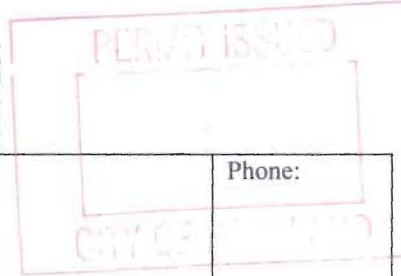


**City of Portland, Maine - Building or Use Permit Application**

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



Job No: 2011-03-627-HVAC	Date Applied: 3/22/2011	CBL: 383 - - A - 014 - 001 - - - - -	
Location of Construction: 408 AUBURN ST	Owner Name: KENNETH E RUSSELL	Owner Address: 95 -92 PAIKAUHALE ST MILLANI, HI - HAWAII 96789	Phone:
Business Name:	Contractor Name: Charlie, Burnham	Contractor Address: PO Box 382 FREEPORT MAINE 04032	Phone:
Lessee/Buyer's Name:	Phone:	Permit Type: BLDG - HVAC	Zone: R-3
Past Use: Single Family Dwelling	Proposed Use: Same: Single Family Dwelling - To replace heating system	Cost of Work: 1,0000.00	CEO District:
		Fire Dept: <input type="checkbox"/> Approved <input checked="" type="checkbox"/> Denied <input type="checkbox"/> N/A	Inspection: Use Group: Type: None Gas Reg. Signature: <i>PR</i>
Proposed Project Description: 408 Auburn - HVAC		Pedestrian Activities District (P.A.D.)	

Permit Taken By: Lannie	<b>Zoning Approval</b>		
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 informatin may invalidate a building permit and stop all work.	<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetlands <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan _ Maj _ Min _ MM Date: <i>OK with conditions</i> <i>3/22/11</i>	<b>Zoning Appeal</b> <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:	<b>Historic Preservation</b> <input checked="" type="checkbox"/> Not in Dist 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>S</i>
	<b>CERTIFICATION</b>		

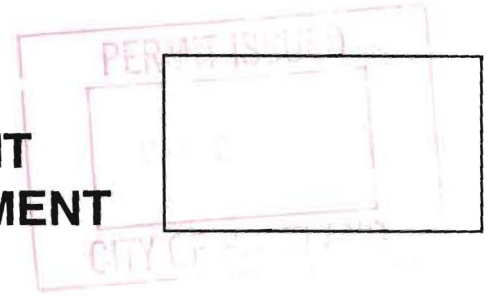
I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication 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	PHON



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 383-A-14 Use of Building Single Family Date 3/21/11

Name and address of owner of appliance Robert Patel 408 Auburn St.

Installer's name and address Charlie Barnham Heating Service  
Po Box 382 Freeport 04032 Telephone 865 9010

### Location of appliance:

- Basement
- Attic
- Floor
- Roof

### Type of Fuel:

- Gas
- Oil
- Solid

### Appliance Name:

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 # ME
- Solid Fuel # \_\_\_\_\_
- Oil # MS 2670
- 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 275

Number of Tanks 1

Distance from Tank to Center of Flame over 5 feet.

Cost of Work: \$ 9,300.00

Permit Fee: \$ 120

### Approved

### Approved with Conditions

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

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

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

See attached letter or requirement

Inspector's Signature

Date Approved

Signature of Installer Charlie Barnham

White - Inspection

Yellow - File

Pink - Applicant's

Gold - Assessor's Copy

Stackable 73.00

\$39.95

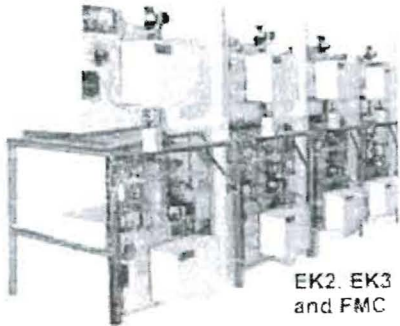


# SYSTEM 2000<sup>®</sup> ENERGY KINETICS

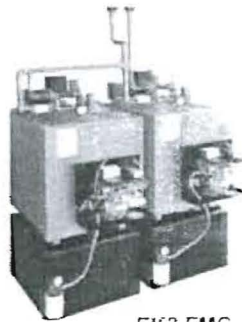
## Tech Manual

March 2007

408 Auburn  
383-A4



EK2, EK3  
and FMC



EK2 FMC



EK3  
Frontier  
(Front  
Service)



EK1, EK2 Frontier  
(Front Service)



EK1  
Frontier  
Stackable



EK1  
Freedom

EK  
pak



EK1, EK2  
(Rear Service)

### THE SYSTEM 2000 FAMILY OF PRODUCTS

### Technical Support Hot Line

### 1-800-323-2066



**ENERGY STAR**

This product meets the  
Energy Star<sup>®</sup> guidelines  
for efficiency

[www.energykinetics.com](http://www.energykinetics.com)

Energy Kinetics Inc.  
51 Molasses Hill Rd.  
Lebanon, NJ 08833-3254  
USA



ASME certified by EK1.  
Certificate plate is  
under the jacket on the  
steel vessel.

