

LAARS®
NEOTHERM LC

Commercial Modulating
Condensing Boiler and
Volume Water Heater



LAARS NEOTHERM LC

COMMERCIAL MODULATING CONDENSING BOILERS AND VOLUME WATER HEATERS

Innovative technology and user-friendly features are at the heart the NeoTherm LC. The compact workhorse is available in sizes of 1.0 or 1.2 million BTU/hr and is powered by a dual fired ASME stainless steel water tube heat exchanger resulting in 10:1 turndown and thermal efficiencies as high as 99%. Setup, operation and diagnostics are made easy with the NeoTherm LC's large color touch screen display.



Large, easy to use touch screen

Powering the NeoTherm LC is a dual fired heat exchanger that has two equally sized burners surrounded by coiled water tubes. These burners can modulate independently of each other to maximize fuel utilization. An added redundancy feature of the dual burner design is if for some reason one of the two burners were to fail the other will still be available to provide heat.

The advanced NeoTherm LC control system includes a cascading feature that allows for up to four boilers to be lead lagged with onboard controls. Up to eight NeoTherm LC boilers can be lead lagged when coupled with M4 and M4EXT controllers. This results in a modulating heating cell of up to 9.6 million BTU/hr with a combined 80:1 turndown (using 1.2 million BTU/hr NeoTherm LC units). Also included with the onboard controls is an auto rotation function that periodically changes lead boiler to evenly spread service between all boilers.

Communication with Building Automation Systems happens easily via a built-in Modbus protocol included with all NeoTherm LC boilers.



Color screen and gas valves can be adjusted (via access ports) at the same time when outer jacket is removed, making for fast and easy combustion setup.



Access to color display, internal components and pull out controls result in easy diagnostics and adjustments when sealed jacket is removed.

Contractor friendly design allows for faster setup and easier diagnostics.

LAARS® NEOTHERM LC FEATURES

- Full fire thermal efficiencies as high as 95%
 - 10% to 100% modulation (10:1 turndown)
 - Low 10ppm NOx
 - Sealed combustion
 - Pre-mix stainless steel burner
 - Horizontal or vertical direct vent
 - Built in condensate trap
 - Indirect water heater priority
 - Large color touch screen display
 - Compact footprint
 - Direct spark ignition system
 - Stainless steel, heat exchanger with welded construction (no gaskets)
 - 160 psi maximum working pressure
 - Boiler: 75 psi (517kPa) ASME rated pressure relief valve
 - Volume Water Heater: 125 psi (861 kPa) ASME rated pressure relief valve
 - Water Flow Switch
 - Temperature and Pressure gauge
 - Drain Valve
 - Multiple pump control for boiler pump, system pump and indirect domestic water pump, each with delay
 - Cascading PID modulating feature for up to 4 boilers to be lead lagged, 8 with M4 controller
 - Alarm output
 - Outdoor reset
 - PVC, CPVC, Polypropylene or Stainless steel venting
 - Direct vent up to 100ft, Vertical or Horizontal
 - Outdoor air temperature sensor
 - On/off toggle switch
 - Manual reset high limit
 - Burner site glass
 - All piping and wiring from the back of the boiler
 - Modbus Communications
 - Indoor/Outdoor installations
 - ASME H-Stamp
- Warranty:**
- 10 year limited Boiler warranty
 - 5 year limited Volume Water Heater warranty

LAARS® NEOTHERM LC SPECIFICATIONS

Size	Boiler Indoor Efficiencies		Boiler Outdoor Efficiencies		Water Heater Thermal Efficiency	Input MBH (kw)	Output MBH (kw)		Air Inlet in (cm)	Vent in (cm)	Connection Size (NPT)		Amp Draw (no pump) FLA	Shipping Weight lbs (kg)
	Thermal	Combustion	Thermal	Combustion			Boiler	VWH			Water	Gas		
1000	94.2%	94.2%	94.2%	94.2%	95.0%	1000 (293)	942 (276)	950 (278)	6 (15)	6 (15)	2	1.5	10	620 (281)
1200	95.1%	94.8%	94.7%	95.1%	95.0%	1200 (351)	1,136 (333)	1,140 (334)	6 (15)	6 (15)	2	1.5	12	620 (281)

Boiler Temperature Rises in Degrees

Size	Temperature Rise in °F											
	20°F		25°F		30°F		35°F		40°F		45°F	
	Flow (gpm)	H/L (ft)	Flow (gpm)	H/L (ft)	Flow (gpm)	H/L (ft)	Flow (gpm)	H/L (ft)	Flow (gpm)	H/L (ft)	Flow (gpm)	H/L (ft)
1000	95	30	75	20	62	15	54	11	48	9	42	7
1200	114	37	91	26	76	18	65	13	57	10	51	8

