

Chapter7_example10

Velocity at area A1 is 36.7 ft/s

The diagonal pitch is 1.63 in

Velocity at area A2 is 10.3 ft/s

The Reynolds number is 1.59×10^4

The values of parameters are $sT/Do=1.49$ and $sT/sL=0.87$

The pressure drop is $3.96 \text{ lbf/ft}^2 = 0.0269 \text{ psi}$

The convection coefficient is $21.0 \text{ BTU}/(\text{hr} \cdot \text{sq} \cdot \text{ft} \cdot \text{degree Rankine})$

The outside surface area of 70 tubes is 32.1 sq.ft

The heat transferred is $8.76 \times 10^4 \text{ BTU/hr}$