

COMMERCIAL TANKLESS ELECTRIC WATER HEATERS

Fluid heating for commercial and industrial applications



PRECISE. RELIABLE. DURABLE. TANKLESS.

LAARS[®]
Heating Systems Company

POWERED BY **KELTECH**[™]



COMMERCIAL TANKLESS ELECTRIC WATER HEATING DONE RIGHT.

Laars' tankless electric water heaters are the recognized leader in commercial-grade tankless electric water heating systems. Whether your application is commercial or industrial, we have a tankless electric water heating solution that you can rely on. With unmatched quality and durability, our tankless electric water heaters are the fastest, most reliable, and most efficient tankless water heaters in the industry.

Laars tankless heaters are offered in a full line of products for an extensive range of applications as well as custom designs for unique environments. Powered by Keltech™ tankless water heaters have been on the market for over 30 years and are now an integral part of Laars' hot water solutions.

- **Save Energy** Inefficient boiler systems have to generate heat and maintain temperature 24 hours per day, 7 days per week. Ours tankless heaters only heat water when needed. And, the innovative controller is fully modulating so you only use the actual kW needed, not full power or stages.
- **Save Space** A large commercial tank water heater requires a large space. Our tankless water heaters only require 3 square feet (.3 square meters) of space to generate 491,000 BTUs.
- **Simple Installation** Requires only one electrical connection and water. No pumps, no external fusing, and no design needs to be considered externally – it's all built into the heater.
- **Simple to Maintain** No tank to maintain, no anodes, no softeners.
- **Built to be the Best®** Built to the toughest standards with the highest quality materials and engineered to meet the world's most demanding applications.



Laars Heating Systems is proud to be an American manufacturer for more than 70 years.

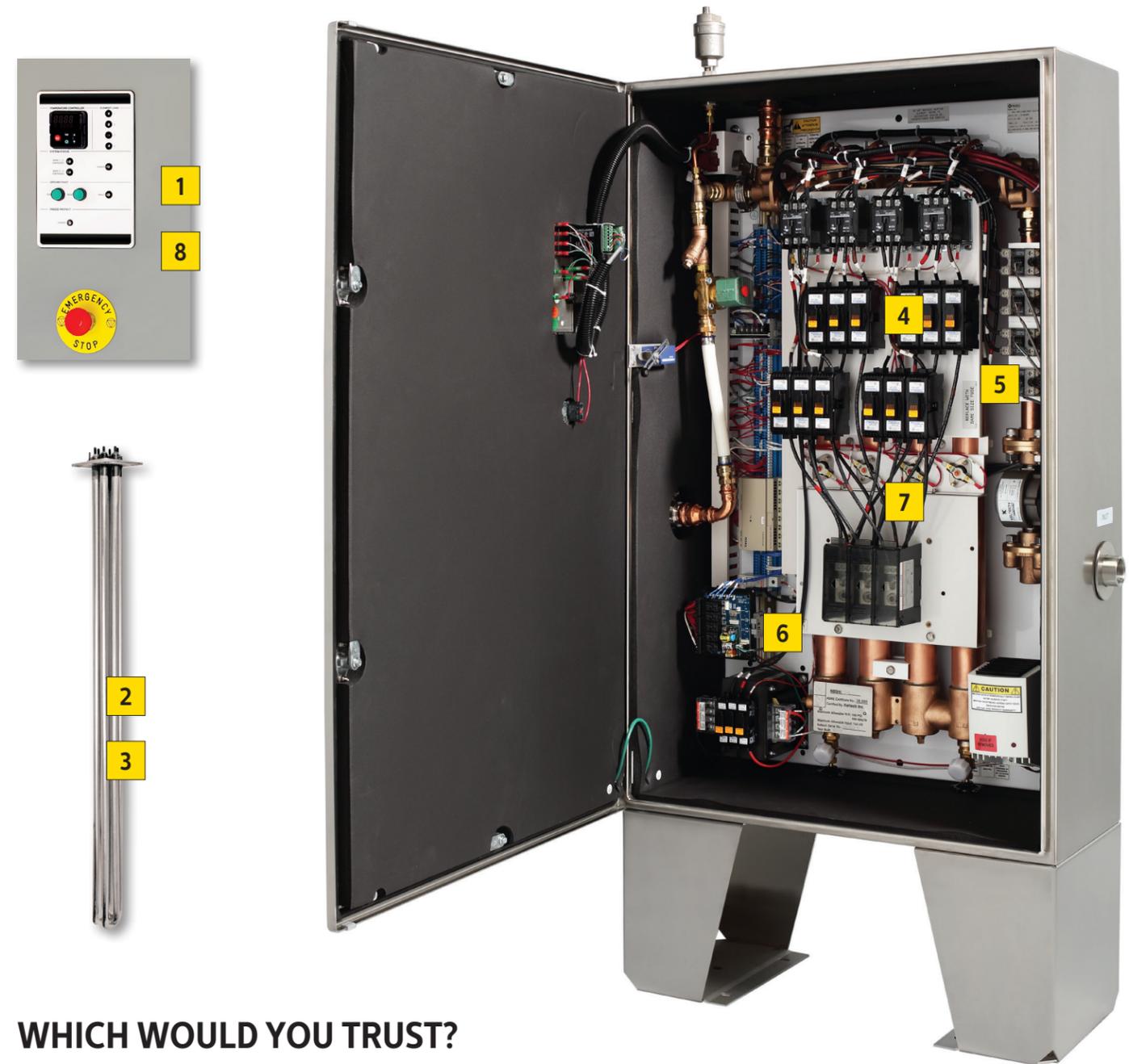
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THE POWERED BY KELTECH™ ADVANTAGE