# FRONTIER BOILER

## Instructions, Service Version Oilheat Edition

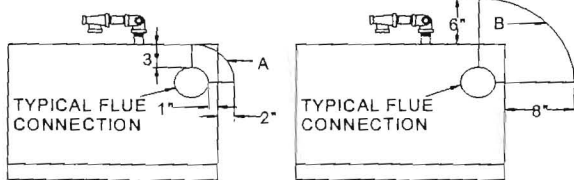
### LOCATION and CLEARANCE

**DANGER:** Provide clearance to combustible surfaces in accordance with all local and national codes. Follow National Fire Protection Association Bulletin NFPA Installation of Oil Burning Equipment and all applicable codes.

Installation Clearances from Boiler Surfaces	Clearance to Combustibles	Clearance for Service
FRONT	15-1/2"	20"
LEFT SIDE	0"	0"
RIGHT SIDE	0"	0"
BACK	4"	4"
TOP	16"	16"
BOTTOM OF LEGS	0"	16"*
FLUE CONNECTION (see Figure 1A)	(A) 3" L-Vent (B) 9" Std.Flue	(A) 3" L-Vent (B) 9" Std.Flue

\*Minimum recommended clearance to allow the door to fully open.

Figure 1A. Top View of Boiler -  
Flue Connection Clearance to Combustibles



(A) L-VENT OR PELLET VENT (B) STANDARD VENT PIPE

Boiler Weight and Water Content		
Model	EK-1 Frontier	EK-2 Frontier
Weight	270 lbs	350 lbs
Water Content	2-1/2 gallons	4 gallons
Air Inlet Pipe Size	2"	3"
Boiler Flue Outlet	4"	6"

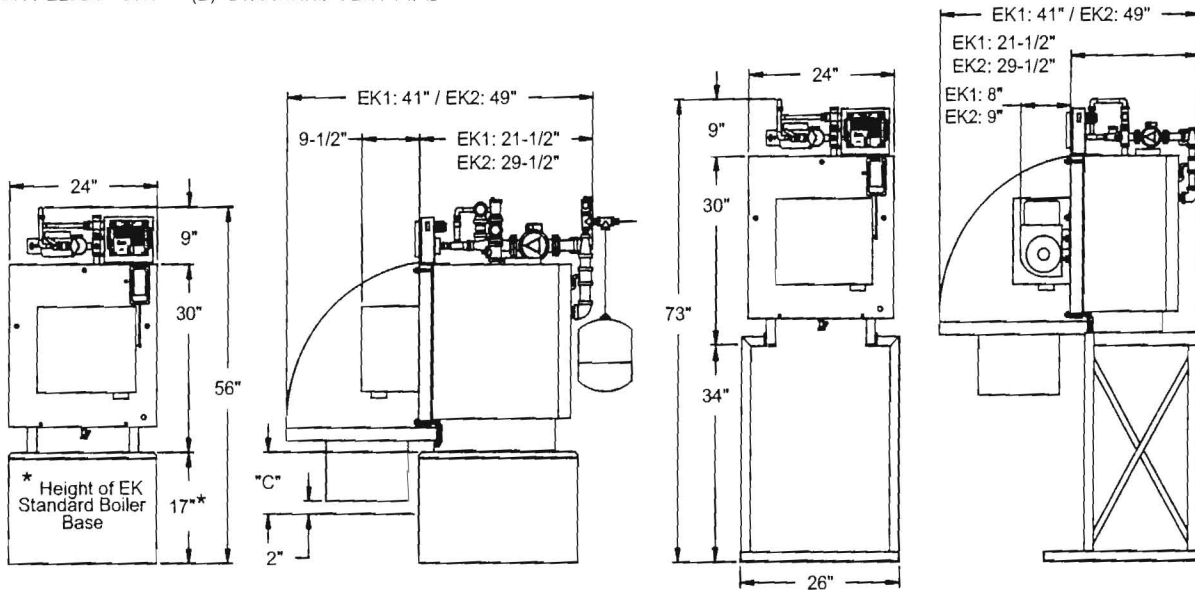


Figure 1B - Boiler Clearance for Cleaning and Service

Burner	"B"		Open Door Leg Bottom to Floor Clearance "C"
	W/o Airbox	W/Airbox	
Beckett AFG	8"	9-1/2"	12"
Carlin 99FRD	9"	9-1/2"	12"
Riello 40F5	13"	N/A	15"

