

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND

BUILDING PERMIT

This is to certify that BRENT D BRAASCH

Located At 0 SUMAC ST

Job ID: 2012-04-3820-SF

CBL: 378- A-022-001

has permission to Install Coair DPW120 Dual water heat

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes 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 closed-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

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY

PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (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.**

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.



PORTLAND MAINE

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Director of Planning and Urban Development
Jeff Levine

Job ID: 2012-04-3820-SF

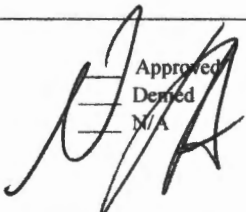
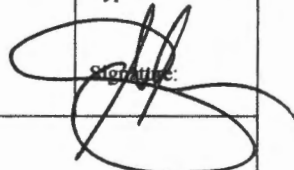
Located At: 0 SUMAC ST

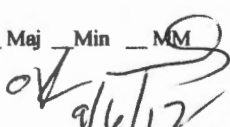
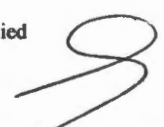
CBL: 378- A-022-001

Conditions of Approval:

City of Portland, Maine - Building or Use Permit Application

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

Job No: 2012-04-3820-SF 2012-47855 HVAC	Date Applied: 9/05/2012	CBL: 378- A-022-001	
Location of Construction: 25A SUMAC ST	Owner Name: BRENT D BRAASCH	Owner Address: 25 SUMAC ST PORTLAND, ME 04103	Phone:
Business Name:	Contractor Name: Steven P. Boissonnsault	Contractor Address: PO BOX 21, SACO, ME 04072	Phone: (207) 252-0698
Lessee/Buyer's Name:	Phone:	Permit Type: HVAC	Zone: R-2
Past Use: Single Family Dwelling (under construction)	Proposed Use: Same: Single Family Dwelling to install new heating system	Cost of Work: \$3000.00	CEO District:
		Fire Dept:  Approved Denied N/A	Inspection: Use Group: Type:
		Signature:	 Signature:
Proposed Project Description: new heating system		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Brad		Zoning Approval	

<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building Permits do not include plumbing, septic or electrical work.</p> <p>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.</p>	<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetlands</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>___ Maj ___ Min ___ MM</p> <p>Date: </p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date:</p>	<p>Historic Preservation</p> <p><input checked="" type="checkbox"/> Not in Dist or Landmark</p> <p><input type="checkbox"/> Does not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: </p>
	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 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.

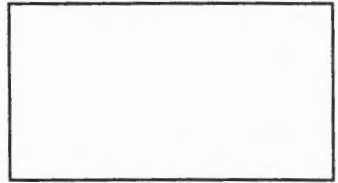
SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE



FILL IN AND SIGN WITH INK

APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT

82



2012-17855
2012-04-3820-SF

Entered 9/5/12



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 0 Sumac (25 A) 378 A022 Use of Building RESIDENTIAL Date 9/5/12
 Name and address of owner of appliance CONSTRUCTIONS SYSTEM OF MAINE
Brent D. BRAGA
 Installer's name and address STEVEN P BOISSONNEAU
PO Box 21 SACO ME 04072 Telephone 2072520699

Location of appliance:

- Basement
- Floor
- Attic
- Roof

RECEIVED
 SEP 05 2012
 Dept. of Building Inspections
 City of Portland Maine

Type of Fuel:

- Gas
- Oil
- Solid

Appliance Name: Co AIR DPW 120

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 # 8315
- Solid Fuel # _____
- Oil # _____
- Gas # 261
- 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 _____

Number of Tanks _____

Distance from Tank to Center of Flame _____ feet.

