

Air Source Heat Pump

Stand-By Diesel Generators require optimum jacket water temperature to ensure generator set starting times are able to meet site requirements for rapid starting in the event of a power outage. Typical Jacket Water Heaters will have a parasitic energy cost from a utility fed station service, the associated costs can be significant based on local utility kWh rates. By utilizing the patented process, Geo-Thermal Systems®, Inc. (GTS) Heat Pump is the most efficient way to heat emergency diesel generators sets.



The GTS Inc. Air Source Heat Pump is a patented process that is proven to reduce Standby Generator Set jacket water heater energy usage by up to 84%.

Heat pump technology takes available heat out of the air and transfers it efficiently to the engine coolant system without requiring the creation of “new” heat, versus traditional Jacket Water Heater (resistance heaters) which have to create heat to warm the generator set to ensure it is ready for operation when required.

GTS Heat Pump dramatically increases efficiency of the Standby Generator set engine temperature, retaining the existing jacket water heaters as back-up redundant heaters and reducing parasitic losses of the emergency standby system. The efficiency gained is a result of an enhanced coefficient of power at 4:1 vs a typical resistive Jacket Water Heater at 1:1. This differential results in significant cost savings realized with a better than average return on investment at 1.5 to 3 years, depending on the size of the generator set and unit mounted Jacket Water Heater.

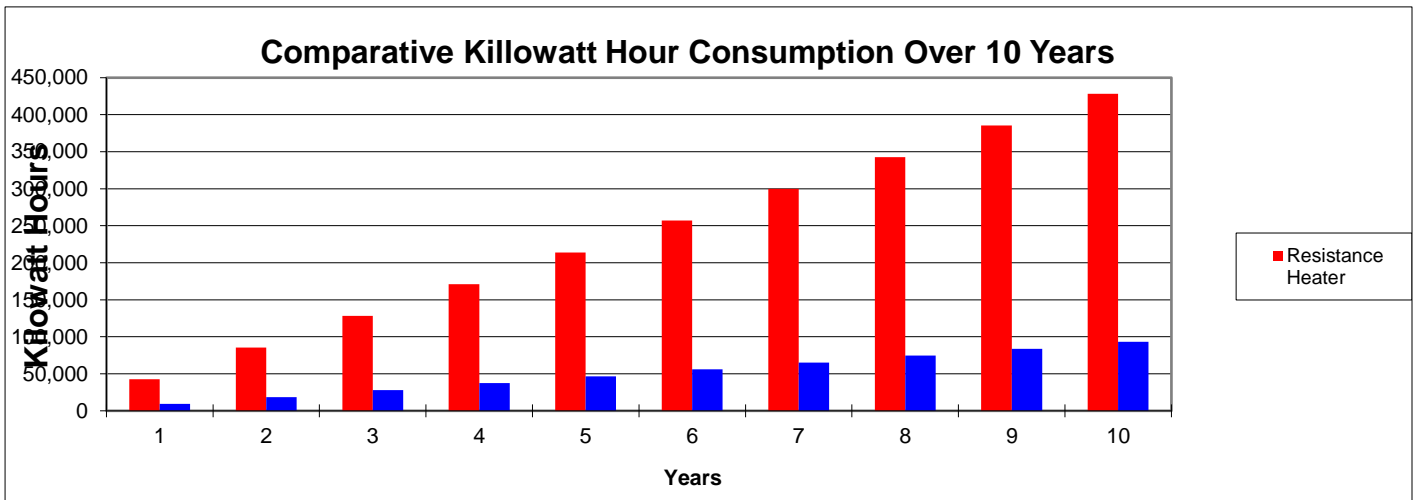
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Product Information Sheet

ASHPO10116

MODEL	Thermal Rating	Size	Cooling Tons	kW Range
PS -GTS 13	13,000 - 19,000 BTU	DH 12	0.50	400 - 600
PS - GTS 20	20,000 - 24,000 BTU	DH 12	1.00	601 - 900
PS – GTS 25	25,000 - 29,000 BTU	DH 28	1.50	901 - 1400
PS - GTS 30	30,000 - 35,000 BTU	DH 24	2.00	1401 - 2500



Heating Method	Engine	Heater Watts	Annual KWH Req.**	Annual Cost	% Reduced
Block Heaters	Caterpillar 3512	8703	42,991.71	\$5,030.03	
GTS Heat Pump	Caterpillar 3512	2087	10,457.16	\$1,223.49	76%
Block Heaters (2)	Caterpillar 3516	4709	21,542.48	\$2,520.47	
		4790	36,102.79	\$4,224.03	
GTS Heat Pump	Caterpillar 3516	2325	11,875.70	\$1,389.46	79%

Typical Savings Matrix, using Caterpillar 3500 Series Generator Sets for illustration purposes.
 *Similar results with all major OEM brands achieved.