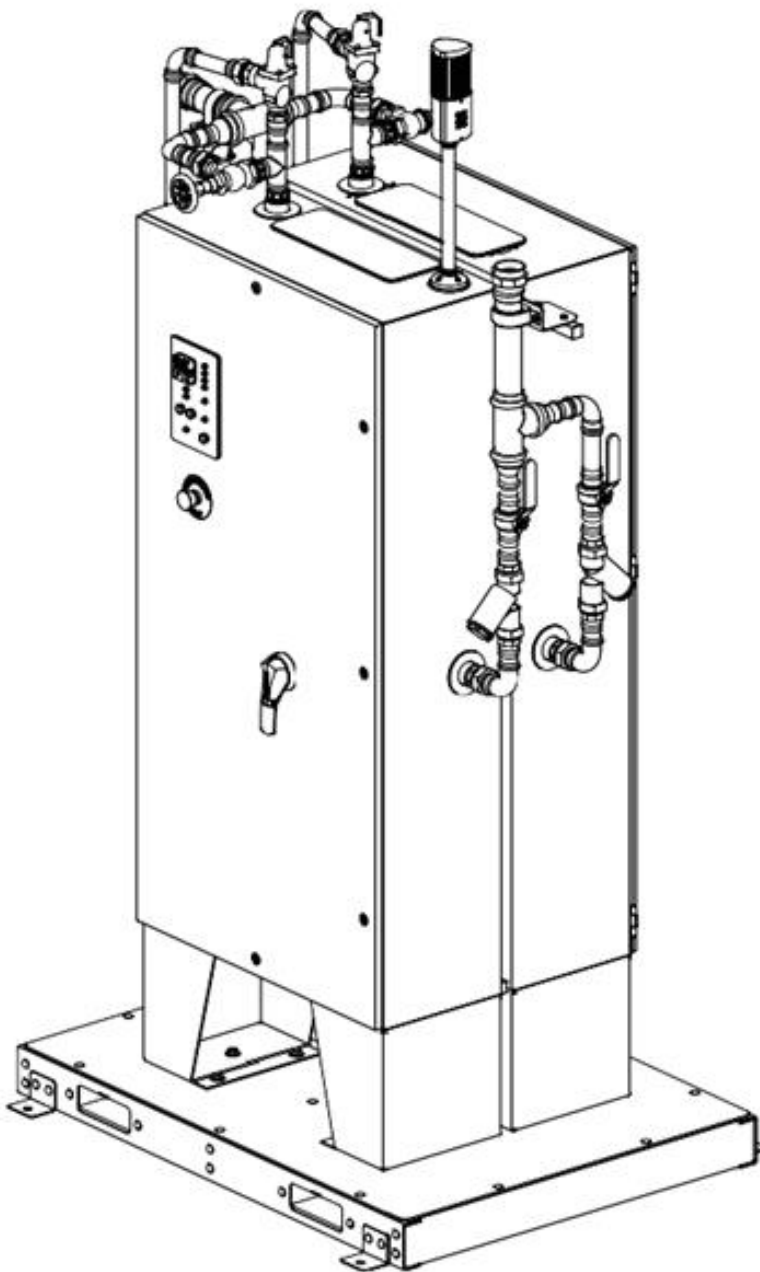




Installation

N Series Skid (C Series) Tankless Heater Models



LCTEC216 (2x LCTEN108)
LCTEC252 (2x LCTEN126)
LCTEC288 (2x LCTEN144)

Voltage options for
models:

600V Three-Phase
480V Three-Phase
415V Three-Phase
400V Three-Phase
380V Three-Phase

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DANGER

Tip over hazard. System can crush you resulting in serious injury or death. Read and follow precautions in this installation manual that accompanied the heater for instructions on how to safely transport and mount.

WARNING

Read this manual BEFORE using this equipment. Failure to read and follow all safety and user information could result in death, serious personal injury, burns, property damage, or damage to the equipment. Keep this manual for future reference. Failure to comply with proper installation and maintenance instructions could contribute to the heater's failure.

A qualified plumber or electrician should install and service this system. Install system according to these instructions and in compliance with national and local codes.

For safe operation of the heater, observe all warning labels as indicated.

Water heater system under pressure. DO NOT open enclosure while in operation. These heaters should never be used to provide "anti-scald" or "anti-chill" service.

Hazardous voltage inside enclosure may result in serious burns or death. Disconnect power supply before performing any work in the enclosure.

Failure to ground this system may result in death or serious injury.

