

# TANKLESS RESIDENTIAL WATER HEATERS

Fully modulating, gas fired, tankless water heater with sealed combustion and power vented flue. Indoor and outdoor models available for residential and commercial applications. Supplies hot water to domestic hot water systems and can be used with water storage tanks, recirculation systems, and/or combined domestic & heating applications.

## NON-CONDENSING ULTRA LOW-NOX

### FEATURES:

#### FIELD CONVERTIBLE FROM NATURAL GAS TO PROPANE

Complies with SCAQMD Rule 1146.2 and other air quality management districts with similar NOx emission requirements of 14 ng/J or 20 PPM

#### MAXIMUM FLOW RATES UP TO 10.0 GPM

#### Copper HEAT EXCHANGER

25x better heat transfer than stainless steel thus stabilizing outgoing water temperature quicker and reducing pressure drop across the heat exchanger

#### INDOOR AND OUTDOOR MODELS AVAILABLE

#### OUTDOOR MODELS INCLUDE REMOTE CONTROL AS A STANDARD FEATURE

#### INDOOR MODELS INCLUDE A BUILT-IN TEMPERATURE CONTROLLER AND A FACTORY-INSTALLED POWER CORD AS STANDARD FEATURES

#### LTI-510U AND LTO-510U CAN BE USED IN BOTH RESIDENTIAL AND COMMERCIAL APPLICATIONS

Easy-Link up to 4 units (no additional parts or accessories needed)

Multi-link up to 20 units

#### COMPLIES WITH LEAD FREE STANDARDS

### SAFETY FEATURES:

Built-in Freeze Protection\  
Manual Reset Hi Limit (Up to 194°F)

Overheat Cutoff Fuse

Inlet and Outlet Thermistors for Constant Temperature Monitoring

Air Fuel Ratio Rod

Flame Sensor

#### VENTING AND COMBUSTION<sup>4</sup>” Category III Stainless Steel

3” Combustion Air Intake

60’ Max Length, 6 Elbows max  
(90° elbows = 5’ equivalent length)

Power Vent or Power Direct Vent

Vertical or Horizontal Installation

Electronic Ignition - No Pilot Light

#### OPTIONAL ACCESSORIES

Complete Line of Stainless Steel Venting

Recess Box (outdoor models)

Pipe Cover

Isolation Valve Kit

Backflow Preventer

Concentric Termination Kits

#### WARRANTY

15-year limited warranty on heat exchanger in residential applications

6-year limited warranty on heat exchanger in commercial applications

5-year limited warranty on all parts



INDOOR MODELS  
LTI-110U, LTI-310U, LTI-510U



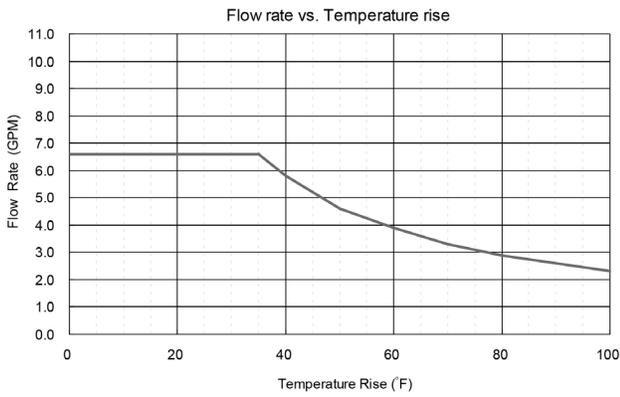
OUTDOOR MODELS  
LTO-110U, LTO-310U, LTO-510U



