

HEAT PUMP TEMPERATURE MAINTENANCE TANK

Commercial Electric Water Heater Model ET

Standard Features:

- Double Glass-Lined Carbon Steel Tank
- 150 psi ASME Code
- ASME Temperature and Pressure Relief Valve
- BMS Contacts
- Alarm Bell
- Internal Fusing (above 120 amps)
- Incoloy Heating Elements
- Painted Steel Jacket
- Magnesium Anode Rods
- Immersion Thermostats
- Magnetic Contactors
- Digital Temperature Display
- Manual Reset High Limit
- Hinged Door with Keyed Lock
- Channel Iron Skid Base
- Approved for 180°F Operation
- Lifting Lug access

Optional:

- Low Water Cut-off
- Pilot Lights and Manual Limiting Switches
- Shunt Trip Disconnect (Separate mounting)
- Low Pressure Switch
- High Pressure Switch
- Electric Step Controller
(Cannot be used with CTA-2045 grid-enabled protocol)
- Time Clock (7 Day)
- Time Clock (24 Hour)
- Safety door interlock
- Pressure gauge
- 12" x 16" Manhole (300 gallon model)



200 or 300 Gallon Storage
15 to 108 kW
Round Vertical Models
Outstanding Safety Features



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Standard Equipment Features:

Energy-Saving Performance - High-density open cell foam insulation is used to meet the demanding ASHRAE 90.1b current standard for minimizing heat loss. This requirement, allowing a maximum 4 watts per square foot of tank surface energy loss, offers big savings and operating efficiency.

Magnetic Contactors with Immersion Thermostats - 120 volt control circuit with built in transformer. Elements are thermostatically controlled in 54kW (max) increments.

Low Watt Density Incoloy Elements - Incoloy elements are used because of their many superior characteristics to copper-sheathed elements in rigorous water heating applications. This tough alloy successfully resists the effects of prolonged high operating temperatures, hard water, acids, corrosion and thermal shock. Their nominally higher initial cost is more than off-set by much longer life expectancies and reduced service and replacement costs. Incoloy elements are designed to "burn in air" to prevent failures caused by water void. The process is repeated for a double layer lining, with a 6 year warranty.

Internal Fusing - All elements and circuits are fused in 48 amp increments, providing complete electrical protection. Cartridge type fuses are rated at 200,000 ampere interrupting capacity.

Double Glass Lining - Glass is applied to the inside surface of the carbon steel tank and fired to 1600°F (All models are constructed in accordance with the ASME code and approved for 150 psi working pressure).

Magnesium Anode Protection - Provides anodic protection against corrosion of the tank due to electrolysis.

Digital Temperature Display - Easy to read digital temperature display located on front cabinet.

Alarm Bell - Warns of various failures.

Painted Jacket - The painted steel jacket is coated on both sides and beautifully finished in durable finish. This combines attractive appearance with maximum protection.

Hinged Door with Key Lock - Quality requires full length hinged doors for ease of inspection and maintenance. Keyed door lock provides additional safety and security at no charge.

Temperature and Pressure Relief Valve - Factory provided ASME rated relief valve protects against excessive temperature and/ or pressure buildup within the tank.

Terminal Block Connections - Easy and safe wiring connections are made possible by factory installed terminal blocks.

180°F Temperature Operation - Every Electric Power Water Heater is approved for 180°F operation for sanitizing and other high-temperature requirements.

Inspection Opening - Provides easy access to the heater interior for inspection and cleaning.

Lifting Lugs Access - Removable access panels to lifting lugs.

Channel Iron Skid Base

Optional Equipment Features:

- **Stainless Steel Options Available.**

- **BMS Contacts** - Building Management System Interface.

- **Low Water Cut-off** - Prevents energizing of the heater when not filled with water or upon low water condition.

- **Pilot Lights and Manual Limiting Switches** - With indicating lights - permits manual limitation of heating input by switching off current to each contactor.

- **Shunt Trip Disconnect *** - Provides maximum protection by interrupting all power to the system in the event of a control sensed malfunction or over current.

- **Low Pressure Switch** - Turns off control circuit when water pressure drops below a set minimum.

- **High Pressure Switch** - Turns off control circuit when water pressure exceeds a set maximum.

- **Electric Step Controller** - Electronic sequencing of thermostats. **Important Note:** This control cannot be used with CTA-2045 grid-enabled protocol.

- **7 Day Clock** - To control off/on cycles of the heater as programmed by the owner or electric utility requirement.

- **24 Hour Clock** - To control on/off cycles in 24 hr. cycles.

- **Safety Door Interlock** - Prevents opening of access door while heater is energized.

- **Pressure Gauge** - Jacket mounted for convenient viewing.