Size	11°C		14°C		17°C		19°C		22°C		25°C	
	Flow (l/m)	H/L (m)	Flow (l/m)	H/L (m)	Flow (l/m)	H/L (m)	Flow (l/m)	H/L (m)	Flow (l/m)	H/L (m)	Flow (l/m)	H/L (m)
1000	360	9.1	284	6.1	235	4.6	204	3.4	182	2.7	159	2.1
1200	431	11.3	344	7.9	288	5.5	246	3.9	216	3.1	193	2.4

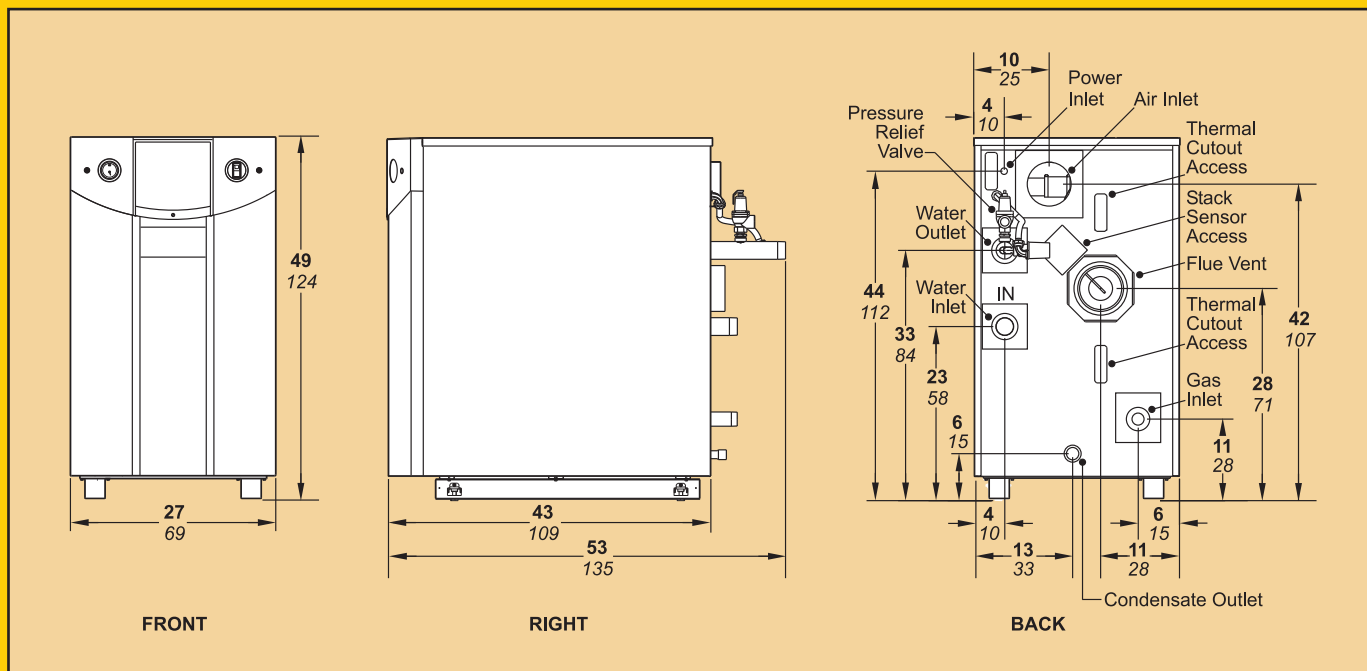
Recovery Data Volume Water Heater

Size	Design Temperature Rise Across Water Heater (gph)									
	40°F	50°F	60°F	70°F	80°F	90°F	100°F	120°F	140°F	
1000	2857	2286	1905	1633	1429	1270	1143	952	816	
1200	3420	2736	2280	1954	1710	1520	1368	1140	977	

Size	Design Temperature Rise Across Water Heater (lph)									
	22°C	28°C	33°C	39°C	44°C	50°C	56°C	67°C	78°C	
1000	10799	8641	7201	6173	5402	4801	4321	3599	3084	
1200	12946	10357	8630	7397	6473	5754	5178	4316	3698	

LAARS® NEOTHERM LC DIMENSIONS

NeoTherm 1000 and 1200 Dimensions



Compact in size, with minimal clearance needed and up to 100 feet of vent length (both vertical and horizontal), the NeoTherm LC brings up to 1.2 million BTU/hr into tight spaces but can also be installed outdoors giving ultimate flexibility to installers.



H



LAARS®
Heating Systems Company
 A subsidiary of **BRADFORD WHITE®** Corporation

800.900.9276 • Fax 800.559.1583 (Customer Service, Service Advisors)

20 Industrial Way, Rochester, NH 03867 • 603.335.6300 • Fax 603.335.3355 (Applications Engineering)

1869 Sismet Road, Mississauga, Ontario, Canada L4W 1W8 • 905.238.0100 • Fax 905.366.0130

www.Laars.com