

LAARS[®] COMBI HEAT[™]

Combination
Water Heaters
with Heating Coils



LAARS[®] 

Heating Systems Company

A subsidiary of **BRADFORD WHITE[®]** Corporation

Dual-Purpose Performance Water Heaters

from Laars® Heating Systems Company

Laars energy efficient combination water heaters provide space heating and plenty of potable hot water. While saving you both money and valuable interior space.

COMBINATION SPACE AND WATER HEATING SYSTEMS

Combination space and water heating systems consist of a storage water heater, a heat delivery system (for example, radiant panels, a fan coil or hydronic baseboards) and associated pumps and controls. A Laars Combi Heat is easy to install and operates similar to a conventional water heater. When there is a demand for domestic hot water, water enters the bottom of the tank and hot water from the top of the tank is delivered to the load. When there is a demand for space heating, a pump circulates water through the coil inside the tank, and out to the heat emitters. The storage tank is maintained at the desired temperature for domestic hot water. Because this temperature is cooler than conventional hydronic systems, the space heating delivery system needs to be slightly larger than typical. Alternatively, the storage tank can be operated at a higher water temperature; this requires tempering valves to prevent scalding at the taps.

FEATURES

- **Intelligent Gas Control** - Proven millivolt powered technology and built-in piezo igniter. A standard, off the shelf thermopile converts heat energy from the pilot flame into electrical energy to operate the gas valve and microprocessor. No need for external electricity.
- **Enhanced Performance** - Proprietary algorithms provide enhanced First Hour Delivery ratings and tighter temperature differentials.
- **Advanced Temperature Control System** - Microprocessor constantly monitors and controls burner operation to maintain consistent and accurate water temperature levels.
- **Intelligent Diagnostics** - An exclusive green LED light prompts the installer during start-up and provides ten different diagnostic codes to assist in troubleshooting.
- **Pilot On Indication** - Flashing green LED provides positive indication that pilot is on. (Not available on PV models)
- **Separate Immersed Thermowell** - High strength advanced polymer composite thermowell provides isolation between electric temperature sensor and surrounding water. No need to drain the tank when removing gas valve. (Not available on PV models)
- **Internal Double Wall Heat Exchanger** - Double wall 1-1/2" O.D. glass coated steel coil ensures separation of potable water and heating fluid.

- 3/4" NPT Front Supply and Return Connections
- Low Heat Exchanger Head Loss
- Advanced Flame Arrestor Design
- Thermal Safety Switch or Sensor
- Maintenance Free Under Normal Conditions
- Factory Installed Sediment Reducing System
- Enamel Glass Lining Provides Long Tank Life
- Integrated Quick Install Mixing Device
- 2" Non-CFC Foam Insulation
- Pedestal Base
- 3/4" True Dielectric Water Connections
- Two Protective Anode Rods
- T&P Relief Valve
- Tamper Proof Low Restriction Brass Drain Valve

10-Year Limited Tank and Heat Exchanger Warranties / 6-Year Limited Warranty on Component Parts.

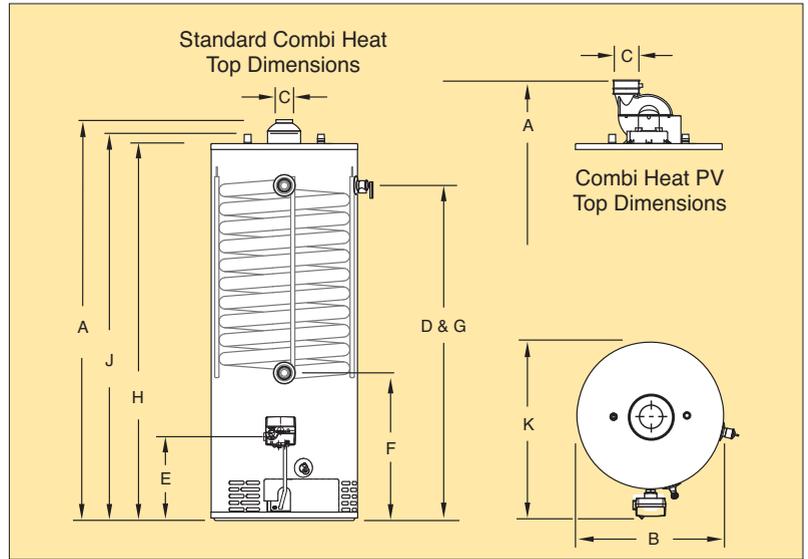


LAARS® COMBI HEAT™ WATER HEATERS



Combi Heat

Combi Heat PV



Residential Laars® Combi Heat™

NATURAL GAS AND LIQUID PROPANE GAS	Capacity			Input				Recovery 90°F Rise				Recovery 50°C Rise		FHD US Gal.
	Model Number	Imp. Gal.	U.S. Gal.	Liters	Nat. BTU/Hr.	LP BTU/Hr.	Nat. kW	LP kW	Nat. U.S. GPH	Nat. Imp. GPH	LP U.S. GPH	LP Imp. GPH	Nat. Liters/Hour	
LCH-504T10FBN	38	45	170	65,000	61,000	19.1	17.9	70	59	66	55	265	250	105
LCH-75T10BN	61	72	272	76,000	76,000	22.3	22.3	81	70	81	70	317	317	82