- 1 PID Temperature Controller** More energy efficient and reliable than traditional microprocessors, Laars heaters hold temperature as demand changes regardless of incoming ground water temperature.
- 2 Incoloy 800 Elements** Recognized for protection, durability and resistance to scaling from hard water.
- 3 Low Watt Density Element** Extremely low wattage is applied per square inch of the element for improved heat transfer and reduced scaling which results in a longer lasting element.
- 4 Electrical Design** Requires only one service feed per unit. Includes internal fusing as standard.
- 5 Solid State Relays** Silent switching with fast response works in conjunction with the PID to infinitely modulate and add to the life of the heater.
- 6 Auto Reset High Limit** Prevents overshoot or scalding. When temperature limit is reached, the unit will power down a bank of elements; when the temperature drops back down, power is restored.
- 7 Bi-metal Manual Reset** Prevents overshoot or scalding on all Laars heaters. When temperature limit is reached, the fuse trips and must be manually reset before power can be restored to the elements.
- 8 Simple Touch Operation** Digital screen with touch pad for easy operation shows set point and output temperature.
 - **Low Flow Activation** Flow activations available down to .15 GPM (.57 L-Min).
 - **Minimal Pressure Drop** Large internal passageways ensure best-in-industry low pressure drops and make booster pumps unnecessary.
 - **Durable Plumbing Assembly** All units consist of brazed joints, a brass and copper heat exchanger, industrial grade flow switches and brass directional changes. All units are pressure tested to meet ASME minimum standards.
 - **Independent Safeties** All safeties are independent and redundant of each other. Three-tier anti-scald protection ensures user safety.
 - **Recirculation capable** The most accurate and long lasting tankless heating available for recirculation systems.



CERTIFICATIONS

- **Lead-Free** Brass/Copper heat exchangers certified to NSF/ANSI 372.
- **Third-Party Certified** ETL listed to UL499, C-ETL listed to CSA-C22.2 No.88.
- **ASME Certified** Laars N Series (formerly CNA Series) units (63 kW and over) are the only electric tankless water heaters National Board certified with the HLW stamp.
- **Electrical Compliance** Compliant to NEC/NFPA 70 and Canadian Electrical Code C22.1



WHICH WOULD YOU TRUST?

