

$$Q_{HW,67^{\circ}\text{F}} = \sum_{i=1}^N \frac{M_i C_{pi} (125^{\circ}\text{F} - 58^{\circ}\text{F})}{\eta_r}$$

or

$$Q_{HW,37.3^{\circ}\text{C}} = \sum_{i=1}^N \frac{M_i C_{pi} (51.7^{\circ}\text{C} - 14.4^{\circ}\text{C})}{\eta_r}$$