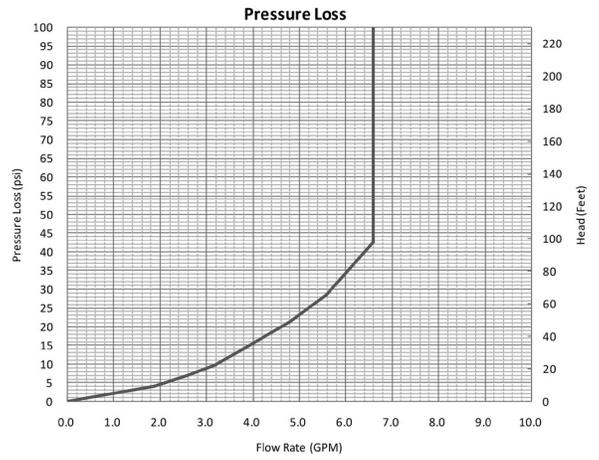
**Lochinvar**<sup>®</sup>  
HIGH EFFICIENCY BOILERS & WATER HEATERS



## 110U MODELS

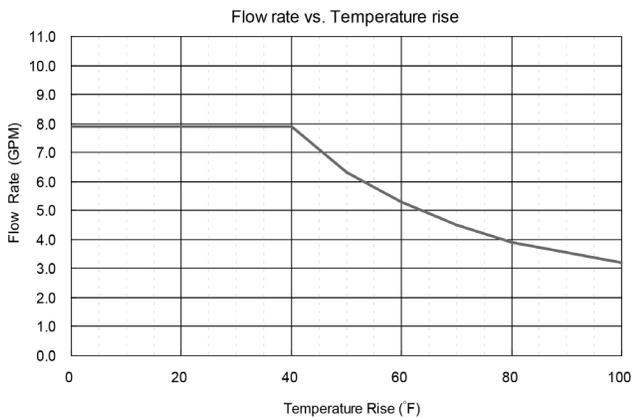


Maximum flow rate is limited to 6.6 GPM.

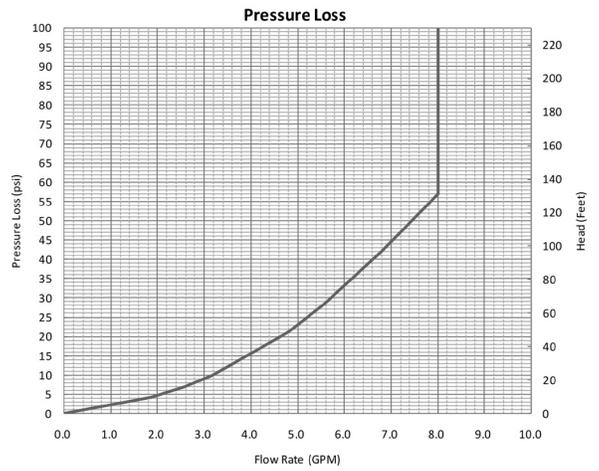


Flow rate is limited to 6.6 GPM.

## 310U MODELS

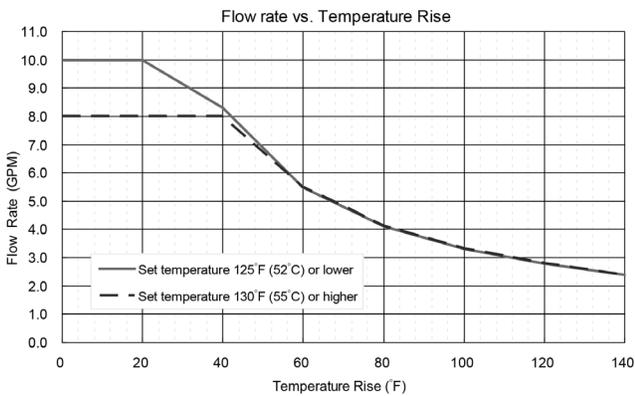


Flow rate is limited to 8.0 GPM.