Cost of Work: \$ 3000.00

Permit Fee: \$ 50-

Approved

Fire: _____
 Ele.: _____
 Bldg.: _____

Approved with Conditions

- See attached letter or requirement

Signature of Installer [Signature]

Inspector's Signature

Date Approved



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Receipts Details:

Tender Information: Check , Check Number: 4593
Tender Amount: 50.00

Receipt Header:

Cashier Id: bsaucier
Receipt Date: 9/5/2012
Receipt Number: 47856

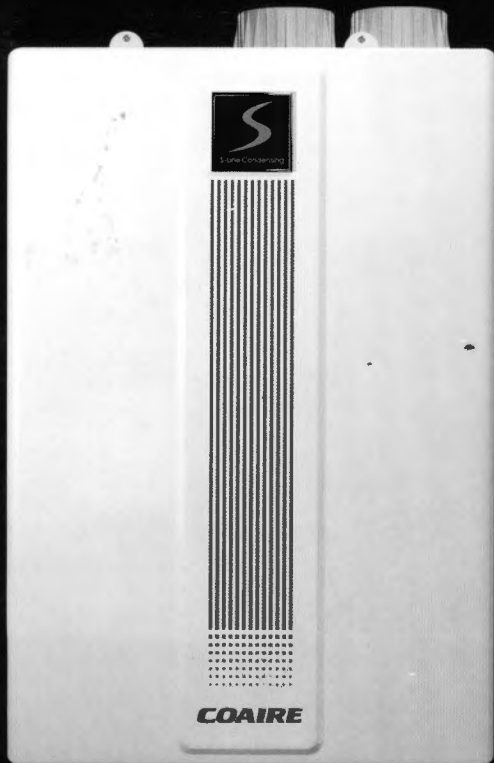
Receipt Details:

Referance ID:	7905	Fee Type:	BP-Plumbing
Receipt Number:	0	Payment Date:	
Transaction Amount:	50.00	Charge Amount:	50.00
Job ID: Job ID: 2012-04-3820-SF - 26/32 Cape; 3-4 Bed; 1.75 Bath n/garage.			
Additional Comments: 0 Sumac (25A-31) HVAC			

Thank You for your Payment!



COAIRE



DUAL PURPOSE
WATER HEATER

2010 CATALOG

The Benefits of Owning a Coaire Dual Purpose Water Heater

The Coaire COBWH Dual Purpose Water Heaters are a product with multi-tasking abilities. Not only can they provide the Domestic Hot Water for your bathing and laundry uses but they also have a built in heating section to provide hot water for radiant, baseboard and fan coils just like an old fashioned boiler would do.

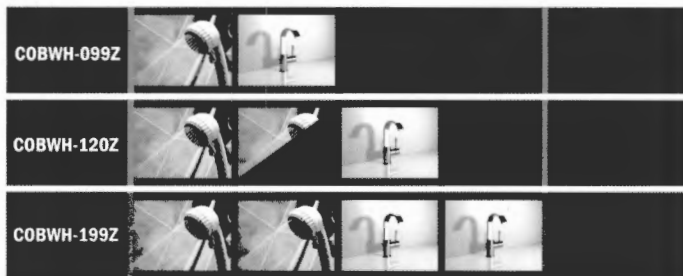
Coupled with this versatility is the outstanding efficiency levels of the units, due to the condensing operation of the units, which recovers heat from the exhaust gas that would normally be wasted by venting the 300°F plus exhaust gas out through the vent pipe to the outside of the house. Our process cools the vent gases by over 150°F and uses that reclaimed energy to heat the Heating or Domestic Hot Water.

The higher efficiency levels provided by this energy recovery also make the COBWH units easier to install, allowing the use of Schedule 40 PVC (ULc S636 in Canada) to vent the units, vastly reducing the cost and time required to install the unit and it's associated vent piping.

Two uses, One Coaire COBWH Dual Purpose Water Heater, truly that is "Living Comfortably".

