

1 resistance
(on front already)

used
area

(b) $R_{air} = \frac{1}{h_a \cdot S} = \frac{1}{(10)(0.0254)} = 3.94 \text{ K/W}$

$Q_{loss} = 32.84^\circ\text{C} - 25^\circ\text{C} = 1.66 \text{ W/m}$
 $4.724 \text{ K/W} \rightarrow$ i attempted to obtain Q

$T_p - T_a = Q_{loss} \cdot R_a$
 $T_a = (Q_{loss} \cdot R_a) - T_p \rightarrow [(1.66) \cdot (3.94)] - 32.84$
 $T_a = 26.31^\circ\text{C}$
 trapped air attempt

(c) $Q_{sensible} = \dot{m} \cdot c_p (T_o - T_{in})$
 $\dot{m} = \frac{Q}{c_p (T_o - T_i)} = \frac{14.34}{(4179) \cdot (45 - 20)} = 0.000137$
 mass flow or 1.37×10^{-4}

(d) $\eta = \frac{Q_{sensible}}{Q_{incident}}$
 $q'' \cdot S = (700)(0.0254) = 17.78$
 $\eta = \frac{14.34}{17.78} = 0.807$ or 80.7%

Final result