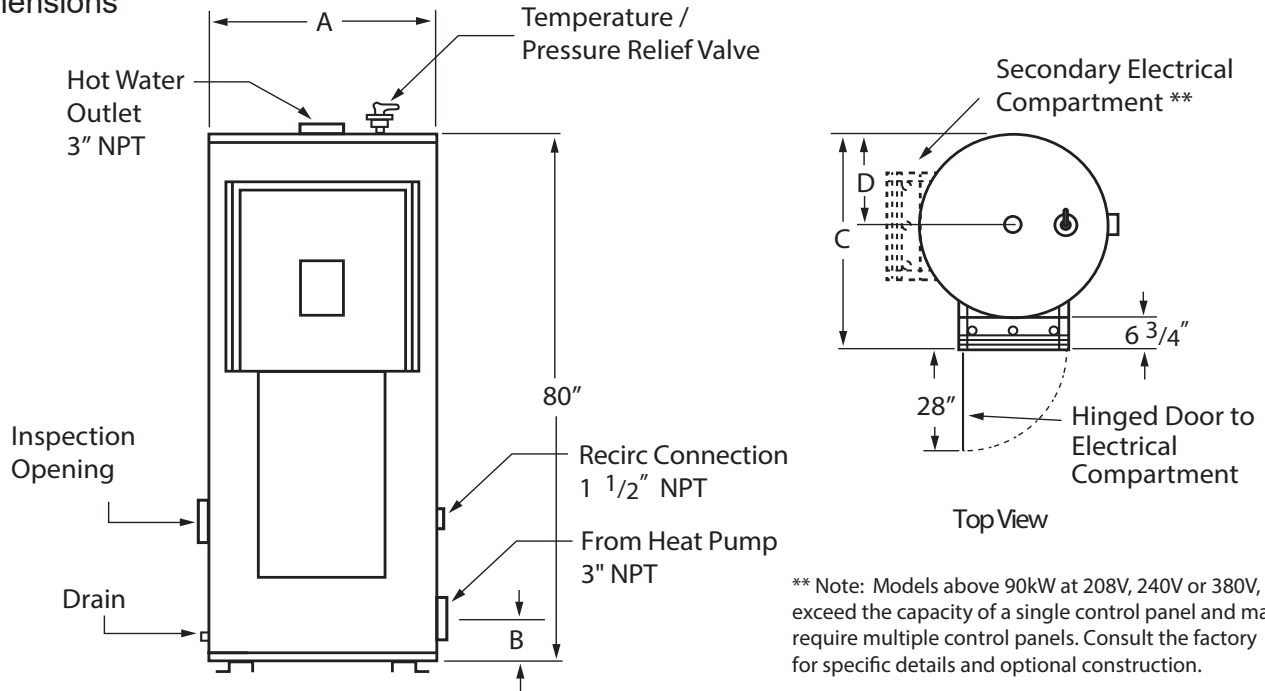
- **Manway** - Provides means to easily remove sediment from heater, available on 300 gallon model.

* Separate Mounting

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Dimensions



Model Number	Gallon Capacity	A	B	C	D	Approx. Ship Weight
		Jacket Dia.	Floor to Cold Water Inlet	Depth	Back of Heater to Hot Water Outlet	
ET0200	200	32	11 3/4"	38 3/4"	17"	750
ET0300	300	40	18 1/4"	40 3/4"	20"	1350

Standard 480V model numbers are: ET0200X045XCDXXX and ET0300X054XCDXXX

kW Input and Amperage						Contactor Option		Amperage Draw								
kW	GPH Recovery 100°F Rise	BTU/hr. Equivalent	Number of Control Steps	Maximum Number of Elements	kW Size of Element	No. of Contactors (208,240)/ (380,400,415,480)	Suggested Control Steps (208, 240)/ (380,400,415,480)	Single Phase				Three Phase				
								208V	240V	208V	240V	380V	400V	415V	480V	600V
15	62	51,180	1	1	15	1/1	--	72	63	42	36	23	22	21	18	14
18	74	61,416	1	1	18	2/1	--	87	75	50	44	28	26	25	22	17
30	123	102,360	1	2	15	2/1	--	144	125	83	72	46	44	42	36	29
36	148	122,832	1	2	18	4/2	4/2	174	150	100	87	55	51	50	43	35
45	185	153,540	1	3	15	3/2	3/2	216	188	125	108	69	66	63	54	43
54	221	184,248	1	3	18	6/2	3/2	260	225	150	130	83	78	75	65	52
60	246	204,720	2	4	15	12/6	4/3	289	250	167	144	92	88	83	72	58
72	295	245,664	2	4	18	8/4	4/4	--	--	200	174	110	104	100	87	69
90	369	307,080	2	6	15	6/3*	3/3	--	--	250	217	137	132	125	108	87
108	443	368,496	2	6	18	12/4**	4/4	--	--	300	260	165	156	150	130	104