*Rick Bassett @ C.M.I. Co.*  
-B1-14

Products  
 A Concept  
 B-1 Oil Heat Install  
 B-2 Gas Heat Install  
 C Venting  
 D Diagnostics  
 E Digital Manager  
 F Classic Manager  
 G Wiring-General  
 H System Piping  
 J Dom. Piping & Pool Appl.  
 K Maintenance

**Job Summary Report**  
**Job ID: 2011-03-627-HVAC**

Report generated on Mar 22, 2011 4:11:01 PM

Page 1

<b>Job Type:</b>	HVAC	<b>Job Description:</b>	408 Auburn	<b>Job Year:</b>	2011
<b>Building Job Status Code:</b>	Initiate Plan Review	<b>Pin Value:</b>	920	<b>Tenant Name:</b>	
<b>Job Application Date:</b>		<b>Public Building Flag:</b>	N	<b>Tenant Number:</b>	
<b>Estimated Value:</b>	10	<b>Square Footage:</b>			
<b>Related Parties:</b>		KENNETH RUSSELL		<i>Property Owner</i>	
		Charlie Burnham Heating - Burnham Charlie		<i>MECHANICAL CONTRACTOR</i>	

**Job Charges**

Fee Code Description	Charge Amount	Permit Charge Adjustment	Net Charge Amount	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Net Payment Amount	Outstanding Balance
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**Location ID: 39570**

**Location Details**

Alternate Id	Parcel Number	Census Tract	GIS X	GIS Y	GIS Z	GIS Reference	Longitude	Latitude
R36120	383 A 014 001		M				-70.292339	43.714005

Location Type	Subdivision Code	Subdivision Sub Code	Related Persons	Address(es)
1				408 AUBURN STREET WEST

Location Use Code	Variance Code	Use Zone Code	Fire Zone Code	Inside Outside Code	District Code	General Location Code	Inspection Area Code	Jurisdiction Code
SINGLE FAMILY		NOT APPLICABLE					DISTRICT 8	NORTH DEERING

**Structure Details**

**Structure: Single Family Home**

**Occupancy Type Code:**

Structure Type Code	Structure Status Type	Square Footage	Estimated Value	Address
Single Family	0			408 AUBURN STREET WEST

Longitude	Latitude	GIS X	GIS Y	GIS Z	GIS Reference	User Defined Property	Value

**Permit #: 20112056**

**Permit Data**

Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
39570	Single Family Home	Initialized	Install System 2000 in Basement			

*Carrie*

*Not in Queue*

**Job Summary Report**  
**Job ID: 2011-03-627-HVAC**

Report generated on Mar 22, 2011 4:11:01 PM

Page 2

**Inspection Details**

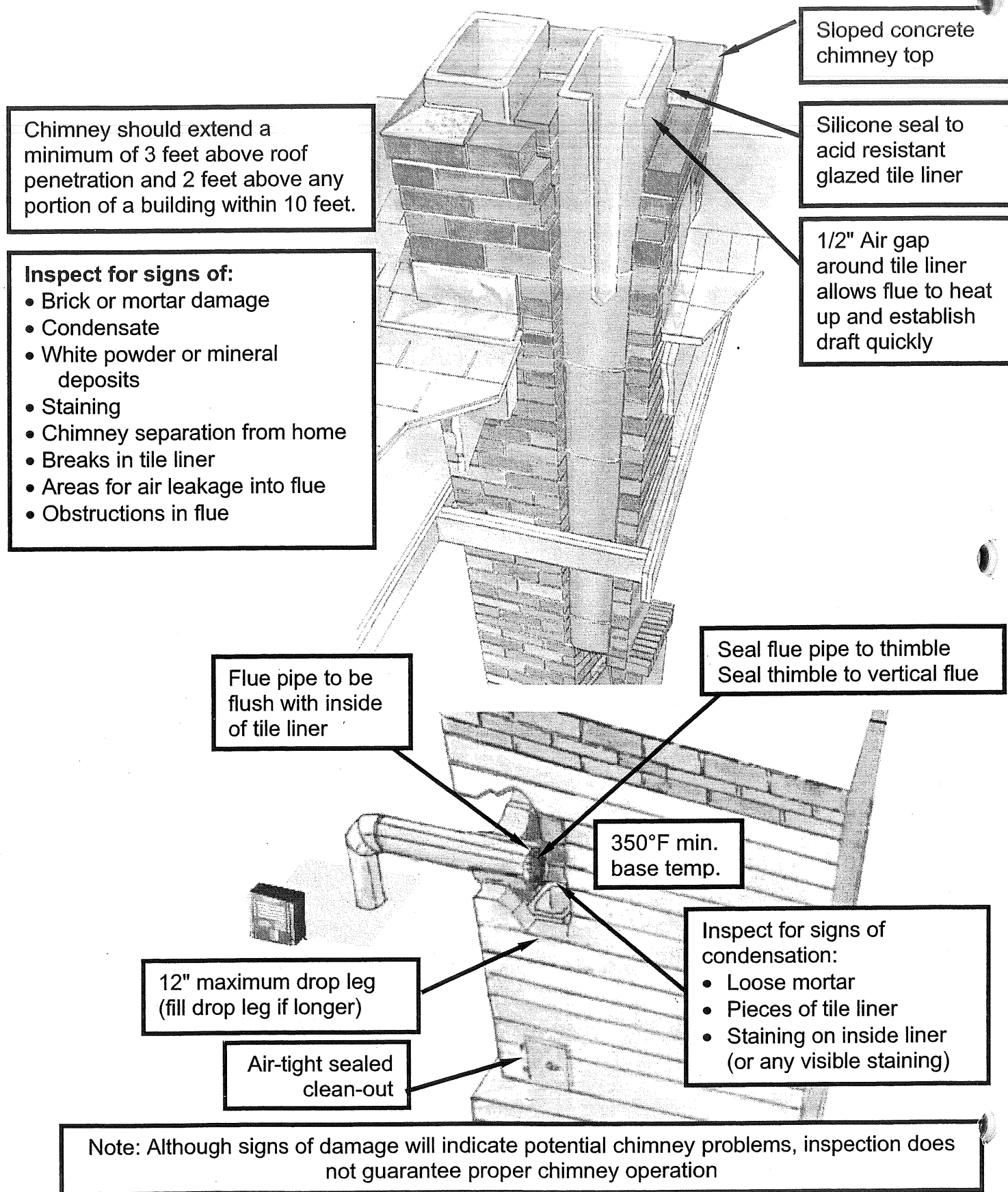
Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag
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**Fees Details**

Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment
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## CHIMNEY EVALUATION

(All chimneys must have a metal or tile liner that extends above the masonry)  
Determine If Relining is Required



## CHIMNEY FLUE TILE LINER SIZING

**Chimneys must be sized and installed in accordance with NFPA 211 or NFPA 54.** There are many variables involved in chimney flue sizing and installation. Follow the manufacturer's recommendations and follow all applicable national and local codes.

**Poorly insulated chimneys, chimneys without an air gap around the tile liner and very tall chimneys will require higher base temperatures and may exhibit draft or condensation problems.**

Design Considerations:

- 1) All flue liners must be installed in an insulated chase.
- 2) Chase or existing chimney must be sealed to prevent cold infiltration air from surrounding the flue liner. Air infiltration around a flue liner will cause condensation.
- 3) Flue liner may be connected directly to the boiler flue collar.
- 4) Chimneys on exposed north ends of buildings or in extremely cold climates may require additional insulation or should preferably be installed in a chase enclosed within the building envelope.

## CONDENSATION AND POOR DRAFT

The following suggestions may alleviate or reduce the potential for condensation and can help to increase draft.

- 1) For minor draft or condensate problems, increase temperature at chimney base:
  - Increase firing rate
  - Reduce CO<sub>2</sub> to 10% for oil or propane, to 7.5% for natural gas.
  - Seal all flue pipe joints with high temp silicone sealant from boiler to thimble including elbow joints. Wrapping with tape is not sufficient.
  - Insulate flue pipe. Horizontal runs will very significantly reduce stack temperature. Use an approved method to insulate the flue pipe:
    - Install All Fuels or equivalent connector.
    - Install B-Vent over galvanized flue pipe as an additional insulator.*If draft is the only problem and there are no signs of condensation, a draft inducer may be installed.*
- 2) For more aggressive condensate or draft problems, the installation of a draft regulator will introduce dry room air into the flue during burner operation and in the off cycle. This should only be used in conjunction with the steps noted in item #1 above. Although the installation of a draft regulator may help significantly, the installation of a flue liner is preferable. *Canadian studies indicate additional fuel consumption of up to 8% to 14% per year in energy lost through the draft regulator. Save on fuel costs by installing a liner.*
- 3) In instances where the draft or condensate problems cannot be resolved using the above steps, a properly sized flue liner must be installed.
  - Energy Kinetics stocks flexible metal chimney liners for Category I oil or gas installations.
  - Energy Kinetics stocks Vent Kits for Category III gas installations.

Products	
Concept	A
Oil Heat Install	B-1
Gas Heat Install	B-2
Venting	C
Diagnostics	D
Digital Manager	E
Classic Manager	F
Wiring-General	G
System Piping	H
Dom. Piping & Pool Appl.	J
Maintenance	K