of 13% CO<sub>2</sub>. Warranty: The BIASI B10 boiler has a limited lifetime warranty. A copy is provided with each boiler or is available from your dealer. Built in accordance with the requirements of ASME boiler and pressure vessel code.



**Three-Pass Design**

# 1. General Information

The BIASI B 10-series boilers are wet base design, sectional, cast-iron boilers for forced hot water heating systems. The boilers are shipped pre-assembled from the factory in lengths from three to nine sections. They are designed for firing with oil or gas power burners, which are packed separately along with the jacket and controls for shipping purposes.

When the boiler is received, check the contents to ensure that there is no shortage or damage to any part of the boiler system. With every boiler you should receive a boiler block, jacket, trim kit and a burner (oil or gas).

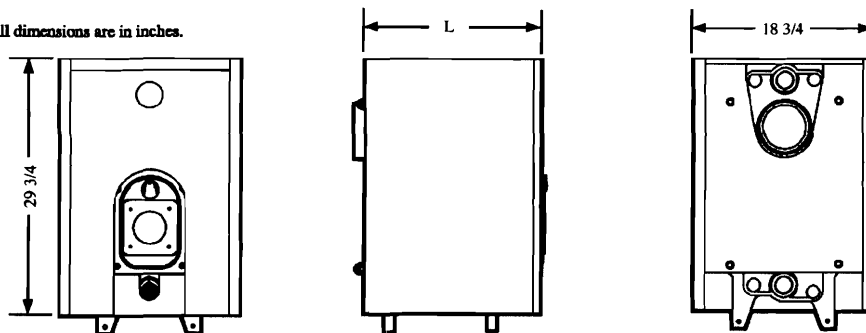
## Trim Kit Components

- |  |  |
|--|--|
| 1 - Honeywell L4006A or 7248U aquastat             | 2 - 3/4" Plugs   |
| 1 - Immersion well                                 | 1 - 1/4" X 1/2" Bushing  |
| 1 - 3/4" X 3" Nipple                               | 1 - 3/4" 90° Elbow   |
| 1 - Combo pressure/temp gauge                      | 1 - Double acting barometric damper with manual reset spill switch |
| 1 - 30 PSI Pressure relief valve                   | <b>(Gas systems only)</b>  |
| 1 - 3/4" Boiler drain                              |  |
| 1 - Cera-fiber Pad for floor of combustion chamber |  |

**USE ONLY THE UL LISTED BOILER COMPONENTS AND UL/CSA LISTED OIL OR GAS BURNER COMPONENTS SUPPLIED WITH THE VEGA B10 BOILER SYSTEM.**

Boiler Model	Heating Capacity	Gross Input Burner Capacity		Net Output		Flue Gas Resistance	Efficiency	Water Content	Length (L)	Weight
		MBH	GPH- Oil	MBH- Gas	OIL					
B-13	67	0.55	80	58	60	0.03	86.6	3.5	15.5	249
B-14	110	0.90	115	96	84	0.04	85.8	4.7	19.5	308
B-15	124	1.00	140	108	103	0.06	87.2	5.7	23.5	367
B-16	153	1.25	175	133	129	0.07	86.7	6.7	28.5	427
B-17	185	1.50	215	161	157	0.08	86.8	7.7	33.5	486
B-18	211	1.80	257	183	189	0.1	86.8	8.8	38.5	546
B-19	257	2.10	298	223	219	0.12	86.5	9.9	42.5	606
Maximum Water Working Pressure 58 psi						Maximum Relief Valve is 30 psi at 500 MBH				

All dimensions are in inches.