Ours tankless heaters' brass/copper heat exchangers are high quality and have a large capacity to heat water on demand. Inside each exchanger is a heavy duty, low watt density Incoloy 800 element. Other products in this class have elements that resemble coiled paper clip wire. The Incoloy 800 elements are recognized for their protection, durability, and resistance to scaling in hard water. Which would you trust to meet the demands of your application?



Commercial Tankless Electric Water Heaters Selection & Sizing Guidelines

SERIES:	COMMERCIAL	LIGHT INDUSTRIAL	LARGE INDUSTRIAL
	H (FORMERLY HL)	G & F (FORMERLY CIN & C2N)	N (FORMERLY CNA)
			
kW Range	5 - 25 kW	18 - 50 kW	36 - 144 kW
Standard Flow Range	0.5 - 7 GPM (1.9 - 26.5 L-Min)	0.75 - 15 GPM (2.8 - 57 L-Min)	1.5 - 50 GPM (5.7 - 189 L-Min)
Standard Voltages	Single Phase: 208V, 240V, 277V, 480V 3-Phase Delta: 208V, 240V, 480V	3-Phase Delta: 480V, 600V	3-Phase Delta: 480V, 600V
Standard Temperature Range 40 - 160°F (4 - 71°C)	●	●	●
Incoloy 800 elements	●	●	●
Low watt density element	●	●	●
PID temperature controller	●	●	●
Solid state relays		●	●
Minimal pressure drop	●	●	●
Auto reset high limit switch		●	●
Bi-metal manual reset	●	●	●
Low flow activation	○	○	
LED touch pad operation	●	●	●
Standard NEMA enclosure	NEMA 4 25 kW	NEMA 4	NEMA 4
NEMA 4X	○	○	○
Wall-mounted	●	●	
Floor-mounted		○	●
Building Management System Integration	○	○	○
Remote Emergency Stop			○
High temp package 161° - 190°F (72° - 88°C)	○	○	○
Freeze protection -20°F (-31°C)			○
Freeze protection -30°F (-34°C)			○
De-ionized (ultra-pure) water heating	○	○	○
Explosion proof purge system (CID2)		○	○
Integral ground fault		○	○
Internal fuse disconnect		○	○
NSF Lead-free	●	●	●
ETL listed to UL499	●	●	●
ETL listed to UL50E		○	○
cETL listed to CSA-C22.2 No. 88	●	●	●
NFPA 496		○	○
ASME certified (63 kW & over)			○

● Standard Feature ○ Optional Feature

- 1 Calculate Delta T (ΔT Rise in Temperature):**
Desired Set Point - Coldest Groundwater Temperature = ΔT
- 2 Maximum flow for application**
- 3 Select the kW required for application by using the table below or calculate:**
Peak Demand (GPM) x ΔT x .1465 = kW
- 4 Determine the voltage and phase available on site**
- 5 Select Tankless series with the kW rating that meets the flow rate and ΔT for your application.**

