

**Date issued: August 9, 2006**

**Subject: Testing a multi-compartment wine chiller for energy consumption**

**Question:**

How does one test a multi-compartment wine chiller for energy consumption in accordance with Section 8 of AHAM HRF-1:2004?

**Answer:**

Although HRF-1 does not specifically address multi-compartment wine chillers, the best engineering judgment of the AHAM Refrigerator-Freezer Specialist Task Force was that the method for testing energy consumption in a single compartment wine chiller may be modified slightly to include multi-compartment wine chillers by using the changes outlined below, which are in keeping with the intent to determine the overall average cabinet temperature during each test.

NOTE: Testing of multi-compartment wine chillers will be clarified in the next revision cycle of HRF-1.

Meanwhile, the following interpretation is being provided.

When conducting the energy consumption test, specified in Section 8 of AHAM HRF-1, on multi-compartment wine chillers, the following steps shall be taken:

1. First test:
  - a. Place three (3) thermocouples in each compartment. Placement is specified by Figure 7-1 in 7.4.3.4 of AHAM HRF-1.
  - b. Set each compartment at median setting.
  - c. The recorded temperature of each compartment is the average of the temperatures recorded at the three thermocouple locations.
  - d. Calculate the average temperature for the entire unit, based on all thermocouple temperature measurements.
2. Second test:
  - a. Same as "a" above
  - b. Set each compartment at their warmest or coldest settings, depending on whether the average temperature from the first test was above or below the standardized temperature.
3. Calculate daily energy consumption of the entire unit at the standardized temperature.

Also, note that the final calculations should be rounded in accordance with AHAM HRF-1:2004, sub-clause 8.8.4: "...average per-cycle energy consumption for a cycle type is expressed in kWh per cycle to the nearest one hundredth (0.01) kWh ..."