

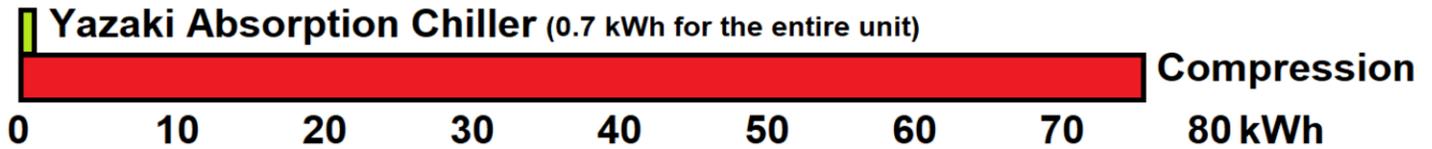


How Do Yazaki Water-Fired Absorption Chillers Help to Fulfill the Needs and Goals of Emergency Response Centers?

During emergencies, the availability of an Emergency Response Center can make all the difference when helping the public cope and recover. The more comfortable the Center can be, the faster calm can be restored and the faster disaster relief can be delivered to the public.

- **Most Emergency Response Centers use a CHP (Combined Heat and Power) genset system to generate electricity.** This CHP system creates the electricity the Center needs but also generates a great deal of waste heat.
- **Yazaki Water-Fired Absorption Chillers use the FREE ENERGY from the CHP genset waste heat energy to make chilled water.**
 - This chilled water can be used for space cooling, or another process application.
- **The thermal efficiency of the CHP system can be greatly increased which helps to reduce the carbon footprint of the Center.**
 - CHP allows for remote site development when there isn't enough electricity to operate a typical electric chiller.
- **Using Yazaki chillers driven by the waste heat from a CHP system can also reduce the Genset size. Yazaki Water-Fired Absorption Chillers use about 1% of the electricity of an electric chiller to do its job.**
 - Changing from electric chillers to Yazaki chillers powered by the waste heat reduces the electric load on the building, thereby reducing the size of the Genset needed to produce this electricity.
- **Yazaki Water-Fired Absorption Chillers can help even further towards carbon neutrality since it can also be used with Solar, Biomass, and other forms of heat energy!**
- **Life cycle costs and maintenance costs for Yazaki Absorption Chillers are very low** when compared with any other water-cooled system.
- **The refrigerant in a Yazaki chiller is water.** It's non-toxic, with no concerns in regards to greenhouse effect or harm the ozone layer.

Hourly kWh usage comparison between 100 ton units Yazaki Absorption Chillers vs Compression-Driven Chillers



YAZAKI UNITS – LIFE CYCLE BENEFITS

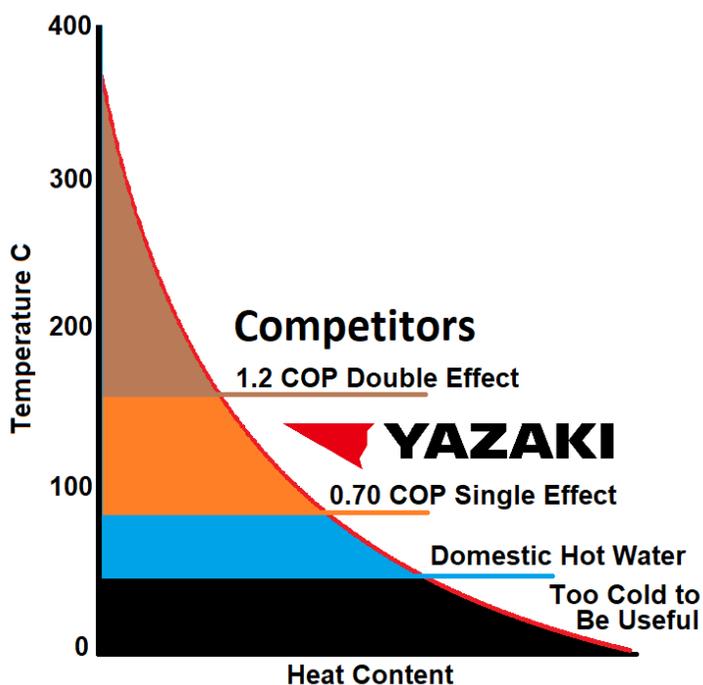
Compare the maintenance requirements between Yazaki and most competitor's units:

	Yazaki Water-Fired Units	Typical Competitor's Units
Regular Chemical Analysis	Never	monthly/quarterly
Chemicals Added	Every 8000 hours	monthly/quarterly
Pump Maintenance	Never	annually
Megaohm Testing	Never	annually
Spray Nozzle Maintenance	Never	annually
Flush and Rodding Tubes	Never on units under 100 tons Every 3-5 years on units 100 tons and up	annually
Purge Pump Maintenance	Never	Monthly (if done right)
Regular Evacuation	Every 1000 hours	Never (if purge pump maintained)

So typical life cycle cost comparison would be:

Materials	\$1000 every 3 years	Can be \$10,000+/year (Chemicals and Analysis, Pump Oil, Misc. Cleaning)
Labor	3 days/year in a normal year 6 days/year for the years flushing is done	10+ days per year

Adding chemicals only takes about a ½ hour and can be done on a regularly scheduled maintenance trip.



Yazaki units are 12% more effective at utilizing waste heat that most of the competitor's units.

