

We have a question about your draft 1 of the program requirements for commercial dishwashers for Energy Star. You called out 1.16 gal/rack for a stationary single tank door machine for low temp (chemical sanitizing). We thought this is an odd number and wondered how you arrived at that mark and were the NSF listings used? We collected the data of 13 manufacturers and all the models combined only had an average of 1.55 gal/rack. Further, no model had a rating as low as 1.16 (the closest being 1.18) and most had 1.2 or greater. So the question is, what do you mean by the word "prevalent" and how was this 1.16 number calculated?

Sincerely,  
Russell Payzant  
American Dish Service

Dear Charlie,

Can we add another comment to those you will be keeping? We will bring these with us next week, but would like you to have them in advance. We believe it makes a difference to the real picture of daily warewashing.

#### BACKGROUND

All of the dishmachine manufacturers have various model numbers. They can be a puzzle to those involved, they must surely be baffling to people outside the business. I will only speak of our model numbers, still knowing that our competitors have the same type of machine styles.

#### High Temp

There is a style called "high temp," which was traditionally made from a holding tank using an immersion heater to reheat the water after spraying. This water is used repeatedly. When the final rinse comes on, it comes from fresh water heated by a separate heater (booster) to approximately 180 to 185 degrees Fahrenheit. This design probably came from the Crescent Company in the early 1900s and required considerable energy. This design has changed but little.

#### Low Temp (or dump-and-fills)

During the 1950s a new style was developed by Bert Tuthill that used rinse water for the next wash batch and eliminated the need for the high temperature final rinse by using chlorine to sanitize the dishware. This was called a "dump and fill" because it dumped the water after washing and refilled with fresh rinse water. The single pump was used to spray both the rinse and wash cycles.

With the elimination of the costly tank heater and booster heater, the dump-and-fills caught on during the 1970s as energy became a crisis. They quickly spread and are the dominant design used today, although the older "high temps" are occasionally seen because of their superior performance. Which brings me to the point of this email; some of these models of high temp have been converted to chemical sanitizing to fit industry trends.

#### OUR POINT OF INTEREST TO QUALIFYING PRODUCTS

The re-listed high temp design has not changed, they are operationally the same. The booster is taken off and chlorine is pumped into the final rinse line. Some of us have even taken our HT designs back to NSF and had them tested using the chlorine sanitizer so they can be converted in the field if desired (usually because of booster failure). They are listed as chemical sanitizers by NSF. But these make up only a small number of our shipments, for good reason.

The HT-25 is an expensive machine to be used as a low temp, when our AF3D is a much more economical choice. That is also how the customer views it. If you take the uncommon high-temp used as a low-temp out of the equation, the qualifying gallons per/rack for a low-temp will be much more consistent with normal operations in the industry. A qualifier of 1.2 gal/rack would be

the very upper end of performance, while 2 gal/rack might be more inline with what is actually achievable. Varying water pressures will affect how close a machine can be tuned to the maximum efficiency.

If a consumer purchased a product with the Energy Star rating, which is being suggested at 1.16, and they were to size the water heater accordingly, but the machine did not routinely function at such levels, it might reflect negatively on the Energy Star name. It seems dubious that such a qualifier (1.16) for low temp would find much of an audience among the manufacturers. It is not realistic day to day consumption for dump and fills. At best it is a laboratory setting that would require attentive tuning even for those of us who might reach that level. Having the customer resize the heating capacity of the establishment to fix the problem, after building according to an Energy Star publication would do no good work.

Thank you for taking our comments,

Russell Payzant  
American Dish Service