Make sure that all water supply lines have been flushed and then completely turned off before beginning installation. Debris in supply lines can cause valves to malfunction.

CAUTION

Hot pipes! DO NOT touch. May cause burns.

NOTICE

These heaters DO NOT provide protection from supply or outlet pipe freezing even when equipped with ENHT option(s).

Consult local building and plumbing codes prior to installation. Should these codes differ from the information in the manual, follow the local codes. Inquire with governing authorities for additional local requirements.

Regular checking and cleaning of the heater's internal components and check stops is necessary for maximum life and proper product function. Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions, and/or unauthorized adjustments or repairs could render the heater ineffective for its intended service.

Frequency of cleaning and inspection depends upon local water conditions. For heaters with adjustable output temperatures, check and adjust as needed at initial installation and on a quarterly basis.

IMPORTANT

Read this entire installation manual to ensure proper installation. When finished with the installation, file this manual with the owner or maintenance department. Compliance and conformity to local codes and ordinances is the responsibility of the installer. Product warranties may be found under "Resources" on our website at www.laars.com.

Separate parts from packaging and make sure all parts are accounted for before discarding any packaging material. If any parts are missing, do not begin installation until you obtain the missing parts.

Pre-Installation Information

General Information

The N Series Skid (C Series) Systems provide instant and precise temperature-controlled hot water. Pre-assembled and pre-piped with two Laars Tankless Water Heaters mounted back-to-back and secured to a heavy-duty steel skid. These systems can be used for most commercial and industrial hot water applications. To ensure proper performance, install the heater according to the following installation instructions and in compliance with applicable national and local codes.

See Maximum Temperature Rise Specifications chart. Contact a Laars representative for further information on available flow devices.

Operation and Setup

N Series Skid (C Series) heaters supply an unlimited amount of hot water with specific flow and temperature rise capabilities. These heaters are energy efficient, reliable, and provide optimum performance in the most demanding applications.

Application Specific Requirements

The N Series Skid (C Series) can be used in many different applications that require custom tuning for specific applications to maximize performance of the heater.

For use in a re-circulation loop, the incoming loop temperature should not exceed 140°F (60°C).

For applications utilizing quick close valves or solenoid valves, it is important to install a hammer arrestor or surge tank close to the point of use to absorb pressure spikes.

ASME CERTIFICATION: Please verify if your State Boiler Code requires ASME Certification and that you have the proper heater to meet your code requirements prior to installation.

Installation Considerations

Maximum operating pressure: 150 psi (10 bar)

ASME maximum operating pressure: 160 psi (11 bar)

Standard flow activation: 3.0 gpm (11.4 lpm) with minimum inlet pressure of 30 psi (2.1 bar)

Certifications

Certified by ETL to UL499, CSA22 2 No 88 and NFPA 496 (for hazardous locations) and third party certified to NSF/ANSI 372. Heaters are compliant with NEC/NFPA 70 and Canadian Electrical Code C22.1.

 **WARNING** For safe operation of the heater, observe all the warning labels as indicated.

Storage Instructions

NOTICE! Keep Electric Tankless Water Heaters stored in original packaging until installation.

Recommended storage criteria:

Store Electric Tankless Water Heaters where temperatures exceed 35°F (2°C) at all times.

Indoor storage is recommended.

Minimize excessive on-site transport to reduce risk of shock and impact damage.

Alternate storage:

If in the original crate, Electric Tankless Water Heaters will withstand outside storage for approximately 1 month in most climates. The crate may not be capable of protecting the heater if left outside longer than this time frame.

If the Electric Tankless Water Heater is stored in an outdoor environment, care should be taken to protect the heaters from:

- Rain or other falling precipitation via tarp or other waterproof media
- Runoff and accumulation of groundwater from any source that may exceed 1 inch (25mm).

NOTICE! For heaters with ENHT freeze protection option(s): External plumbing to the heater(s) on an N Series Skid (C Series) are not freeze protected from the factory and on-site installation of freeze protection is the sites responsibility.

NOTICE! For heaters with ENHT freeze protection option(s): If the heater is stored where the temperature could fall below 45°F (7°C), the heater must be powered immediately after hydro testing to ensure internal freeze protection components are activated. Once the heater is installed and the on-site plumbing has been hydro tested, the power supply must remain constant until the risk of freeze is eliminated. If this is not possible, the heater must be drained. Freezing of the heater can cause serious damage. Follow notes in Start Up Check List section following an electrical lockout/tagout procedure.