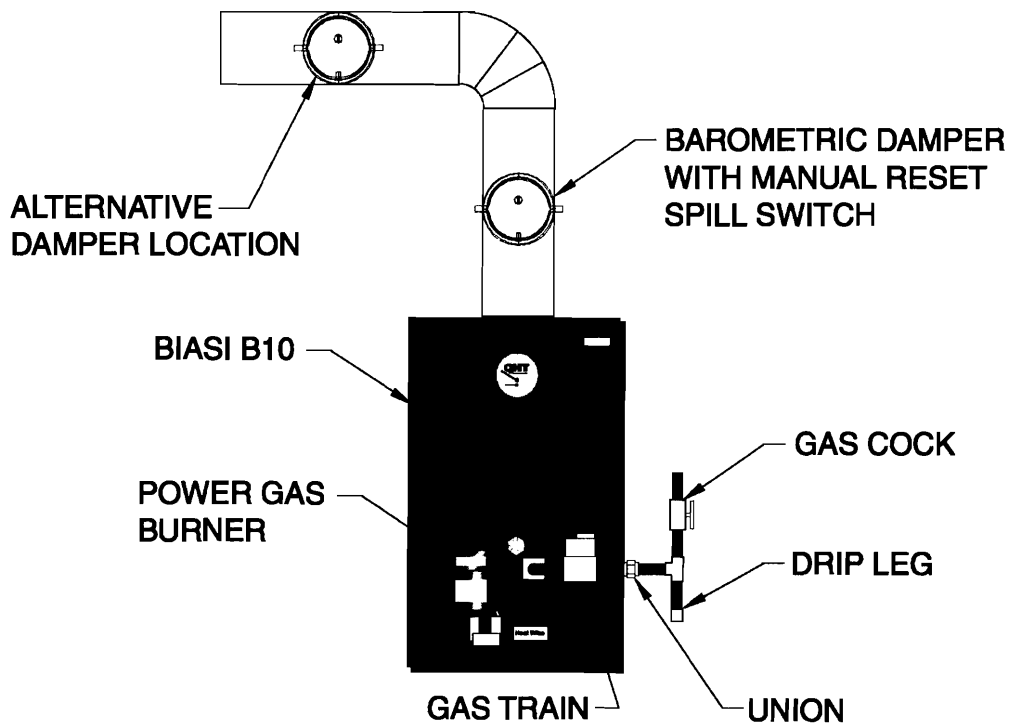
## 4. Installation of Boiler Trim Components

### Trim Kit Components

- |  |   |
|--|---|
| 1 - Honeywell L4006A or 7248U aquastat             | 1- 1/4" X 1/2" Bushing  |
| 1 - Combo pressure/temp gauge                      | 2 - 3/4" Plugs  |
| 1 - 3/4" X 3" Nipple                               | 1 - 3/4" 90° Elbow  |
| 1 - 30 PSI pressure relief valve                   | 1 - Immersion well  |
| 1 - 3/4" Boiler drain                              | 1- Double acting barometric damper with manual reset spill switch <b>(Gas systems only)</b> |
| 1 - Cera-fiber Pad for floor of combustion chamber |   |

**USE ONLY THE ULC LISTED BOILER COMPONENTS AND UL/CSA LISTED OIL OR GAS BURNER COMPONENTS SUPPLIED WITH THE VEGA B10 BOILER SYSTEM.**

Please refer to figures below for Barometric Damper location for either oil or gas



\* See detail on page 19

## 7. Exhaust Venting

The B10 boiler is a high efficiency unit that requires proper venting. The boiler must be vented to the outdoors by means of a tile lined masonry or a approved pre-fabricated chimney of the size and height recommended by the manufacturer or by a listed "power venting" unit which provides draft by mechanical means. In many installations, particularly older interior and most exterior chimneys, a corrosion resistant liner should be installed and may be required by code. Please consult liner manufacturer for the appropriate chimney liner.

The chimney discharge opening must be located at least 24 inches above any part of the building structure within 4 feet of the chimney. Be sure the chimney and smoke pipe won't become obstructed by squirrels, bird nests, soot buildup, chimney liner deterioration, etc.. If using a "power venter" system, it is suggested that it should be installed on the leeward side of the house. (Please consult with manufacturer of "power venter" for requirements concerning clearances from combustibles and distances from doors and windows.) The "venter" must be installed by a licensed burner mechanic and done in accordance with local codes. This is a very low stack temperature boiler (350F gross temp.) so caution should be used when connecting to an outside built chimney. Should you have concern that the flue gases could condense, then you should consider lining the chimney or using a listed, "power venting" or "direct venting unit". If "power venting" is used to discharge flue gases, then the power vent unit should be equipped with a postpurge control such as a delay-off, timing control to prevent problems with fogging and nozzle post drip.