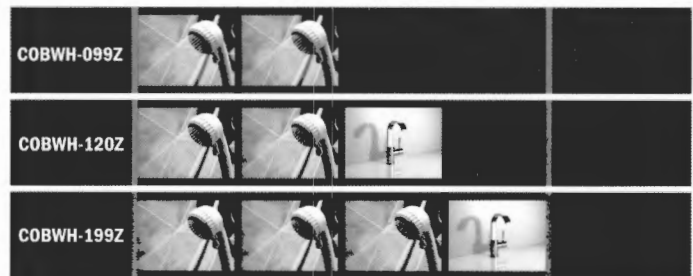
Water Flow Charts

Cold Water Climates with a 60° ΔT (cold water in at 45°F, out at 105°F)



cold geographical locations

Warm Water Climates with a 40° ΔT (cold water in at 65°F, out at 105°F)



warm geographical locations

Simple to Install

Space Saving and Easy Connections

The Coaire COBWH units are true space savers, by combining both the functions of a heating functions traditionally performed by a boiler, with those of a Domestic Hot Water Tank type heater in a single package that is less than 30" tall, 20" wide and 8" deep (COBWH99 & 120). This unit is designed to be wall mounted freeing up the floor space traditionally taken up by a boiler and water heater.

With only a 24" clearance to the front of the unit required for servicing, the COBWH will fit into just about any space.

Both the Heating loop Supply and Return, plus the Domestic Hot Water Cold inlet and Hot Outlet are arranged on the bottom of the unit, providing a single area of connection for all the plumbing piping.

Threaded connections make it simple to attach the plumbing to the unit.

Vent connections are provided for both the Intake air and Flue gas at the top of the unit, these are designed to directly accept the Schedule 40 PVC or SLC636 (In Canada) vent piping without the need for adaptors or other connectors.

Color coded flying leads to connect to the unit DSR controller and also to a Zone controller are provided, making the control wiring quick and easy to understand.

Zone control is simplified by just requiring a zero volt X – X contact to start and stop the COBWH unit, water temperature control on both the heating loop and DHW side is controlled via the DSR remote controller.

Main Components

Dual Heat Exchangers

Coaire's unique use of the Dual Heat Exchangers maximizes efficiency and minimizes noise levels. With the latent or wet recuperative heat exchanger mounted at an offset above the primary heat exchanger, the flue gas is forced to travel in an "S" pattern, maximizing heat transfer and increasing product performance and efficiency.

Pump

On the space heating section of the system, a circulating pump is installed. This pump is used to flow water directly to a close coupled air handler or for all other applications through a primary heating loop, which is field-installed.