kW Recommendation

		TEMPERATURE Δ°F (°C)																											
		10° (6°)	15° (8°)	20° (11°)	25° (14°)	30° (17°)	35° (19°)	40° (22°)	45° (25°)	50° (28°)	55° (31°)	60° (33°)	65° (36°)	70° (39°)	75° (42°)	80° (44°)	85° (47°)	90° (50°)	95° (53°)	100° (56°)	105° (58°)	110° (61°)	115° (64°)	120° (67°)	125° (69°)	130° (72°)	135° (75°)	140° (78°)	
FLOW	0.15	0.6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	0.50	1.9	5	5	5	5	5	5	5	5	5	5	5	5	6	10	6	10	10	10	10	10	10	10	10	10	10	10	
	0.75	2.8	5	5	5	5	5	5	5	5	6	10	10	10	10	10	10	10	10	15	15	15	15	15	15	15	15	18	
	1	3.8	5	5	5	5	5	6	6	10	10	10	10	10	10	15	15	15	15	15	15	18	18	18	18	25	25	25	25
	1.5	5.7	5	5	5	6	10	10	10	10	15	15	15	15	18	18	18	25	25	25	25	25	25	36	36	36	36	36	36
	2	7.6	5	5	6	10	10	10	15	15	15	18	18	25	25	25	25	25	36	36	36	36	36	36	36	50	50	50	50
	3	11.3	5	10	10	15	15	18	18	25	25	25	36	36	36	36	36	50	50	50	50	50	50	54	54	63	63	63	63
	4	15.1	6	10	15	15	18	25	25	36	36	36	36	50	50	50	50	54	63	63	63	72	72	72	108	108	108	108	108
	5	18.9	10	15	15	25	25	36	36	36	50	50	50	50	54	63	63	63	72	72	108	108	108	108	108	108	108	108	108
	6	22.7	10	15	18	25	36	36	36	50	50	50	54	63	63	72	72	108	108	108	108	108	108	108	108	110	126	126	126
	7	26.5	10	18	25	36	36	36	50	50	54	63	63	72	72	108	108	108	108	108	108	126	126	126	128	144	144	144	144
	8	30.2	15	18	25	36	36	50	50	54	63	72	72	108	108	108	108	108	126	126	144	144	144	-	-	-	-	-	-
	9	34.0	18	25	36	36	50	50	54	63	72	108	108	108	108	108	108	126	126	126	144	144	-	-	-	-	-	-	-
	10	37.8	18	25	36	50	50	54	63	72	108	108	108	108	108	108	126	126	126	144	144	-	-	-	-	-	-	-	-
	12	45.4	18	36	36	50	54	63	72	108	108	108	108	126	126	144	144	-	-	-	-	-	-	-	-	-	-	-	-
	15	56.7	25	36	50	63	72	108	108	108	126	126	144	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	75.6	36	50	63	108	108	108	126	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	94.5	54	63	108	108	126	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	113.4	54	72	108	126	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	132.3	54	108	108	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	151.2	63	108	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45	170.1	72	108	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50	189.0	108	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note: To select the appropriate Series for dual-colored options, defer to your power and pressure drop requirements.

 H Series (formerly HL Series) 5 - 25 kW
 G Series (formerly CIN Series) 18 - 25 kW
 F Series (formerly C2N Series) 36 - 50 kW
 N Series (formerly CNA Series) 36 - 144 kW

COMMERCIAL WATER HEATERS

H SERIES (FORMERLY HL SERIES)



Key Markets

- Commercial buildings
- Schools
- Hospitals
- Restaurants
- Science labs
- Sports facilities
- Lodging
- Transportation
- Marine
- Parks and recreation

Applications

- Handwashing
- Mop sinks
- Kitchen booster
- Hydronics
- Remote locations
- Pre-heating for stationary applications or mobile trailers
- Recirculation
- Sanitization
- Potable water distribution

Features

- 17,000 - 85,304 BTUs
- Low flow activation options at .15 and .25 GPM (0.6 and 0.9 L-Min)
- Bi-metal manual reset
- Liquid-cooled triac switches
- Wall-mounted
- 3/4" (19 mm) connections
- ETL certified to UL Standards

