Atria Restaurant Solar Hot Water

The Atria Restaurant in Edgartown is the site of the Vineyard's first restaurant solar hot water system. This system successfully generates 700 gallons of hot water every day during the summer to meet the load of the restaurant and the bathrooms. It is a drainback system – only when the solar collectors get warmer than the storage tanks does water flow up to the collectors.

The roof is large enough to support **six 4 x 10 foot solar collectors**. Each set of three collectors is connected to its own drainback tank heat exchanger.

Having the **collectors** on either side of the roof ensures that there will be maximum solar collection during both morning and afternoon.

The **upper circulator** (below the green box) is for the three solar panels on the right side of the roof.

Each group of three solar collectors feeds into its own **drainback heat exchanger tank**. There is a heat exchanger coil in each tank that heats potable water from the storage tanks for use in the restaurant.

There are **four 80 gallon storage tanks** that are initially filled with 50 F potable water. During the course of the day, these tanks will be filled twice and all of the hot water used by the kitchen during food prep for the evening's meals.

The entire solar system is controlled by a **DDC (direct digital control) panel** that optimizes operation by looking at storage tank temperatures, the solar collector temperatures, and deciding when to run the circulators to maximize solar energy collection.

Our goal is to be **Martha's Vineyard's premier plumbing and HVAC shop –** we appreciate the opportunity to show you some of our work.