PVC Venting

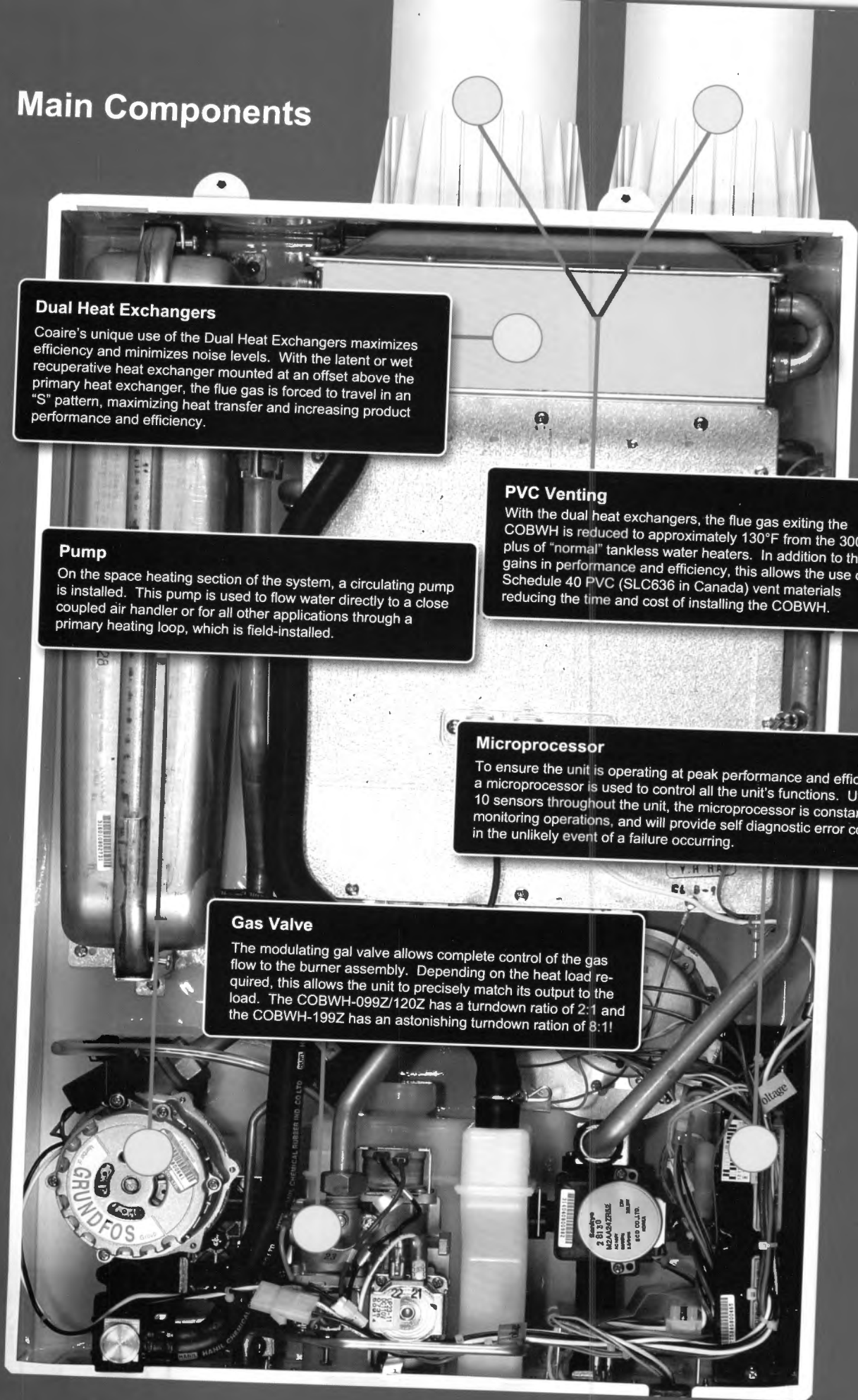
With the dual heat exchangers, the flue gas exiting the COBWH is reduced to approximately 130°F from the 300° plus of "normal" tankless water heaters. In addition to the gains in performance and efficiency, this allows the use of Schedule 40 PVC (SLC636 in Canada) vent materials reducing the time and cost of installing the COBWH.

Microprocessor

To ensure the unit is operating at peak performance and efficiency, a microprocessor is used to control all the unit's functions. Utilizing 10 sensors throughout the unit, the microprocessor is constantly monitoring operations, and will provide self diagnostic error codes in the unlikely event of a failure occurring.

Gas Valve

The modulating gas valve allows complete control of the gas flow to the burner assembly. Depending on the heat load required, this allows the unit to precisely match its output to the load. The COBWH-099Z/120Z has a turndown ratio of 2:1 and the COBWH-199Z has an astonishing turndown ratio of 8:1!



Dual Purpose Water Heater

Coaire's COBWH is a product that solves two problems in one, Energy Star approved, highly efficient packaged unit that both heats your home, plus provides Domestic hot water by just opening a faucet

Live comfortably with the warmth of space heating via radiant, hot water fan coil or baseboard, while knowing that the COBWH is one of the most efficient producers of space heating water on the market.

Live comfortably with the benefits of endless hot water, heated to exactly the right temperature by simply opening a faucet, the COBWH is capable of producing over 6 GPM of DHW to take care of showers, laundry, washing and cleaning.

Live comfortably with the efficiency of an Energy Star product, one that qualifies for Federal tax credits and many other state and utility rebates.

