



# Energy Saving Heaters



Hotstart's NEW energy-efficient engine heaters can reduce electrical consumption 25% to 36%\*.

\*Independently verified by Avista Utilities

**HOW?** By simply replacing your traditional engine heaters with new forced circulation heaters. The new designs feature an integrated pump which forces the circulation of coolant throughout the engine. With forced circulation, the heater control thermostat is exposed to temperatures closely coupled to engine temperatures. This results in **lower electricity use, reduced outlet temperature and more uniform engine heating**. With lower outlet temperatures, heater hoses, heating elements and engine seals last longer for overall improvement in heater reliability.



### CSM Coolant Heating System

- Heats 15L - 100L engines
- UL Listed for US and Canada (60Hz Models)
- CE Compliant (50Hz Models)
- 10 GPM circulating pump
- 3kW, 6kW, 9kW & 12kW Ratings
- All standard voltage ratings, 1PH or 3PH, 50Hz & 60Hz
- Adjustable thermostat (90°-130°F/32°-55°C)
- Serviceable components

### CTM Coolant Heating System

- Heats engines up to 20L
- UL pending & CE Compliant
- 5 GPM circulating pump
- 1kW, 1.5kW & 2.5kW Ratings
- 120V/240V, 1PH for 50Hz & 60Hz
- Adjustable thermostat (90°-130°F/32°-55°C)
- Serviceable components



**Thermal images of heater operation illustrate the performance differences of thermosiphon heaters compared to forced circulation heaters featuring electric pumps.**

Image of a thermosiphon heater shows the high outlet temperature and extreme temperature gradient.

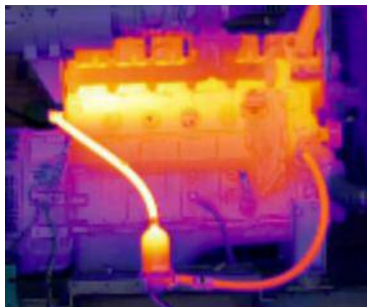


Image of a heater with integral pump shows reduced outlet temperature and more uniform engine temperature.