Recommended kW: H Series (Formerly HL Series) (kW): 5, 6, 10, 15, 18, 25

		TEMPERATURE Δ °F (°C)																											
		10° (6°)	15° (8°)	20° (11°)	25° (14°)	30° (17°)	35° (19°)	40° (22°)	45° (25°)	50° (28°)	55° (31°)	60° (33°)	65° (36°)	70° (39°)	75° (42°)	80° (44°)	85° (47°)	90° (50°)	95° (53°)	100° (56°)	105° (58°)	110° (61°)	115° (64°)	120° (67°)	125° (69°)	130° (72°)	135° (75°)	140° (78°)	
FLOW	0.15	0.6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	0.25	0.9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	0.50	1.9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
	0.75	2.8	5	5	5	5	5	5	5	5	6	6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	1	3.8	5	5	5	5	5	6	6	10	10	10	10	10	10	15	15	15	15	15	15	15	15	15	15	15	15	15	
	1.5	5.7	5	5	5	6	10	10	10	10	15	15	15	15	18	18	18	25	25	25	25	25	25	25	-	-	-	-	
	2	7.6	5	5	6	10	10	10	15	15	15	18	18	25	25	25	25	25	-	-	-	-	-	-	-	-	-	-	
	3	11.3	5	10	10	15	15	18	18	25	25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4	15.1	6	10	15	15	18	25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5	18.9	10	15	15	25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6	22.7	10	15	18	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7	26.5	15	18	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Sizing for the proper flow rate is important. If the temperature rise required is higher than shown, multiple H units can be installed or a different series is available.

PRESSURE DROP

GPM	1	2	3	4	5	6	7
PSI	0	2	4	8	12	17	24
L-MIN	3.8	7.6	11.3	15.1	18.9	22.7	26.5
BAR	0.0	0.1	0.3	0.5	0.8	1.2	1.6



kW Range
5 - 25 kW



Standard Flow Range
0.5 - 7 GPM (1.9 - 26.5 L-Min)

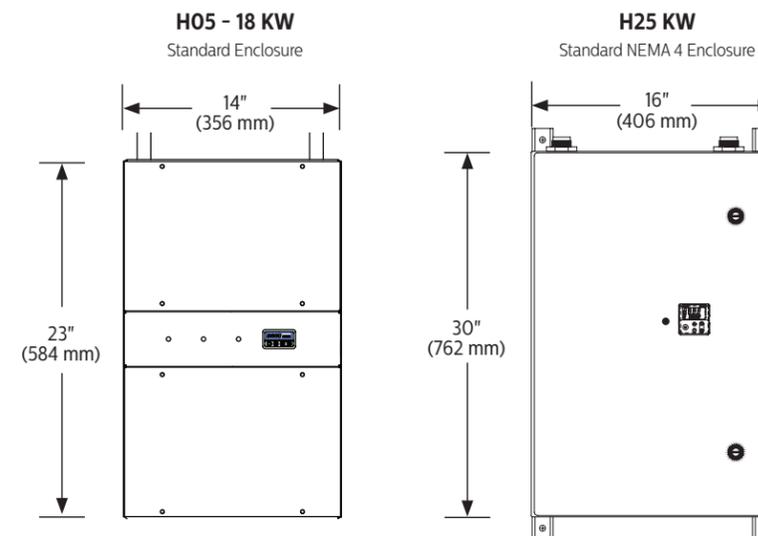


Standard Voltages
208V, 240V, 277V, 480V Single Phase
208V, 240V, 480V 3-Phase Delta



NSF
Certified to
NSF/ANSI 372

ETL
Intertek



(mm)

Options may change dimensions.
Check technical data for additional dimensions.

LARGE INDUSTRIAL HEATERS

N SERIES (FORMERLY CNA SERIES)



Key Markets

- Mining
- Breweries/wineries
- Petro/chemical
- Food and beverage
- Agriculture/livestock
- Lumber/pulp/paper mills
- Waste water treatment plants
- Power generation
- Nuclear

Applications

- Scrubbers
- Nuclear reactor washdown
- Classified areas
- Snow melt
- Heating consumables
- Heating jacketed equipment
- Bio-diesel production
- Fracking injectables
- Stadium/Ice arena resurfacers filling
- Chemical process heating direct/indirect
- Washdown (parts, vats, containers, large equipment)