Live comfortably with the reliability of a self diagnostic microprocessor controller and an outstanding warranty coverage.

COAIRE

LIVE COMFORTABLY

Specifications

Heating System Data	COBWH-099Z	COBWH-120Z	COBWH-199Z
Heat Input (Btu/h)	47,800 - 99,000	47,800 - 120,000	26,000 - 199,000
AFUE (%)	90	90	90
Heating Water Temperature (°F)	122°F - 176°F leaving unit Heat Exchanger		
Working Pressure (psi)	15 - 20		
Freeze Protection Device	Thermistor, will energize pump/combustion		
Heating Minimum Flow (GPM)	1.2		
Heating Heat Exchanger Water Volume (gal)	0.2	0.2	0.25
Ignition Type	Electronic Spark		
Domestic Hot Water			
DHW Production Energy Factor	0.83	0.85	0.82
Temperature Setting	Controlled : Settings of 98°F - 114°F, 120°F, 130°F, 140°F		
DHW Minimum Flow Rate (GPM)	0.5 to 0.7 GPM		
GPM @ 50°F in 100°F out	3.7	4.5	6.2
GPM @ 50°F in 110°F out	3.1	3.7	5.1
GPM @ 50°F in 120°F out	2.6	3.2	4.4
GPM @ 50°F in 130°F out	2.3	2.8	3.9
General Data			
Control Voltage	24V DC - Requires X-X or Zero Voltage Contact for Zone Applications		
Fuel Type	Natural Gas or Field Conversion to LP		
Natural Gas Inlet Pressure ("WC)	Minimum 3.5" WC to Maximum 10.5" WC		
LP Gas Inlet Pressure ("WC)	Minimum 9" WC to Maximum 13" WC		Min. 8" WC to Max. 13" WC
Gas line size (inches)	Minimum Size 3/4"		
Unit Voltage (V)	115V - 1Ph - 60Hz		
Power Consumption (W)	120	140	187
Pump Flow @ 10ft Head	2.5 GPM		5 GPM
NOX Levels (ppm)	20	20	28
Venting			
Maximum Flue Temperature (°F)	136		145
Venting Material	Ø3" Schedule 40 PVC		Ø4" Schedule 40 PVC
Maximum Vent Length (ft)	45ft Equivalent each for both Intake and Exhaust		
Maximum number of elbows*	3 per Individual Vent Pipe		
Dimensions			
Weight (lbs)	70	70	97
Unit Height (minus vent connections) (inches)	27 5/8	27 5/8	28 3/4
Width (inches)	18 1/8	18 1/8	18 1/2
Depth (inches)	8	8	13 5/8
Gas Connection Size (inches)	3/4	3/4	3/4
Heating Supply/Return (inches)	3/4	3/4	3/4
DHW Inlet/Outlet (inches)	1/2	1/2	3/4
Flue/Air Intake (inches)	Vent Connection Ø3.5" to accept 3" PVC		Vent Conn Ø4.5" to accept 4" PVC

Coaire maintains a policy of continuous product development - specifications can change without prior notice.

*one elbow = 5ft equivalent length, which must be deducted from the total vent length.





Easy to Use Unit Controller

Each unit is supplied with a unit controller allowing both the heating water temperature and the Domestic Hot Water temperature to be set by the end user.

Heating water temperature can be set from 122°F to 179°F and DHW temperature from 98°F - 114°F, 120°F, 130°F, 140°F. (Coaire recommends the installation of an anti-scald valve on the DHW system).

The unit controller will also display fault codes in the unlikely event of a malfunction occurring with the unit.

Accessories

LP Conversion Kit - Allows use with LP fuel

Part Numbers:

COTWH7-8 LPKT

(for use with COBWH-199Z)

COBWH99/120LPKT

(for use with COBWH-099Z & 120Z)

Warranty: 12 years heat exchanger & 5 years parts

COAIRE

www.coaire.com

LIVE COMFORTABLY