Packaging

Crates are constructed from 3/4" (19mm) OSB.

Crate dimensions approx: 48" x 60" x 100" (1219mm x 1524mm x 2540mm)

Crates should not be stacked.

Safety issues related to packaging:

- Product should be transported with the care associated to packages labeled "FRAGILE" even if packaging is not marked accordingly.
- Standard safety procedures for forklift transport and large items less than 2000lbs (907 kgs) should always be followed.
- When stored, crate must be supported in entirety of its length and width.

1 Transporting the Skid System



Unless otherwise requested, Laars Skid Systems are transported within the continental United States and Canada via commercial truck.



Each skid system will be accompanied by document packaging that includes the installation instructions. Store skid system documents for reference.

NOTICE! Check the load ratings on equipment intended to be used to transport the system

A

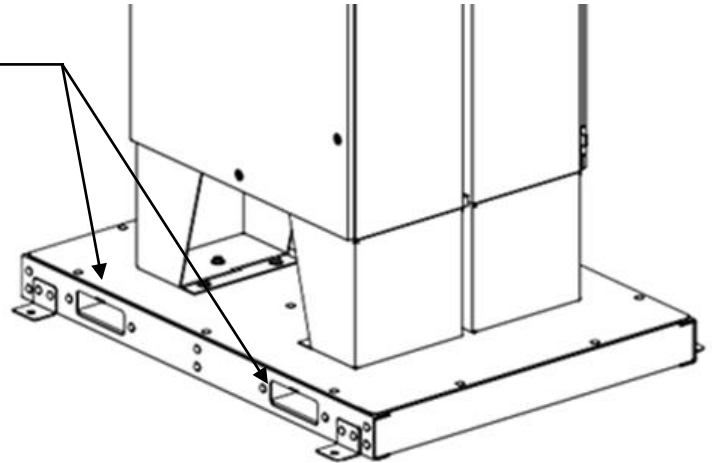
Remove the shipping crate top and sides. Locate the forklift tubes on the skid system and lift for transport

NOTICE! During transit, transport close to the ground. Use all standard safety measures and precautions prior to and during transit.

NOTICE! Use caution when transporting. Always use proper lifting techniques. Weight distribution is unbalanced and the product is susceptible to tipping which will result in damage to the product.

B

Secure heater by bolting each leg to the floor using 3/8" (10mm) anchor bolts.