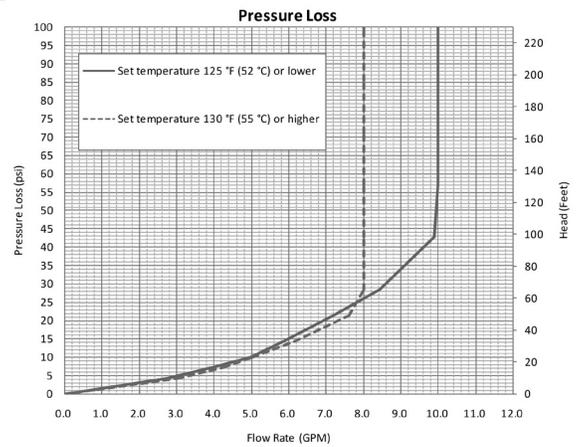


Flow rate is limited to 8.0 GPM.

## 510U MODELS



When the set temperature is 130 °F (55 °C) or higher, maximum flow rate is limited to 8.0 GPM.



When the set temperature is 125 °F (52 °C) or higher, maximum flow rate is limited to 8.0 GPM.

## SUGGESTED SPECIFICATIONS FOR THE LTI-510U OR LTO-510U

The fully modulating, on-demand, gas fired tankless water heater shall be Lochinvar Tankless Water Heater model LTI-510U 200 or LTO-510U 200, having a maximum input rating of 199,000 Btu/h and available in natural gas (NG). For use with propane (LP) gas, the heater shall be field converted using the factory supplied conversion kit. The conversion kit shall be supplied with the heater. The heater shall have ¾ in. male NPT water and gas connections. The inlet gas supply pressures shall be 4.0 in. WC (min.) up to 10.5 in. WC (max) for NG and 8.0 in. WC (min) up to 14 in. WC (max) for LP. The heater shall be supplied with an integrated controller or a temperature remote, 9009069005, that can be installed up to 400 ft. from the heater using 20 gauge (minimum) control wire. The integrated controller or temperature remote shall provide diagnostic information, fault history, and heater set temperature. The heater shall operate using 120 V / 60 Hz power source. The indoor heater will incorporate a factory installed power cord.

The indoor heater shall be vented with 4" diameter Category III vent pipe with a length not to exceed 60 ft. (equivalent), terminating horizontally or vertically. The indoor heater can be direct vented using 3" diameter intake air pipe. The intake pipe may use material such as PVC (solid core), ABS, aluminum, or Category III pipe and cannot exceed 60 ft. (equivalent) length. The outdoor heater shall be constructed with an integral exhaust vent on the front of the heater.

The water heater shall use a commercial grade copper alloy, fin tube heat exchanger with quick release brass or bronze waterways. The heater shall be controlled by an onboard solid-state printed circuit board which uses the following factory installed components: thermistors to monitor inlet and outlet water temperature; a flow sensor to measure flow rate; a flame sensor to monitor combustion; an Air-Fuel Ratio Rod to measure and adjust operation in order to maintain optimal combustion efficiency. The heater also consists of inline fusing and surge absorbers for electrical surge protection, an electronic spark igniter, aluminized stainless steel burners, a hi-limit temperature switch, modulating gas valve, an overheat cutoff fuse, ceramic heating blocks to protect the heat exchanger and water piping. The indoor heater shall incorporate auto-fire system for additional freeze protection.

The heater can manifold to Easy-Link up to 4 heaters to provide additional capacity. The Easy-Link controls shall be built onto the onboard solid-state printed circuit board and does not require external controls. The linking control wire shall be supplied with the heater. A Multi-Unit controller, 9008300005, can manifold 5-20 heaters. The Easy-Link and Multi-Unit Controller shall modulate the system for the most efficient performance. The Easy-Link and Multi-Unit Controller shall rotate the priority heater every 12 hours of operation time or 100 starts for balanced duty/cycle operation.

The heater shall be design certified by CSA according to ANSI Z21.10.3, approved for sale in the United States, has a minimum energy factor of 0.82, meets the energy efficiency requirements of the U. S. Department of Energy and ASHRAE 90.1, complies with SCAQMD Rule 1146.2 and other air quality districts with similar requirements for low NOx emissions of 14 ng/J or 20 ppm, and shall be Certified by NSF to NSF/ANSI Standard 5.



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ANSI Z21.10.3



(510U models only)



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