Booster Sizing Formula

Booster Sizing for a Low Temp Dishmachine

Chemical low-temp dishwashers are most effective when supplied with 140°F hot water. This water temperature may not be available due to an undersized primary water heater or local safety code. Hubbell J model boosters can operate as a pre-heater for chemical low-temp dishwashers to provide an adequate supply of 140°F hot water for proper operation. For temperatures other than the factory setting of 185°F, simply set the digital display to your desired temperature.

To properly size a Hubbell booster heater for low temp use:

1. Determine the required temperature rise; the difference in temperature between your supply water temperature to your booster and your desired hot water temperature out of the booster.

2. Determine the water usage gallons per hour (GPH) by consulting the dishwasher data plate, literature or NSF listing.

3. Select the appropriate kW based on 1 and 2 above using either the formula below or the Recovery Rating Chart on page 4.

Water Quality Requirements

Recommended water hardness is 4 to 6 grains of hardness per gallon (GPG). Water hardness above 6 GPG should be treated by a water conditioner (water softener or in-line treatment). Water hardness below 4 GPG also requires treatment to reduce potential corrosion. Excessive GPG will result in higher operating and maintenance costs and will reduce product longevity.

Chlorides must not exceed 50 parts per million (ppm). Excessive chlorides will result in metallic corrosion and will reduce product longevity.

Water treatment has been shown to reduce costs associated with deliming the booster as well as reducing metallic corrosion. Product failure caused by these conditions is not covered under warranty. See warranty for complete details.

Required Variables:

A. Water usage in GPH
B. Supply water temp in °F
C. Desired water temp in °F
D. Calculate the ΔT (temp rise) by subtracting C - B in °F

Formula to Determine KW:

GPH x °F ΔT x 0.00244 = KW