

EV/HEV PTC Liquid Immersion Heating



CALIENTÉ
HEATING

CALIENTÉ PRICE AND PERFORMANCE FOR ELECTRIC VEHICLES

As the electric and hybrid vehicle market has evolved, many have become aware of how critical battery heating is at low temperatures. Issues of slow charging and/or drastically reduced range led Calienté to develop PTC (positive temperature coefficient) immersion heaters specifically for liquid cooled electric and hybrid vehicle market HVAC systems.

Calienté EV/HEV immersion heaters can be used to maintain the thermal mass of the batteries at an optimal performance temperature as ambient temperatures drop, and/or to precondition a vehicle for cold weather starting and charging.

There are several advantages to Calienté EV/HEV PTC immersion heaters. The heaters take advantage of the optimized heat transfer of liquid cooled infrastructure. The elements can be custom configured to deliver a lot of heat in a very small area. Built with self-regulating PTC (positive temperature coefficient) elements, the heaters offer built in over-temperature protection and product safety. Finally, the heaters can also be designed as flow through elements.

Calienté also offers heater solutions for coolant (heater pads) and air cooled (finned/radiator style heaters) systems--contact Calienté today for a solution that best fits your EV/HEV application!

BENEFITS:

- **Self-Regulating PTC Technology** – resistance increases as temperature increases, lower current draw and heater power
- **Safety** – electrically insulated fins with leakage current $\leq 5\text{mA}$ @ 1.8 kV
- **Environmental Protection** – IPX7 rated
- **Energy Efficient** – EER $\geq 95\%$
- **Instant Heat** – For passenger and driver comfort
- **Wide Power Range** – 5KW to 22KW



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Performance Specifications

Testing Condition (the speed of water)	6L/min	10L/min
Testing Temperature	25±2°C	25±2°C
Voltage	350V	350V
Power(W)	5.0k±10%	5.5k±10%

Custom designs also available



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