



CARIBBEAN RESOURCES AND POWER

Q&A

What size building/environment will the HEES cool?

For every five tons, the unit will cool 2,000 ft² (185.8 m²). Units are available in 5 tons, 10 tons, and 20 tons.

What is the energy demand for the HEES to meet its stated AC/water production figures?

800 watts per chiller and 750 watts per 5 ton AWM—i.e., a 5 RT AC AWM takes 1.55kW; a 20 RT AWM would use approx. 3.8kW.

Does the water require further treatment before drinking?

More than likely, yes; but it depends on the cleanliness of the atmospheric air around it. A simple water filter is supplied if water is to be used for drinking.

How does the AC cooling capacity compare to traditional air-conditioners?

It follows the same concepts, but is much more energy efficient and is built by Carrier or Trane to the WES design.

Do buildings require additional accommodations to install the HEES?

It depends on the construction of the structure the unit will be accommodating. Generally, the system's water, electricity, or Cool AC can be installed and supplement whatever structure the system is built in.

What is the environmental impact of the HEES?

Phenomenal—the unit is 95% efficient when using all 3 outputs of water, AC air, and electricity. The exhaust from turbines is 305C (630F), and from diesel is 500C (1000F). Most of that energy is used to activate the air-cooled absorption chiller to deliver water and Cool AC through the AC AWM. The cool air is a byproduct.

How is the Capstone Turbine powered?

The energy source can be diesel, propane, or natural gas.

Will the HEES function during an energy blackout?

The unit will function for 60 months as long as there is fuel. The first major preventive maintenance requiring a shutdown is at 60 months. Depending on local air quality conditions, an air filter change is performed at 8,000 hour intervals, requiring the Turbine to be stopped for 30 minutes.



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How is the waste exhaust from the Capstone Turbine converted to coolant?

Through the absorption chiller. All recreational camping vehicles use a fuel-fired absorption chiller for the refrigerator.

How much noise does the system produce?

The system operates at 65 decibels at 10 meters.

Are there any safety hazards?

The unit will be in a secure location. Only authorized mechanics and electricians can work on it.

How much maintenance will the HEES require?

Depending on the condition of the atmosphere, the air filters will need to be replaced on a cycle. The AC AWM does not have to stop to replace the filters.

How long does one HEES last before it needs to be replaced?

The average turbine should have a simple factory exchange at the 40,000 hours mark, and then be able to be used for another 40,000 hours. AC AWM have an similar extended duration similar.

How much space does one HEES require?

An average unit will require 500 ft² (46.5 m²), but it will depend on the total needs for the end user.

Once an HEES is ordered, how long until it is on-site and operational?

Depending on customs, freight, etc., approximately 16-20 weeks.