*380V has 4 **380V has 6

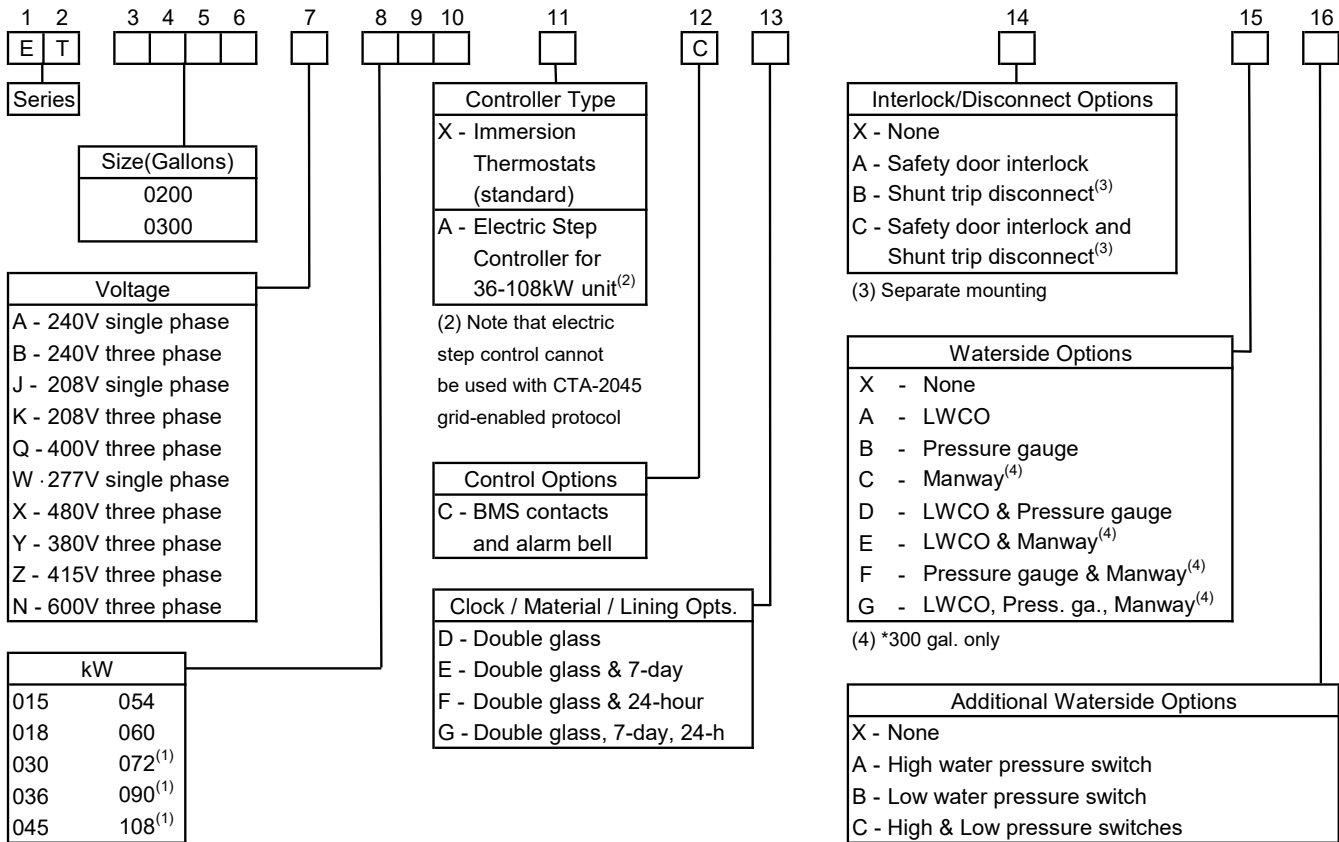


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Model Nomenclature



(1) 72kW-108 kW available with 3 phase voltage only

Typical Specifications

Water Heaters shall be Laars Commercial Electric Water Heaters, model number _____ with _____ gallons of storage capacity, rated at _____ kilowatts, _____ volts, _____ Phase. Heater to be completely insulated and jacketed for vertical installation.

The jacket shall be round painted steel with durable finish. Control panel shall have a full length hinged access door with keyed lock. Tank insulation shall be closed cell high density foam sufficient to meet ASHRAE 90.1b. Keyed Locked Door provides additional safety and security.

Tank construction shall be carbon steel 150 psi maximum allowable working pressure and be ASME stamped and National Board listed. All tanks are to be lined with double glass lining, fired at 1600° F (871° C) by a process which provides a molecular interchange of glass and steel. The Commercial Electric Water Heater shall include the following standard features: electric step controller, internal fusing for control and load circuits, low-watt density incoloy sheath elements, magnesium anode rods, ASME rated temperature and pressure relief valve, terminal block wiring, 180°F (82°C) water temperature approval, 6-year limited warranty.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



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