

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 Controls** - Atmospheric models feature a proven millivolt technology and piezo ignitor. A thermopile converts heat from the pilot into electrical energy to power the gas valve and microprocessor. No need for external electricity. Power vented models use a self-diagnostic spark-to-pilot ignition system that eliminates the constant burning pilot, resulting in energy savings during stand-by periods.
- Enhanced Performance** - Proprietary algorithms provide enhanced First hour Rating and tight temperature differential.
- Advanced Temperature Control System** - Microprocessor controls burner operation for consistent and accurate water temperature levels up to 180°F (82°C).
- Intelligent Diagnostics** - Exclusive LED system indicates operation status and service required.
- Internal Double Wall Heat Exchanger** - Double wall 1½" O.D. glass coated steel coil ensures separation of potable water and heating fluid.
- Superior Tank Lining** - An exclusively engineered enamel formula that provides superior tank protection from the highly corrosive effects of hot water. This formula fused to the steel surface by firing at a temperature of over 1,600°F (871°C).

- ¾" NPT Front Supply and return Connections
- Low Heat Exchanger Head Loss
- Advanced Flame Arrestor (45 gal models)
- Maintenance Free Under Normal Conditions
- Factory Installed Sediment Reducing System
- Integrated ASSE Approved Mixing Device
- 2" Non-CFC Foam Insulation
- Pedestal Base
- ¾" True Dielectric Water Connections
- Two Protective Anode Rods
- T&P Relief Valve
- Tamper Proof Low Restriction Brass Drain Valve

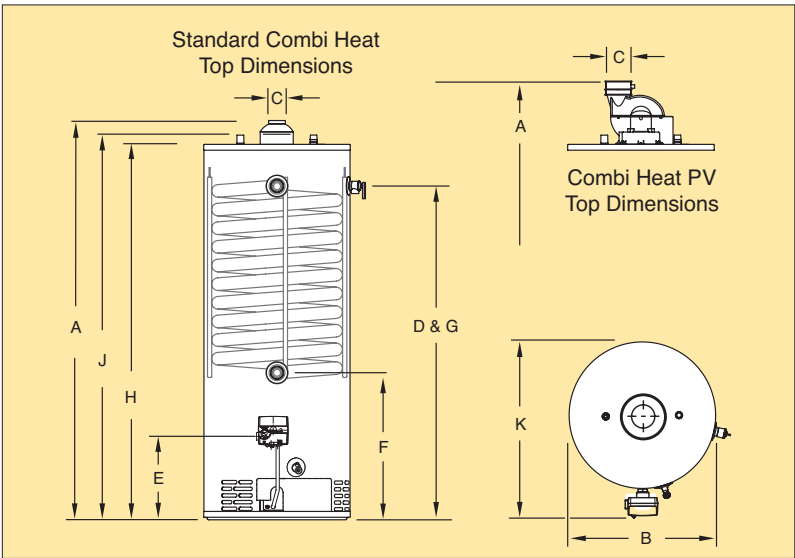
10-Year Limited Tank and Heat Exchanger Warranties / 6-Year Limited Warranty on Component Parts.



Combi Heat

Combi Heat PV

LAARS® COMBI HEAT™ WATER HEATERS



Residential Laars® Combi Heat™

Model Number	Capacity			Input				Recovery 90°F (50°C) Rise*				Recovery 50°C Rise	
	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	LP Liters/Hour
LCH-504T10FBN	38	45	170	65,000	61,000	19.1	17.9	70	59	66	55	265	250
LCH-75T10BN	61	72	272	76,000	76,000	22.3	22.3	81	70	81	70	317	317

Model Number	A Floor to Flue Conn.	B Jacket Diameter	C Vent Dia.	D Floor to T&P Conn.	E Floor to Gas Conn.	F Floor to Exchanger Inlet	G Floor to Exchanger Outlet	H Floor to Top of Heater	J Top Water Conn.	K Depth	Approx. Shipping Weight
	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	Lbs. Kg.
LCH-504T10FBN	59 1/4 150	22 5/8 58	4 1/2 11	50 1/2 127	13 3/8 34	27 7/8 71	50 1/2 127	56 3/8 143	60 3/8 153	24 1/2 62	238 108
LCH-75T10BN	63 1/4 161	26 66	4 1/2 11	51 3/4 131	13 1/2 34	29 5/8 75	51 3/4 135	59 150	63 160	30 3/8 77	302 137

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.

Model Number	Capacity			Input				Recovery 90°F (50°C) Rise*				Recovery 50°C Rise	
	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	LP Liters/Hour
LCH-TW50T10FBN	38	45	170	67,000	60,000	19.6	17.5	72	60	65	54	272	246
LCH-TW75T10BN	61	72	272	76,000	75,500	22.3	22.1	82	69	81	67	310	306

Model Number	A Floor to Flue Conn.	B Jacket Diameter	C Vent Dia.	D Floor to T&P Conn.	E Floor to Gas Conn.	F Floor to Exchanger Inlet	G Floor to Exchanger Outlet	H Floor to Top of Heater	J Top Water Conn.	K Depth	Approx. Shipping Weight
	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	in. cm.	Lbs. Kg.
LCH-TW50T10FBN	65 7/8 167	22 5/8 58	3 8	50 1/8 127	11 3/4 30	28 7/8 73	50 1/8 127	56 3/8 143	60 3/4 154	26 3/4 68	245 111
LCH-TW75T10BN	68 3/8 174	26 66	3 8	53 135	15 39	30 3/8 78	53 135	60 1/4 153	64 1/4 163	31 79	315 143

All propane heaters are equipped with a titanium stainless steel 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). CEC listed 80% recovery efficiency.

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	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 55 ft.	175 ft.
	2 50 ft.	170 ft.
	3 45 ft.	165 ft.

†For high altitude, consult install instructions

**LCH-TW75T10 max 3" vent length is 50 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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