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level 6

thermo macros course

$$d) \dot{Q}_{max} = C_{min} (T_{hi} - T_{ci})$$

$$178.89 \times (135 - 15) = 21466.8 \text{ W}$$

$$\dot{Q}_{act} = \epsilon \dot{Q}_{max}$$

$$\text{if } \epsilon = 0.75$$

$$0.75 \times 21466.8 = \underline{16100.1 \text{ W}}$$

$$\dot{Q}_{act} = C_c (T_{co} - T_{ci})$$

$$T_{co} = \frac{\dot{Q}_{act}}{C_c} + T_{ci}$$

$$\frac{16100.1}{178.89} + 15^\circ\text{C} = \underline{\underline{105^\circ\text{C}}}$$