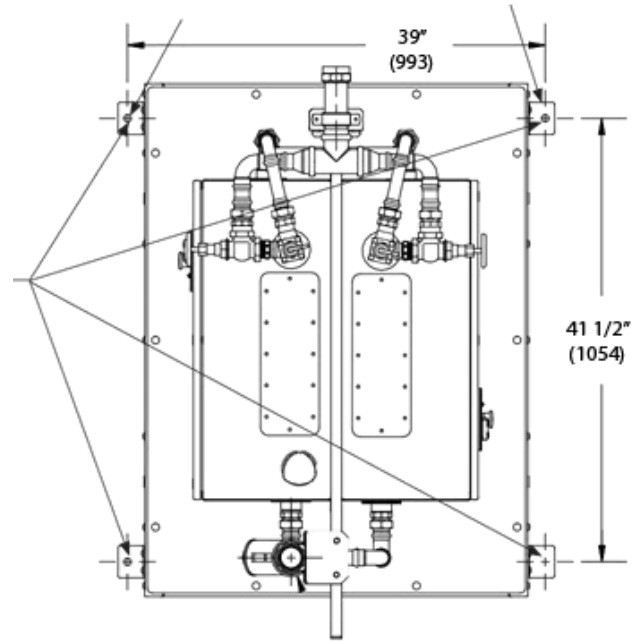





2 Mounting

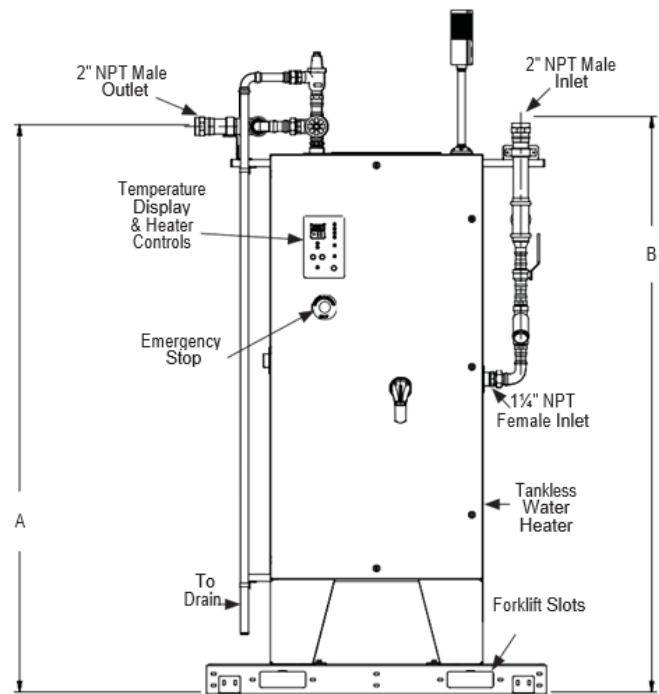
- ☒ For best results, install system as close as possible to the point of use
- ☒ Long pipe runs are not recommended. A heat loss of 1°F for every 10ft (3 meters) of uninsulated pipe can occur..
- ☒ When determining a mounting location, ensure accessibility of the cabinet enclosure door and other plumbing for service and maintenance of the cabinet enclosure and a minimum of 48" (1219mm) above the top of the cabinet enclosure is needed.

A Verify skid system is in final installation location.

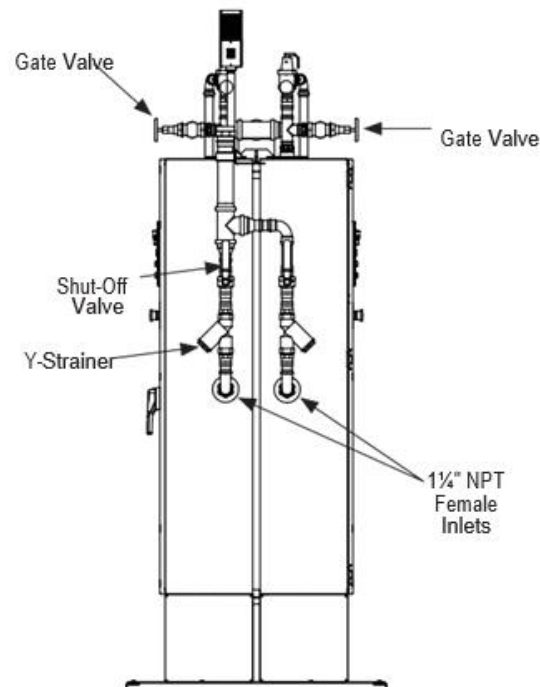
B Secure the base to concrete at the (4) mounting locations using suitable concrete anchoring devices with expansion sleeves (supplied by installer) . The skids use 3/8" (10mm) or 1/2" (13mm) mounting hardware/anchoring devices. Install anchors per manufacturer recommendation. Review and follow all local codes and ordinances that regulate anchoring.



3	Plumbing Installation
	<p>Components Included:</p> <ul style="list-style-type: none">• (10) Union 2"• (2) Pressure and Temperature Relief Valve (150 psi/10 bar)• (2) Gate or Ball Type Valves <p>Elbows, nipples and fittings as needed</p> <p> Components included in the N Series Skid (C Series) Systems are different from the standard N Series Heater.</p> <p> See dimensional drawings for reference and suggested installation configuration.</p> <p> Failure to install proper filtration may result in a flow sensor malfunction</p>

[illegible]

Model	Dim. "A"	Dim. "B"
LCTEC216	68%"(1734)	69%"(1759)
LCTEC256	80%"(2035)	81%"(2065)
LCTEC288	80%"(2035))	81%"(2065)



4 Start Up Check List

Plumbing

- ☐ System is set in a vertical, level, and upright position with the outlet located at the top. Skid is mounted to the ground by (4) 3/8" or 1/2" anchoring devices.
- ☐ Verify pressure and temperature relief valve is installed on water outlet immediately following the union. No valve or restriction is between the relief valve and the system or the relief valve and drain. Shutoff valve is installed after pressure and temperature relief valve on outlet if required by local or national plumbing codes.
- ☐ If the hot water process is not at the highest point in the plumbing loop, then an automatic air vent valve must be added at the highest point in the system plumbing loop to eliminate trapped air.

See N Series Heater Installation Guide for remaining setup and operational instructions for the heater selected.



United States

Technical Support (603) 335-6300 or Toll Free (800) 900-9276

Website www.laars.com

For field service, please contact your professional installer or local Laars sales representative.