Model Number	A		B		C		D		E		F		G		H		J		K		Approx. Shipping Weight	
	Floor to Flue Conn. in. cm.	Jacket Diameter in. cm.	Vent Dia. in. cm.	Floor to T&P Conn. in. cm.	Floor to Gas Conn. in. cm.	Floor to Exchanger Inlet in. cm.	Floor to Exchanger Outlet in. cm.	Floor to Top of Heater in. cm.	Top Water Conn. in. cm.	Depth in. cm.	Lbs.	Kg.										
LCH-504T10FBN	59 1/4	140	22	56	4	10	50	127	13	33	27 7/8	150	50	150	56 3/8	143	57	145	24 1/2	62	238	108
LCH-75T10BN	63 1/4	153	26	66	4	10	53	135	16	41	30 7/8	162	53	162	60 1/4	162	61 1/4	156	28 1/2	72	328	149

CAEF is .55 (50) and .52 (75). CAAFUE is 80%

Residential Laars® Combi Heat™ PV

Power Vent models use a powerful blower motor to sidewall vent. Our design has higher power to eliminate problems with difficult venting situations. This significantly quieter motor runs cooler for a considerably longer operational life.

NATURAL GAS AND LIQUID PROPANE GAS	Capacity			Input				Recovery 90°F Rise				Recovery 50°C Rise		FHD US Gal.
	Model Number	Imp. Gal.	U.S. Gal.	Liters	Nat. BTU/Hr.	LP BTU/Hr.	Nat. kW	LP kW	Nat. U.S. GPH	Nat. Imp. GPH	LP U.S. GPH	LP Imp. GPH	Nat. Liters/Hour	
LCH-TW50T10FBN	38	45	170	67,000	60,000	19.6	17.5	72	60	65	54	272	246	105
LCH-TW75T10BN	61	72	272	76,000	75,500	22.3	22.1	82	69	81	67	310	306	82

Model Number	A		B		C		D		E		F		G		H		J		K		Approx. Shipping Weight	
	Floor to Flue Conn. in. cm.	Jacket Diameter in. cm.	Vent Dia. in. cm.	Floor to T&P Conn. in. cm.	Floor to Gas Conn. in. cm.	Floor to Exchanger Inlet in. cm.	Floor to Exchanger Outlet in. cm.	Floor to Top of Heater in. cm.	Top Water Conn. in. cm.	Depth in. cm.	Lbs.	Kg.										
LCH-TW50T10FBN	65 7/8	167	22	56	3	8	50 1/8	127	11 3/4	30	28	71	50 1/8	127	56 3/8	143	57 3/4	147	26 3/4	68	245	111
LCH-TW75T10BN	69 3/4	177	26	66	3	8	53	135	15	39	30 7/8	78	53	155	60 1/4	153	61 1/2	156	31	79	335	152

CAEF is .66 (TW50) and .64 (TW75). CAAFUE is 82%. 110 VAC (60 HZ, 3.1 Amps) required for Power Venting.

All propane heaters are equipped with a cast iron burner. To order a propane heater change suffix "BN" to "SX". *Based on manufacturers rated recovery efficiency. Meets or exceeds the insulating standards established under ASHRAE Standard 90.1b (current edition).

Heat Exchanger Values			
Supply Temperature °F	140	120	100
Return Temperature °F	120	100	80
Differential °F	20	20	20
Flow Rate GPM	2.3	3.4	4.4
Net Output BTU/hr	20,000	29,000	38,000

These values were obtained using 180°F tank temperature. Actual values may vary based on installation conditions.

Heat Exchanger Head Loss	
GPM	Ft. of Hd. Loss
2	0.15
5	0.94
8	2.40
10	3.75
12	5.40

Venting		
LCH-TW50 LCH-TW75	3" Vent Pipe	4" Vent Pipe
Max. Equivalent Length	†60 ft.	†180 ft.
Min. Equivalent Length	7 ft.	15 ft.
Number of 90° Elbows	1 2 3	175 ft. 170 ft. 165 ft.



View our entire product line at www.Laars.com

Meets NAECA Requirements

General: All gas water heaters are certified at 300 PSI test pressure (2068 kPa) and 150 PSI working pressure (1034 kPa). All potable water and heat exchanger connections are 3/4" NPT (19mm) on 11" (203mm) centers. All gas connections 1/2" (13mm).

All models design certified by CSA International (formerly AGA/CGA), ANSI Z-21.10.1 and or 10.3 and peak performance rated.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.

Suitable for Water (Potable) Heating and Space Heating

Toxic chemicals, such as those used for boiler treatment, shall NEVER be introduced into the potable water side. The potable side of this unit may NEVER be connected to any existing heating system or component(s) previously used with a non-potable water heating appliance. The heat exchanger side of the unit may be used in space heating applications.



LAARS[®] 
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