The exhaust pipe connection from the boiler to the chimney should be as short as possible, with a minimum number of elbows. The vent pipe must have a vertical rise of at least 1/4 inch per foot of horizontal run. The vent pipe must be of the same diameter as the flue outlet on the boiler. The chimney connector should have a minimum thickness of 26 gauge, corrosion resistant (galvanized) steel, and be assembled with a minimum of three (3) sheet-metal screws in each joint. In some one and two story houses, a barometric draft control isn't required as the B-10 is designed to be pressure-fired. However in high draft situations which exceed the flue gas resistance through the boiler, a barometric draft control is recommended. The over fire draft should be positive and between 0 and .06 inches of water column. The draft at the breech should be enough to overcome the resistance through the boiler.

### 7.1 Common Exhaust Venting

Common vent exhaust:

If this boiler is replacing one that was part of a common venting system, it is likely that the vent is too large to vent the appliances still attached to it. To prevent this, at the time of removal, the following steps shall be followed with each appliance remaining connected to the common venting system. Place each appliance in operation, while the other appliances remaining connected to the common venting system are not in operation.

1. Seal any unused openings in the common venting system.
2. Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.

## 8.1 Oil Burner Setup

This page is only for boilers using an oil burner. If a gas burner is being used, please refer to page 19 for the proper setup of the burner and gas lines.

BURNER MANUFACTURER:		Beckett						
AFII-150, NX								
Boiler Model	B-4	B-5	B-6	B-7	B-3	B-4	B-5	B-6
Burner Model	NEC-301*	NEC-302*	NEC-303*	NEC-303*	NEC-1102*	NEC-1101*	NEC-1101*	NEC-1103*
Firing Rate	0.8	1	1.25	1.5	0.55	0.90	1.00	1.20
Insertion Depth	2.75"	2.75"	2.75"	2.75"	3.50"	6.00"	6.00"	6.00"
Nozzle	0.65 X 60	0.85 X 60	1.00 X 60	1.10 X 60	0.50 X 60	0.65 X 60	0.75 X 60	0.90 X 60
Spray Pattern	hollow	solid	solid	Solid	hollow	solid	solid	W
Pump Pressure	160 psi	140 psi	160 psi	185 psi	180 psi	180 psi	180 psi	180 psi
Head Type	6 slot	6 slot	9 slot	9 slot	NX70LC	NX90LB	NX90LB	NX90LB
Head Position	3	4	5	6	0.75	2.75	3.75	3.75

BURNER MANUFACTURER:		Carlin		
EZ-1 HP				
Boiler Model	B-4	B-5	B-6	
Burner Model	EZ-1-HP*	EZ-1-HP*	EZ-1-HP*	
Firing Rate	0.80	1.00	1.25	
Insertion Depth	3.0"	3.0"	3.0"	
Primary Nozzle &	0.65 X 70	0.85 X 60	1.00 X 60	
Spray Pattern	Solid	Hollow	Solid	
Secondary Nozzle	.65 X 70	.85 X 70	1.00 X 60	
& Spray Pattern	A or SS	A or SS	A or SS	
Pump Pressure	150 PSI	150 PSI	150 PSI	
Head Setting	0.6-0.65	0.85-1	0.85-1	
Air Box Setting	0.65	0.85	0.95	

The highlighted burners are not listed by ULC and may not be installed on Biasi equipment in Canada

BURNER MANUFACTURER:		Heat Wise						
Pioneer								
Boiler Model	B-3	B-4	B-5	B-6	B-7	B-8	B-9	
Bumer Model	P-1 FV <sub>(1)</sub>	P-1 KA	P-1 KA	P-2 KA	P-2KA	P-2KA	P-2KA	
Firing Rate	0.55	0.90	1.00	1.25	1.50	1.8	2.1	
Nozzle	0.40 X 80	0.65 X 70	0.85 X 70	1.00 X 80	1.25 X 80	1.5 X 80	1.75 X 70	
Spray Pattern	Solid	Solid	Semi Solid	Hollow	Hollow	Hollow	Solid	
Pump Pressure	190	190	140	155	145	145	140	
Head Setting	1	1	1	3.75	6	10.75	14.25	
Air Setting	0	9.5	16.5	6	11	6	11	
1) 120-mm Fan Needed								