Features

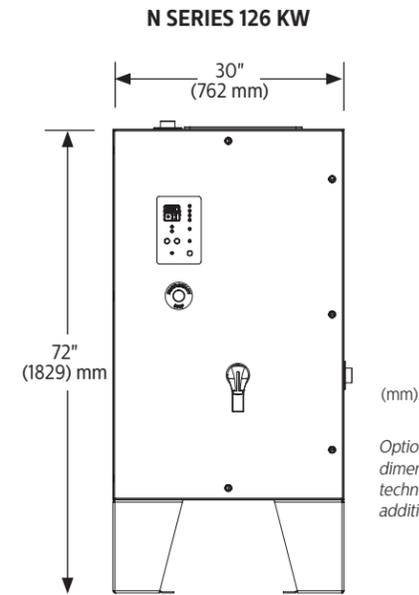
- 122,800 - 491,300 BTUs
- Bi-metal manual reset
- Auto reset high limit switch
- Door cutoff switch
- Emergency stop button
- Liquid-cooled solid state relays
- NEMA 4 enclosure
- Floor-mounted
- 1-1/4" (32 mm) connections
- ETL and cETL certified to UL and CSA Standards

Recommended kW: N Series (Formerly CNA Series) (kW): 36, 54, 63, 72, 108, 126, 144

		TEMPERATURE Δ°F (°C)																											
		10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°	135°	140°	
		(6°)	(8°)	(11°)	(14°)	(17°)	(19°)	(22°)	(25°)	(28°)	(31°)	(33°)	(36°)	(39°)	(42°)	(44°)	(47°)	(50°)	(53°)	(56°)	(58°)	(61°)	(64°)	(67°)	(69°)	(72°)	(75°)	(78°)	
FLOW	GPM	1.5	2	3	4	5	6	8	10	15	20	25	30	35	40	45	50	54	63	72	108	126	144	-	-	-	-	-	
	L-MIN	5.7	7.6	11.3	15.1	18.9	22.7	30.2	34.0	37.8	45.4	56.7	75.6	94.5	113.4	132.3	151.2	170.1	189.0	-	-	-	-	-	-	-	-	-	
	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	
	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	
	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	
	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	
	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	
	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	

		PRESSURE DROP															
		1.5	2	3	4	5	6	8	10	15	20	25	30	35	40	45	50
GPM	36 - 63 KW PSI	0.0	0.0	0.1	0.2	0.2	0.3	0.6	0.9	2.0	3.6	5.5	7.9	10.8	14.0	17.6	21.7
	72 - 144 KW PSI	0.0	0.0	0.1	0.2	0.3	0.4	0.8	1.2	2.6	4.7	7.3	10.4	14.2	18.5	23.3	28.7
L-MIN		5.7	7.6	11.3	15.1	18.9	22.7	30.2	37.8	56.7	75.6	94.5	113.4	132.3	151.2	170.1	189
36 - 63 KW BAR		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.5	0.7	1.0	1.2	1.5
72 - 144 KW BAR		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.7	1.2	1.3	1.6	2.0

- kW Range**
36 - 144 kW
- Flow Range**
1.5 - 50 GPM (5.7 - 189 L-Min)
- Standard Voltages**
480V, 600V 3-Phase Delta



ASME Certification: Commercial Tankless units 63kW and over are the only electric tankless water heaters registered with the National Board and certified with the HLW stamp

N SERIES-SKID (FORMERLY CNA SKID SERIES)



N Series-Skid Systems

A complete solution in one compact and portable package

N Series-Skid systems are easy to specify for your unique application and can be easily transported with a forklift. Connect a water and power supply and the unit is ready for any situation – even remote locations.

- Pre-piped & assembled
- Mounted on portable, pre-assembled steel skid
- Two back-to-back N Series heaters
- Safety systems

Applications

Process heating
Power plants
Mining

Manufacturing environments
Waste water treatment plants
Harzardous chemical environments



MODEL N SERIES-SKID (FORMERLY CNA-SKID)

- Pre-piped, pre-assembled skid system
- Back-to-back N Series large industrial heaters
- Higher flow industrial water heating applications
- Transportable



PRECISE. RELIABLE. DURABLE. TANKLESS.



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