BURNER MANUFACTURER:		Riello						
F-40 Series								
Boiler Model	B-3	B-4	B-5	B-6	B-7	B-8	B-9	
Bumer Model	F-3	F-3	F-5	F-5	F-5	F-10	F-10	
Firing Rate	0.55	0.80	1.00	1.25	1.50	1.80	2.10	
Insertion Depth	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	
Nozzle	0.50 X 80	0.65 X 80	0.85 X 60	1.00 X 60	1.25 X 60	1.50 X 60	1.75 X 60	
Spray Pattern	W	W	W	W	W	B	B	
Pump Pressure	145 PSI	145 PSI	145 PSI	145 PSI	145 PSI	145 PSI	145 PSI	
Turbulator	1	2	2	3	4	2	3	
Air Gate	2-2.7	3.5-4.5	2.8-3.4	3-5	4.5-6	2.8-3.4	3-4.1	

\* - Note: These burners may not be used on Biasi Equipment in Canada



## Unparalleled Engineering and Design

Heavy Duty 430 grade Stainless Steels are used for all system components. The smooth stainless steel inner liner produces rapid stabilization of strong draft and heats fast to minimize condensation as waste gases are exhausted. The outer casing carries structural loads leaving the inner pipe free to expand without stress. The solid pack Low-K insulation in the pipe assures the highest possible inner wall temperature by preventing circulation of air between inner and outer chimney walls. Solid pack insulation blocks escape of heated air, a problem which air-insulated designs cannot avoid.

## Insulation Factors

Special Low-K insulation filling the space between stainless steel walls is only 1 inch thick, yet it provides 17 times the insulating value of brick.

→ This optimum density of insulation stops expansion noises and resists and contains surges of heat. This allows the system to be enclosed with only 2 inch clearance to combustibles. The insulation used contains no asbestos. Its a special blend of materials that are thoroughly tested to meet our own strict standards. The "solid pack" density, chimney pipe insulation comprises about 85% air. The mixture of extremely fine particles of powder with fibers traps this air in the pores of the insulation and also blocks radiation heat transfer. This accounts for the outstanding effectiveness of fully insulated Metalbestos® chimneys. ←

## Variety of Sizes

The Model SSII-Type HT is made in four diameter sizes: 5, 6, 7 and 8 inches. Model SSII Chimneys are made in 10, 12 and 14 inch sizes. Standard lengths for both models are 18 and 36 inches;

however, short lengths are available for tight corners in special situations. A table is provided, both in this catalog and packaged together with pipe lengths, to show how desired chimney heights can be reached by intermixing 18 and 36 inch lengths. Elbow and tee fittings are also offered to solve problems of offsets and wall penetrations where the roof opening does not line up with the vertical chimney, or the chimney must be on the other side of a wall.

## Installation Ease

A Model SSII-Type HT or Model SSII Chimney system can easily be installed by one man. The lightweight pipe with threaded internal couplers locks together in seconds with a 1/2 turn. Locking Bands are furnished with every pipe length to assure complete joint security during cleaning or where the chimney must be sloped between offsets. Only a screwdriver is needed—to tighten the Locking Band—for normal pipe assembly. A further advantage is that the pipe can be quickly taken apart without damage to the joints and can be reinstalled as easily as the first time. All parts and accessories have been designed for the most simple step-by-step installation. General installation instructions are furnished with all major support packages.

## A System to Satisfy Any Installation Requirement

The Metalbestos® Chimney systems include a variety of components to meet every installation requirement. These components may be combined in a wide variety of ways to solve almost any chimney installation problem. For additional information on part selection, refer to the guide pages and diagrams located in this catalog.

